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INFLUENCING THE FACTORS OF COMMUNITY HEALTH INTO THE DIFFERENTIATION OF REGIONS OF UKRAINE FOR BECOMING ILL ON COVID 19

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The socio-economic development of the country directly depends on the development of its regions. Therefore, to maintain a healthy socio-economic climate in the country, it is necessary to carefully and thoughtfully approach the development and implementation of effective regional policy based on assessing the current socio-economic situation of the regions [17; 5].

The effectiveness of the socio-economic development of the country is directly related to the development of its regions. Therefore, to maintain a healthy socio-economic climate in the country, it is necessary to carefully and thoughtfully approach the development and implementation of effective regional policy based on assessing local development's current social and economic factors [12; 7; 8].

As of the end of September, the number of deaths in the world caused by COVID-19 per 100,000 coronavirus infection in this period had exceeded 1 million (1,006,467). As of the same period, 222 ,102 confirmed cases of coronavirus (COVID-19) were recorded in all regions of Ukraine, which is more than 7.5 times higher than this value as of 01.06.2020, and 4343 confirmed deaths in 456,509 tests [4], which has more than five times increased compared to the situation as of 01.06.2020. At the same time, the regions of Ukraine differ significantly in the level of vulnerability of the population to this infection. Thus, the five regions that are leaders in the number of confirmed cases of COVID-19 are Kyiv (24317), Lviv region (21045), Kharkiv region (19948), Chernivtsi region (14754), and Odesa region (14434) [14]. Regarding the number of confirmed deaths from COVID-19, the top 5 regions of Ukraine were distributed as follows: Lviv region (573), Kyiv (413), Chernivtsi region (365), Kharkiv region (364), and Ivano-Frankivsk (331)). The relationship between the number of confirmed cases of COVID-19 and the number of confirmed deaths from COVID-19 in the context of the regions of Ukraine

is presented in more detail in the following figure (Fig. 1). This highlights the need to study the reasons for such a significant regional differentiation of the scale of the population's vulnerability.

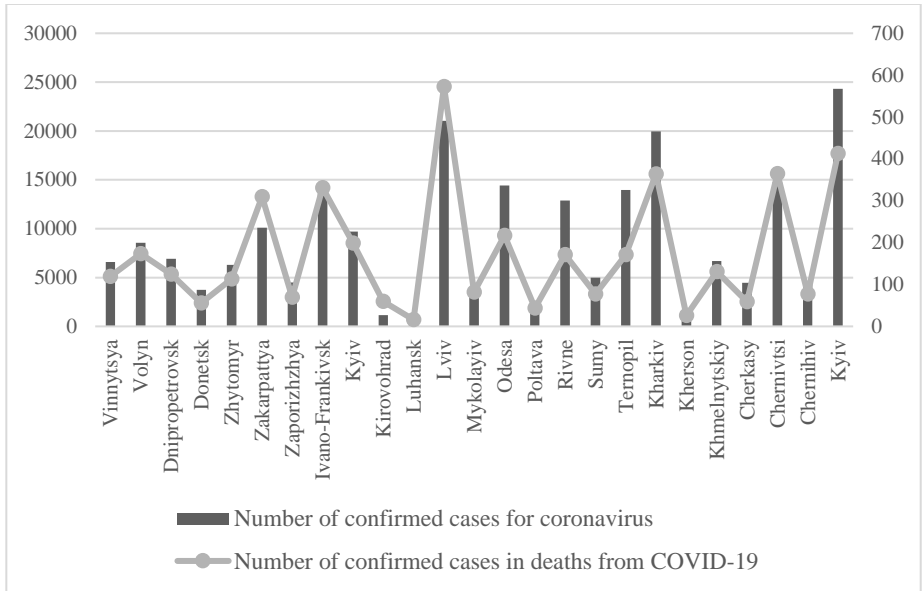


Fig. 1 – Relationship between the number of confirmed cases of COVID-19 and the number of confirmed deaths from COVID-19 by regions of Ukraine as of 01.10.2020

Of particular relevance is the definition of factors, in particular, of a public nature, the influence of which has accumulated over a long period and contributed to the formation of the so-called "retrospective portrait", which allows to differentiate regions of Ukraine in terms of COVID-19. Analysis of scientific research, the results of which allow to form groups of factors that have a significant impact on the level of consequences of the defeat of the regions of Ukraine by the disease COVID-19. Thus, financial and economic factors [2, 10, 11, 12, 13], are retail trade under bank loan agreements, stocks of light petroleum products and gas at gas stations, stocks of light petroleum products and gas at gas stations Propane and butane are liquefied, personnel costs, labor costs, capital investments, gross regional product, level of exports/imports, etc.; environmental factors [3; 13; 22] - capital investment in environmental protection, carbon dioxide emissions into the atmosphere, the amount of incinerated waste, the amount of waste accumulated during operation, in specially designated places and facilities; social and medical factors [9; 10; 6; 7; 8] - the number of interstate migrants, registered unemployment,

use of working time and part-time employment and the amount of arrears of wages, the number of ELISA laboratory tests, the number of devices Ventilation, diseases of the endocrine system, eating disorders, metabolic disorders, and other conditions.

After conducting several studies, the following trends in the influence of public health factors on the differentiation of the regions of Ukraine in terms of the incidence of COVID-19:

- The presence of migration growth in the regions can be explained by introducing quarantine restrictions by countries around the world for entry and exit of persons outside their country in connection with the spread of the COVID-19 pandemic in Ukraine and the world. This trend is especially characteristic of the regions of Western and Southern Ukraine;

- There was a reduction in passenger traffic from 40.3% in Donetsk and Volyn regions to 64% in Kyiv. Decrease in passenger turnover due to restrictions on passenger traffic between oblasts at the state level to reduce the spread of COVID-19 virus;

- When the spread of the COVID-19 pandemic, it is crucial to minimize your contact environment. Significant help in this is the Internet, making people's lives more convenient because now most chefs and services can be ordered online and with home delivery. In Ukraine, in 2019, goods worth UAH 9,918 million were sold via the Internet. More than half of sales are in Kyiv, followed by Odesa and Dnipropetrovsk regions (7.02% and 6.2%, respectively). In the Volyn region, for example, in 2019, goods worth the amount were sold via the Internet. UAH 90.9 million, which is only 0.005% of the total retail trade turnover in the region and only 1% of the retail trade turnover via the Internet in Ukraine. These are very low numbers, given that Ukraine is currently undergoing a large-scale digital transformation. People's unwillingness to digitize also exacerbates the situation with the COVID-19 pandemic, as traditional retail sales involve direct contact between the seller and the buyer, which poses a potential threat to the growth of COVID-19.;

- In the course of the research, it was established that the spread of the COVID-19 pandemic affected the socio-economic situation of all regions of Ukraine. There is a decline in production. There is an increase in the number of registered unemployed and the general unemployment rate in the region, difficult transport links between regions due to the introduction of quarantine restrictions, increasing wage arrears. The most common diseases in Ukraine are respiratory diseases, which affect one-third of the country's population. This situation is dangerous for areas from the point of view of the incidence of COVID-19, as this virus mainly affects the human respiratory and nervous systems. Another factor influencing the spread of the COVID-19 virus is the low level of digitalization of the region's population.

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THE ECONOMIC IMPACT OF COVID-19: FORECASTING FOR UKRAINIAN REGIONS¹

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The world scientific community has developed many economic and mathematical models for predicting and analysing the multidirectional impact of COVID-19 on various aspects of society. Modelling the economic consequences of a new dangerous virus for different countries has a vital role today. There is a lack of such research in Ukraine. Foreign papers, particularly from the highly-rated databases Scopus and Web of Science, show an increase in research on this topic and their citations. It is appropriate to mention specific quotes from the report of the consulting company One Philosophy Insights, which states that quarantine has affected the economy of Ukraine in different ways. The most affected were airlines, tourism, entertainment services, exhibition business. Real estate and retail trade were the least vulnerable. Furthermore, such sectors as technology, pharmaceuticals, logistics, superfood production have even benefited from the spread of the pandemic in Ukrainian regions [1].

The relationship between the degree of physical distancing during a pandemic and lost income in society is generally considered to be linear [2; 3]. However, the amount of lost income may likely be lower or higher than the level of physical distancing. One of the gaps in the literature is the regional analysis of the economic impact of pandemic shocks. The authors observe different effects of epidemics on the development of regions, which depend on how this region has been affected, its economic structure, the degree of development of the labor market, and economic ties between different activity sectors. According to the four indicators for assessing the situation with COVID-19, Ukraine is one of the regions in Europe with the most challenging situation. As of October 15, 2020, Kharkiv, Sumy, Khmelnytsky, Ternopil, Poltava, Rivne, and Zhytomyr oblasts recorded the largest outbreak of COVID-19 [4]. The spatial component is of great importance in resolving the long debate on the gradual recovery of various economic sectors. In particular, determining the extent of the impact of COVID-19 on individual regions, effective forecasting of further actions allows to more reliably justify management

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decisions in the field of preventive measures. Naturally, the reactivation of the national economy with mitigation, if possible, should be carried out, taking into account the development of individual regions.

The use of forecasts, especially economic and mathematical ones, has a positive effect on the prudence and future effectiveness of the government's management actions to prevent the further spread of Coronavirus. As of October 2020, about 10% of people in the world are infected. According to the modeling results, the spread of SARS-CoV-2 in mid-November 2020 will increase up to 10,000 new cases of COVID-19 in Ukraine [5]. In April 2020, the index of national business activity expectations fell for the first time to a record low of 29.9 points (for comparison in the pre-pandemic era of COVID-19 in March, this figure was 45.8 points) [6]. The reason for this was the strict anti-epidemic measures. Moreover, the services sector was the most pessimistic (24.6% of Ukraine's GDP). A significant number of companies at that time planned to lay off employees or go on vacation at their own expense. All companies have downgraded their forecasts for future sales and production in the short and medium-term. Naturally, the easing of quarantine in May 2020 somewhat improved business expectations in Ukraine. In October, the negative dynamics of this indicator one can observe again – a drop from 49.4 points to 47.8 [7]. The value below 50 points indicates the pessimistic mood of business representatives in Ukraine. One-fifth of Ukrainian families have cut spending on food. About 40% of families have stopped spending money on luxuries. According to Google Mobility Trends, the frequency of business trips remains lower than in early 2020. However, since August, people in almost all regions have become more likely to visit shopping and leisure facilities. Shopping in grocery stores and pharmacies almost reached the level of February 2020.

According to preliminary EBRD forecasts, the Ukrainian economy was to recover in the fourth quarter of 2020. Today the forecasts are more pessimistic – recovery not earlier than the second quarter of 2021. In general, next year, the Ukrainian economy will grow by only 3% [8]. The recovery of the regions of Ukraine depends on their averages and capabilities. Any prognosis may be too optimistic, as the situation with the spread of Coronavirus is too unpredictable and rapidly changing.

According to [9], there is an urgent need in Ukraine to continue a robust reform agenda, continue cooperation with the International Monetary Fund to ensure macroeconomic stability, and create economic incentives to maintain employment and stimulate the inflow of investment in regional development.

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THE IMPACT OF EDUCATION ON MIGRATION

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In our study, we analyzed how education affects migration policy. Most of the work on the relationship between education and migration is devoted to the impact of education on a person's decision to migrate and the choice of destination country. Theoretically, there are two main factors influencing education on migration, namely: the income gap between countries and the cost of migration. As a rule, migration costs are lower for more educated people [17], which stimulates migration among them. Cattaneo and Beyene [11; 6] argue that the cost of migration is a crucial factor for positive self-selection of migrants. The relationship between the income gap between countries of departure and destination and education depends on the labor market situation in those countries. The higher share of highly skilled workers in the destination country reduces the likelihood of immigration for highly skilled people who have to compete for jobs with the local population, and increases it for low-skilled workers who complement rather than replace local workers [15].

The decision on education and migration depends on the well-being of the family. Wealthier families have more opportunities to pay for both education and migration. Thus, more educated people are more likely to emigrate, even if the return on education is higher in the home country than in the destination country (assuming that the destination country offers higher wages for all levels of education as well as a higher standard of living). Non-zero migration costs can facilitate the migration of middle class people and thus increase rather than reduce inequality in the country of departure.

In addition, topical issues of the impact of education on migration policy have been analyzed in the works of many scholars. [1;5;8;12;14;16;18;19;20;21;22;24;25;26;27;28;29;30;31;32].

Most studies have found that education (especially higher education) has a positive effect on the likelihood of migration. This conclusion is confirmed by the work of Zaiceva and Zimmermann [3] for 10 EU countries, Budnik [9] for Poland. Avato [4] and Alquezar et. al [2] for Egypt, Moldova, Albania and Tunisia.

Other studies have shown that this impact is negative for a number of CIS countries, such as Ukraine [Danzer and Dietz [13] and Moldova, as well as for Romania.

Caponi [10] found that people with the lowest and highest levels of education benefit most from migration and are therefore more likely to emigrate from Mexico. Other studies show the opposite results for Bangladesh, where migration is most common among people with secondary education. In Ethiopia, education is not a significant factor for migration (Beyene, [7]).

Research has shown that more educated people are more likely to emigrate and choose a destination country with higher incomes and higher remuneration for their qualifications. Also, highly skilled workers have more freedom in choosing the country of destination due to restrictive migration policies of immigration countries.

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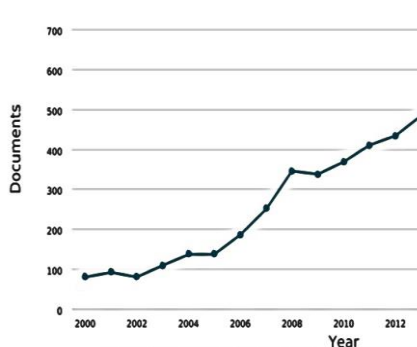
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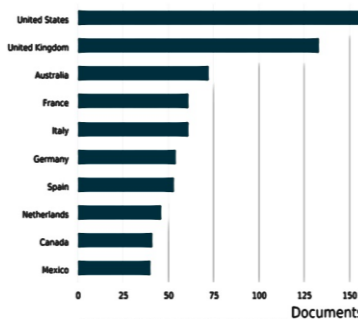
INTERNATIONAL MIGRATION AND DEMOGRAPHIC CHANGE: BIBLIOMETRIC ANALYZING AMONG RESEARCHERS USING SCOPUS AND GOOGLE SCHOLAR

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The findings of bibliometrics analysis confirmed that the number of the papers on the international migration had already declined for 2000-2019 years. Thus, the scientists published 6930 documents in the scientific journals which indexed by Scopus (Figure 1a). Among all papers 81% – papers, 6,7% – review, 6,2% – book chapter. The average annual growth rate – 120%. In this case, in average the numbers of the papers increase by 20%. The findings allowed concluding that the biggest share of the documents was published by the scientists from EU countries (United Kingdom – 980 documents, France – 324, Italy – 348, Germany – 424, Spain – 335, Netherlands – 290). Considering the results of the analysis showed that the issues on international migration had being investigated by the European scientists (Figure 1 b).



a) Documents by year



b) Documents by country or territory

Figure 1. Dynamic (a) and country's affiliation (b) of the investigations on the international migration for 2000-2019 years

Source: developed by the authors based on Scopus (2020).

A large number of articles on international migration had previously been published by Hugo G. (25), King R. (17), Massey D.S. (16), Docquier F. (15), Strielkowski W. (15). Hugo G. mostly analysed of impact of the migration process on the social development in Australia. In the paper (Tan & Hugo, 2017) the scientists analysed the impact of the education on the migration of the Chinese and Indian students in Australia. The findings (Tan & Hugo, 2017) justified the positive impact of the students' mobility on the increasing of highly skilled workforce in Australia. Durand J. and Massey D. S. (2019), Roland et al. (2017) highlighted contradictions between the migration policy in the destination country and immigration in practice. At the same time, Docquier F. at all. (2017) researched the impact of bilateral migration on the causes of military conflicts among countries. Strielkowski W., Lyuolov O., Nagy Z., Bilan Yu. and their co-authors in their publications (Rausser G. at all, 2018; Lyulyov et al., 2017; 2019; Dalevska et al., 2019; Borella et al., 2017; Nagy et al., 2018) studied the consequences of population outflow for the macroeconomic stability of countries. The scientists used the regression model with such variables as: current account balances, FDI, migrant remittances, minimum wage, time variable and error. Their findings confirmed the statistically significant relationship between macroeconomic indicators of analysed countries and migrants' remittances. Besides, the authors noted the vital role of minimum wages in the country in the population's decisions to emigrate to another country. The findings of the bibliometric analysis using VOSviewer allowed identifying the four main directions of the migration research: (a) definitions and trends; (b) environment and living conditions; (c) management policies; and (d) determinants of effectiveness (Fig. 3). The authors analysed titles, keywords and abstracts of the papers which are indexed by the Scopus scientific databases.

There dominated the papers on the conceptual framework and general explanations of international migration. At the same time, research should base not only on the concepts. Other scientific clusters should also be involved through diversifying international migration research. John Lewis J. and Swannell M. (2018) analysed the macroeconomic factors which influence the migration process. Their study was based on the gravity model (reflecting the estimation of flows between two or more points), which had several determinants and was designed to study the pairwise data of 160 migrant countries of origin and 35 developed economies. The authors confirmed the significant impact of the selected determinants on the migration process among countries: macroeconomic – GDP per capita, population, unemployment rate and real exchange rate; geographical, historical and other – based on the historical and geographical affinity between a destination country and a donor country, as well as employment; freedom of movement – based on the impact of treaties among countries/groups of the countries on the free movement of population among them.

The findings of the bibliometric analysis using VOSviewer allowed identifying the four main directions of the migration research: (a) definitions and

trends; (b) environment and living conditions; (c) management policies; and (d) determinants of effectiveness (Fig. 3). The authors analysed titles, keywords and abstracts of the papers which are indexed by the Scopus scientific databases.

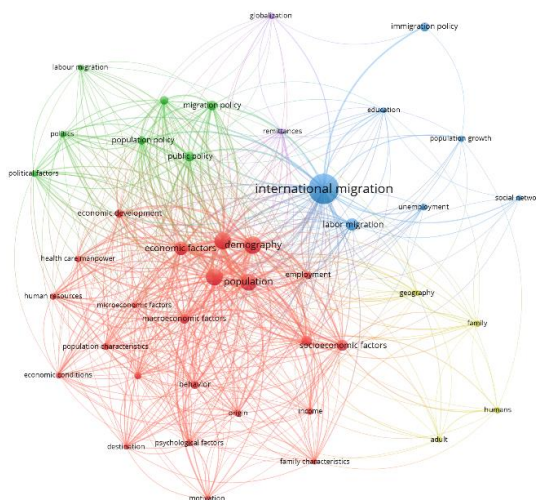


Figure 2. Content analysis of scientific background on international migration issues and visualization via VOSviewer

There dominated the papers on the conceptual framework and general explanations of international migration. At the same time, research should base not only on the concepts. Other scientific clusters should also be involved through diversifying international migration research.

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SOCIO-ECONOMIC EFFECTS OF DISRUPTIVE TECHNOLOGIES

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Humanity currently faces Industry 4.0 as a new reality [9,10,11,13,28,29,40]. A massive predictable introduction of cyber-physical production systems to maintain human needs and artificial intelligence is evolving. Different types of robots could replace many professions by the year 2030. It might drastically change people's lives and societies.

The report of the International Council on the Agenda for the Future of Software and Society, organized in the framework of the World Economic Forum, states that many disruptive technologies will reach a crucial point in their development by 2025 [3]. Society comes closer and faster near surprising technological innovations, as, e.g., quantum computer, the universal introduction of the blockchain, virtual reality, and developments based on artificial intelligence. Every year experts and scientists discuss the issues related to disruptive technologies, focusing on the positive sides for economic growth promotion. The main direction of Industry 4.0 is the formation of cyber-physical systems and the Internet of Things (IoT) [29]. The Internet of Things is a concept of an information-driven network of physical objects (“things”) equipped with built-in technologies for interacting with each other or with the external environment. The formation of IoT can rebuild economic and social systems, contributing to personality development and achieving sustainable development goals [5-8,12,14,16-39,41-43]. IoT allows realizing several communications (interfaces) that contribute to personality development, which is the primary goal of sustainable development. Solving many social and environmental problems depends on the success of economic systems [1; 15].

First, production systems create the material assets (goods) and information necessary to improve human life quality, carrying a sustainable state of ecosystems. Second, individuals in the economy get their income, needed to increase well-being and personal development. Third, economic structures establish the capacity and investment capital for transformations towards sustainable development. Fourth, personality development is primarily associated with the solution of economic problems.

Figure 1 demonstrates the positive and negative impact of disruptive technologies.

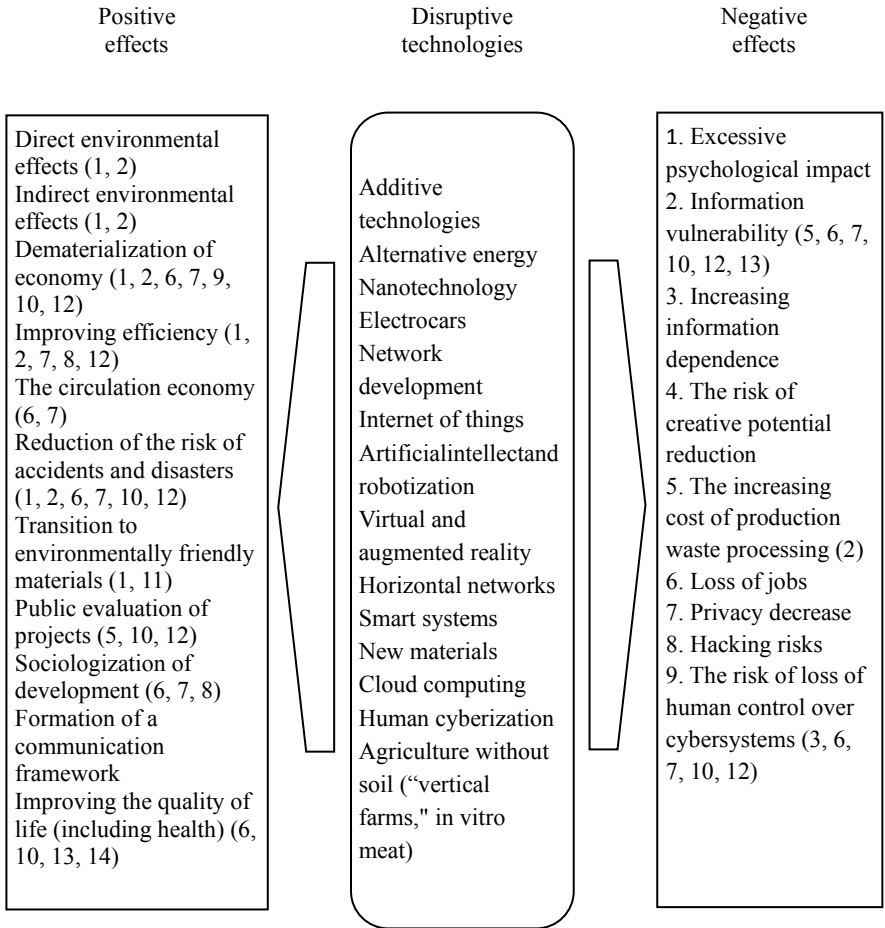


Figure 1. The positive and negative impact of disruptive technology (DT) (in brackets – the predominant DT effect) (developed by the authors)

The World Economic Forum predicts that by 2025, 75 million jobs will have disappeared to be replaced by 133 million new ones as automation spreads in the workplace [4].

The socio-economic effects of disruptive technology can be explained by analyzing the peculiarities of Industry 4.0. Disruptive technology changes the basis of competition by improving the performance metrics along which firms compete. Therefore, the primary effect of disruptive technology occurs in competition.

1. Direct environmental effects result from the decrease of environmental impact from energy production, the manufacture, and consumption of products.

2. Indirect environmental effects. Alternative energy can prevent significant environmental impacts of the processes of extraction, transportation, and storage of fuel resources (drainage and soil pollution, oil spills, pipeline accidents, blocking animal migration routes, etc.).

3. Dematerialization of the economy. Disruptive technology (primarily additive methods based on 3D printers) can significantly reduce the material intensity and energy consumption (energy intensity and input of material per unit of product).

4. Improving resource efficiency. Resource efficiency is a critical factor in a greening economy [6]. The use of new materials, computerization (digitization) of design and manufacturing products based on artificial intelligence may significantly increase economic processes' efficiency. Fiber-optic communication (quartz, glass, or polymer fiber) allowed increasing the speed of information transfer by more than five times

5. A circular economy. Cyber-physical systems in Industry 4.0 and the Internet of Things are a step towards building a circular economy. The digitalization of production processes and the development of cloud technologies also contribute to this. Ideally, each product will have its label, which will carry information about the source of resources, production technology, the type of energy used, and other data. This information is the basis for creating closed material use cycles [2]

6. Reducing the risk of accidents and disasters. The new economy may significantly reduce the risk of emergencies that cause significant environmental damage. At least two circumstances contribute to this. The first is the dematerialization of the production and consumption processes. The dangerous links of production, transport, and storage of resources are eliminated.

7. Transition to environmentally friendly materials. The modern technological revolution and the creation of new materials allow them to be included in ecosystems' metabolism. In particular, silicon and cellulose “ink” were invented for 3D printers. These substances are in the material metabolism of the planet. Packaging materials from agricultural waste became widespread.

8. Public evaluation of projects. The platforms for the broad involvement of people in public governance allow environmental impact evaluation by the public at a minimal cost. There are prerequisites for taking into account the views of citizens in the formation of their environment. One of the basic principles of sustainable development can be implemented in practice: “think globally, act locally”.

9. Sociology of development. The formation of the Internet of things and the widespread use of robots may significantly reduce the physical labor. The increase of human well-being in different countries allows satisfying basic biological needs. Modern methods of agricultural production (“vertical” farms, test-tube meat) are essential.

10. Improving the quality of life. The implementation of individual monitoring of human health, the development of medicine based on the reproduction of renewable organs, and a new generation of pharmaceuticals contribute to a significant increase in human life quality.

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ESTIMATION OF THE CORONAVIRUS CRISIS IMPACT ON THE ENERGY AND ECONOMIC SECURITY OF THE NATIONAL ECONOMY²

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The energy security of the state is an essential component of its economic security. In turn, energy security is determined by the stability of the energy sector, which must continuously meet the energy production and consumer needs of enterprises and the population [1–15,16-29,51-56]. Changes in energy needs of economic entities caused by global and local threats (particularly by the COVID-19 pandemic) lead to fluctuations in energy consumption that negatively affects the stability of the energy sector and, consequently, energy and economic security of the national economy. Tracking these fluctuations and their further forecasting are powerful tools for state regulation of energy production and consumption, prevention of energy crises, and economic losses.

To identify the nature of changes in domestic business entities' and individuals' energy consumption before and during the coronavirus crisis, we have conducted a study of electricity consumption dynamics in 2018–2020. Using the data on monthly electricity consumption/production in Ukraine, we identified the corresponding fluctuations using the Butterworth filter (based on methodological approaches [16,30-50; 58-77]). In particular, we analyzed the influence of coronavirus and quarantine restrictions on the cyclical components of electricity consumption by the Ukrainian population (Fig. 1).

Fig. 1 shows that the smallest amplitude of fluctuations was observed in 2020 since deviations from the trend component were within 5%. However, there were differences in electricity consumption in 2020 compared to previous periods. Since the announcement of quarantine measures in March, the population's electricity consumption has started to increase, despite the fact that in previous years at the end of March (end of the heating season), electricity consumption decreased. In 2018-2019, the cyclical minimum of electricity consumption was in May, after which this indicator began to rise. In 2020, the cyclical minimum of electricity consumption was in June.

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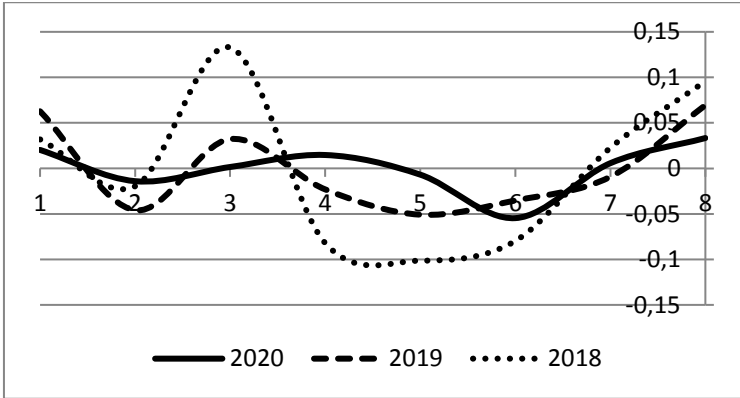


Figure 1 – Fluctuations in electricity consumption by the Ukrainian population (for all consumer groups) in 2018–2020 (for 8 months of each year) (developed by the authors based on [37])

Let us consider the cyclical component of electricity consumption by the Ukrainian industry (Fig. 2).

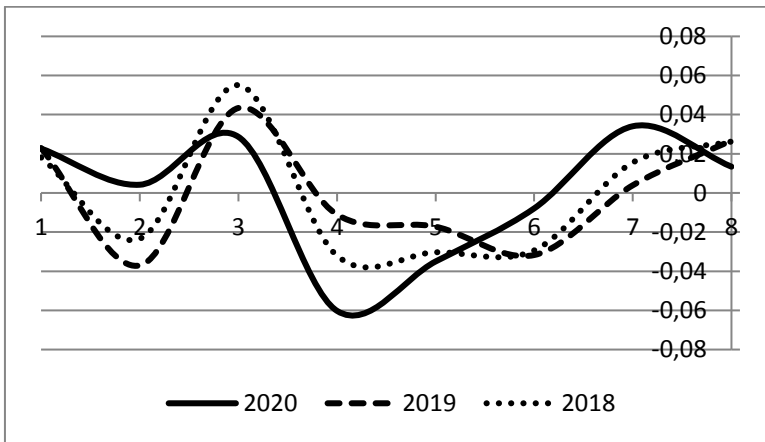


Figure 2 – Fluctuations in electricity consumption by the Ukrainian industry (for all consumer groups) in 2018–2020 (for 8 months of each year) (developed by the authors based on [37])

Fig. 2 shows that in 2020, the Ukrainian industry failed to reach its usual maximum cyclical values of electricity consumption in March 2020 (the decline was

at 6% of the trend level). Instead, quarantine measures in May and June caused minimal cyclical values of electricity consumption. In addition, the cyclical component of industrial electricity consumption in 2020 was different from the ones in two previous years.

Thus, the coronavirus crisis has made its specific adjustments in electricity consumption by the two groups of consumers discussed above. From the point of view of energy and economic security, the current crisis is forcing energy companies to restructure their normal work modes considering the new peaks of energy demand. Each wave of the coronavirus crisis is projected to lead to an increase in households' energy consumption and, accordingly, a reduction in the energy load of industrial enterprises.

The probability of illness of employees of energy generating companies threatens the normal work rhythm of the entire energy and economic system. That is why energy companies need to pay more attention to the introduction of Smart-grid technologies to ensure the country's energy and economic security.

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ASSESSMENT OF CONSEQUENCES OF THE VIRTUAL REALITY ECO-TOURS ADVANCING IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT AND THE COVID-19 PANDEMIC

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According to many experts, humanity is on the verge of transformational changes[11-21], which are characterized not only by changes in the way of management, but also by changes in the philosophy of human existence. This situation is especially noticeable during crises on a global scale. One such demonstration was the global socio-economic crisis caused by the coronavirus pandemic.

Also, it can already be argued that some areas of the information technology industry are experiencing an extremely rapid pace of development, including virtual reality technology. This is especially true because against the background of information that one of the negative consequences of the pandemic is an increase in cases of psychological tension in society as a whole and in individuals, due to limited physical movement of people.

Therefore, the aim of this article was to study the prospects of implementing virtual reality technologies in the tourism business environment based on the identification and justification of possible positive and negative socio-environmental and economic results due to the development of this type of business at the regional level.

The idea is to use virtual reality technologies to create a commercial product - "green" tours in Sumy region (Ukraine). The essence of which is to provide customers from all over the world the opportunity to virtually visit certain natural and landscape areas of Sumy region. The emphasis is not only on visiting historical monuments, museums, but also on the use of recreational potential of natural objects. For example, kayaking on the river Psel, hiking in Spadschansky forests, fishing on the Blue Lakes in Sumy, hunting animals, picking mushrooms, sports tours: running, skiing in the woods near the village Tokari.

Virtual reality (VR) is an artificially created world with the help of computer technology, which a person can comprehend through the senses such as sight, hearing, touch. Virtual reality mimics both influence and reaction to influence.

From the technical point of view, in order to immerse yourself in virtual reality, special glasses are used, which are called - virtual reality glasses. For full interaction with virtual reality also use 3D-controllers (manipulators that allow you to work in three-dimensional space). Also, as an additional tool for immersion in VR, virtual reality rooms are used, which represent a specially equipped space, where the computer-generated image is transmitted to its walls through displays or projectors.

Virtual reality is now beginning to be actively used in many spheres of public life[22,23,41,42]. For example, in science, education, design, entertainment industry, military sphere, etc.

In addition to the cost component for making management decisions to implement a business project, it is important to adequately assess the possible results that the owner or stakeholders can get. For a more systematic analysis of this issue, we divide it into two elements. Determining in the formation of the circle of recipients is the understanding of different levels of influence on the results of the research business. Yes, in addition to the actual internal or internal results, you must take into account the external results or external.

Obviously, the group of internal recipients is characterized by the perception or retention of direct economic benefits from the sale of eco-tours of BP in the form of income and profit or possible losses.

Less obvious, but no less important are external recipients, which are characterized by obtaining more social and environmental effects and indirectly economic results.

In the classical literature of the economics of nature management it is accepted to consider the results of management in three sections: socio-economic, ecological-economic and actually economic. Note that by nature all three results are varieties of economic result. However, we consider it expedient to consider them in this way, in order to highlight their most significant characteristics and opportunities for further effective management.

Thus, the creation of eco-tours of virtual reality can be considered appropriate because, both for internal and external recipients, this type of activity is certainly more positive than negative. The creative component of work is growing for employees, and preconditions are being created for raising wages. For consumers, travel risks are reduced, associated costs are eliminated, and more options and opportunities appear. For the region, this type of activity guarantees environmental friendliness[10,24-40] and greater interest due to the virtual reality tour in the area.

To a large extent, innovations in tourism are due to the emergence of an information society that forms digital, virtual reality with specific social, cultural, consumer practices. If in traditional tourist activities service providers (hotels, carriers, restaurants, cultural institutions, etc.) work with the client through specialized enterprises - travel agencies (later booking networks joined these specialized enterprises), then today, with the widespread distribution of the Internet,

the consumer "Goes" directly to the supplier of travel services and orders a hotel room on its website, tickets - on the airline's website and all other services in the same way directly from the profile manufacturer.

A separate trajectory is made up of innovations in the types of tourism, due to the emergence and widespread use of information and telecommunications and Internet technologies. Among the new types of tourism today, virtual tourism stands out. Note that due to the electronic integration of all types of communications, a new symbolic environment is being built, where virtuality becomes reality, and reality becomes virtuality.

At the moment, there are few articles in the scientific literature devoted to the topic of virtual tourism, which is quite natural and is explained by the relative novelty of the phenomenon under consideration. Many definitions boil down mainly to the description of virtual travel technology. Thus, a virtual tour is considered as a way of realistic display of three-dimensional multi-element spac. In general, we can say that virtual tourism replaces both genuine travel and real tourism. Such a "tourist trip" is more comfortable and convenient, safe, because it is done within the home.

Speaking about the attractive aspects for the manufacturer, it should be noted that if we can consider an individual individual (less often a group of individuals) as a consumer of virtual tourism services, then various economic entities can act as a manufacturer. Most often, this is a business that sells services to an individual consumer, and institutions of culture, sports, education, etc. In this case, a separate group should be allocated to firms directly from the travel industry.

Note that in this article we were talking about virtual travel in the form in which they exist at the moment, i.e. about virtual tourism as an auxiliary part of tourist activity, which is used by various economic actors to maintain and develop their main activities. It is reasonable to assume the formation in the future of an industry in which virtual tours will become the final self-valuable consumer product, examples of which we already see today.

Changing the behavior model of the consumer of travel services will only actualize the tasks of innovative development of the tourism business and the search for a new offer for an IT-literate user who is able to search the Internet. One of the possible directions can be consulting services, which allow not only to carry out a search, but to make it fast and effective. Also, a travel company can focus more on an individual offer, on the development of a route for an individual tourist, taking into account the needs and preferences of a particular customer, who has already made a virtual trip and now decided to visit the objects that interest him.

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ACCESS AND RESOURCE ALLOCATION IN THE GLOBAL ECONOMY: CHALLENGES OF POST-INDUSTRIAL SOCIETY

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The current phase of development of local and global economic systems is characterized by quite serious problems [2; 5; 6; 16; 22; 29; 32; 38; 42]. These are economic, technical, technological, financial, environmental, social, migration, security problems, problems of inequality in society, problems of access to resources and their rational use. Thus, according to UN estimates, the rate of use of natural resources in the XX-XXI centuries has become threatening, exceeding the regenerative capacity of the ecosystem. Negative environmental effects are exacerbated by climate change, increasing the area of deserts, waste [13; 19; 23; 27; 37; 44].

Industry 4.0 changes the economic construct and landscape of the business environment and society [20; 24; 25; 26; 31; 33; 34]. The rules and procedures for economic operators' access to resources have also been significantly transformed. The nature of the use of economic resources is also changing due to the global pandemic and economic recession. The tactics and strategies of economic actors are determined by the challenges and risks posed by the “new economic and social normality”. We identify some new key challenges that shape the directions and features of business processes and social communications now (along with)(along with the “traditional”, purely economic, the influence and nature of which have been studied in great detail)[1; 7; 9; 10; 30; 35; 43].

A wave of **populism** (both economic and social) that engulfs business, politics and society. Change of priorities and preferences, behaviour of consumers and producers of goods/services, focus on “simple decisions” as a consequence. The level of trust in government and business institutions as a key resource in economic relations is declining. The basic and necessary competencies and skills needed to ensure economic empowerment are levelled. The importance and demand for knowledge, skills, experience is weakened [22; 41; 43; 44].

“**Trade wars**” and **economic sanctions** are gaining ground in the global business environment. Countries and economic unions are increasingly using such measures to achieve political and economic goals [1; 42].

Trade war between the United States and China, trade and economic conflicts between the European Union and China, the United States and Mexico. The aggravation of the geopolitical situation intensifies the application of trade and economic sanctions by the countries (USA – Russia; European Union – Russia;

Canada – Russia, USA – North Korea) are examples. In some cases, trade restrictions and restrictions on economic cooperation with, for example, the Chinese companies Huawei and ByteDance (TikTok service) are dictated not so much by competition as by the national security interests of the United States, Great Britain, and the European Union.

“**Digital inequality**” in the global business environment and society is growing rapidly. There is a stratification of business and social groups with increasing quantity and quality of technological solutions and know-how.

Technology transfer, user accessibility, functionality, mobile services, mobile networks (5G), the use of artificial intelligence, robots, and other innovative technologies are a source of inequality of access to resources and business and social conflicts. For example, the logistics (delivery) and distribution of the COVID-19 vaccine due to medical and technological features may be conflicting.

Technological and information security has been the subject of discussions between business and society in recent years. It is difficult to estimate the losses and risks of using artificial intelligence and robots in business processes now. As well as the problem of safe use, handling and storage of information in the era of “post-truth” (problems of analysis and involvement Big Data; access and use of private (personal), commercial, insider information, fakes, etc.) [39; 43].

Migration is a source of conflict. Economic, social, climatic, etc. migration creates resource inequalities in host countries [28; 40]. In conditions when migrants do not want (more often) or cannot accept the “rules and laws” of the country to which they came, there are labour, social, environmental, religious, criminal conflicts [3; 4; 14; 17; 18]. Such turbulence of the environment negatively affects the economic situation of the host countries/regions. The situation has a steady tendency to worsen without the adoption by migrants of rules, labour culture, laws of the host country, their integration into the socio-cultural environment (implementation of the global principle of multiculturalism). Some countries see people as “new oil” (apparently in terms of the number, quality and economic “cheapness” of the resource) ...

Security as the main resource of socio-economic systems. Existing risks and the situation of uncertainty make completely new demands on the economic, informational, technological, commercial, social, cultural components of the overall security environment [12; 15].

The growing importance of **foreign markets** and the protection of **domestic markets** to restore economic growth. Supporting domestic demand and protecting investment should be seen as a driver of future growth. In particular, the pandemic has given new impetus to the economic debate on the feasibility and effectiveness of such a financial instrument as universal (unconditional) basic income.

Many countries use various forms of financial support during the crisis:

cash benefits for workers who lost their jobs due to the pandemic; payments to the temporarily unemployed; preferential lending to individuals and businesses; reduction or temporary cancellation / suspension of tax and rent payments; finally, the distribution of certain sums of money to all citizens (so-called “helicopter money”). Such measures allow to support business activity and purchasing power of consumers in the domestic market.

Environmental policy lost its importance during the recession. Return to the environmental priorities of sustainable economic growth is possible provided that the appropriate economic level (pre-crisis) is reached. The conflict of the environmental challenge is related to the procedures of access and allocation of natural resources directly. Individuals and territories face the problem of ecological conflicts more and more often, their number is constantly growing. The most significant of them are water, land, atmospheric, resource (oil, gas, coal) conflicts [8]. Conflicts are destructive and significantly weaken the potential for sustainable systems. The situation of the “resource curse” as well as the “resource deficit” is unfavourable for economic entities and the environment.

Alternative (“renewable”) energy and “green bonds” [11; 15; 21; 36; 37] are developing rapidly in the world. However, you should also keep in mind some negative effects on the environment (solar, wind). There is an effect of “renewable energy/resources” for the global environment, as a weakening of the “petrocracy”, the power of the oil business lobby.

The success of economic recovery with further growth depends on overcoming global and local negative trends. But possible new “black swans” should not be discounted.

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SOCIO-ECONOMIC PRECONDITIONS FOR THE DEVELOPMENT OF ENERGY NETWORKS

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The world is increasingly beginning to improve approaches to shaping energy policy, because the conditions of limited natural resources force more and more people to direct the policy of states in search of factors for the formation of energy potential for the development [20-54] of society and the country as a whole [1]. One of such factors should be energy efficiency, which combines not only energy conservation but also optimization of the ratio of efficiency to energy costs [2, 5]. This problem has posed certain technological and economic challenges to Ukraine, at the same time, it opens opportunities for the development and application of innovative, high-tech developments in the fuel industry, which necessitates the formation of an improved energy policy of Ukraine. Peculiarities of ecological components of production activity and energy sector in particular are given in [6-17]. Prerequisites for the development of electricity in our country were: Currently in Ukraine there are opportunities for the development of alternative energy technologies [18, 19]. According to the adopted Energy Strategy of Ukraine until 2035 "Security, Energy Efficiency, Competitiveness", intensive use of all types of renewable energy sources is envisaged, which in turn will become an effective tool in ensuring energy security of the state. It is important to note that the share of alternative energy in the fuel and energy balance is projected to grow at 11% (by 2020) of the basic energy supply and more than 25% (by 2035). However, in order to achieve the set goals, it is necessary to attract investments in the amount of 12 billion euros. Therefore, creating a favorable investment climate for business is a priority. Currently, the State Agency for Energy Efficiency is working on mechanisms to attract investors to Ukraine. So, with the support of the Government of Germany, in 2017 the UA MAP Interactive Map (<https://www.uamap.org.ua>) was created, where potential investors from around the world can get acquainted with the implemented and potential projects in Ukraine. As of 2020, there are already about 300 profitable and interesting business offers worth more than 5 billion euros on the map. Thus, Ukraine's energy lags far behind world standards. Our country has already begun to make some changes to correct this problem, but we need to increase the pace of development of this industry, and in any case not to slow down. In the future, the developed electricity industry will become the basis for the development of the country's economy, as it will be able to provide them with reliable, high-quality and cheap electricity supply.

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BLOGGER IS A MODERN PROFESSION

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Today, the Instagram platform has become one of the most popular types of earnings, and the modern profession of a blogger brings people millions, especially in a digital economy [1-3,16-41]. But what is the secret to the success of all bloggers? Maybe it's an unsurpassed idea, or charisma, or a large start-up capital. In social networks, people not only create blogs, but also create their own business. Therefore, you can create an online store to sell your products on Instagram, but the feature of such stores is, as well as bloggers, trust and popularity among readers. In order to find out this success from bloggers, I decided to conduct research: to create your own blog - a startup. First of all, I wonder if this "project" will be able to gain a large number of subscribers without start-up capital, because I have an idea for start-up capital. I'm not a big fan of economics or finance, I like psychology and that's why this blog is directly related to psychology. Since I chose a blog topic that I like, I hope for the appropriate result. It is quite interesting to combine two essentially incompatible topics: psychology and entrepreneurship. Bloggers make money by advertising or selling their work, but there is no way for a novice blogger to make money, because he is little known and does not have enough subscribers. Therefore, to begin with, I created this project to recruit subscribers and achieve greater popularity. In about a month, half a thousand people subscribed to the page. I consider this result to be quite positive, because no funds were spent on this project, respectively, and this blog does not bring any profit at the moment. So the time has come when it will be necessary to invest in a blog, namely in advertising your commercial page. This will be our first start-up capital, which will bring us a good increase in subscribers. I still decided to advertise, but I was meticulous in choosing an advertiser. The advertiser's content should be similar to mine, as the target audience should not only learn about my blog, but also subscribe and become its reader. This was one of the most important criteria I used to look for my advertiser. The second, but no less important criterion, was the price of the advertisement itself. Advertising for bloggers depends mainly on the number of subscribers. For bloggers with an audience of several million, the advertising price is described in the hundreds of thousands, and for some the price reaches a million [4, 5]. Of course, such a price is not affordable for an ordinary student, so I found one of the cheapest options for advertising for 45 hryvnia. This advertisement brought me about 250 subscribers, ie one subscriber cost me 20 kopecks, and I consider it a very profitable contribution. The importance of entrepreneurship is due to many works [6-14]. This study helped me find a favorite business that I will continue to develop. In the course of writing this work and performing my "experiment", my blog has reached almost 1,000 subscribers, I think this is a pretty good increase. At the moment, the blog has not

brought me any income, but only the cost of advertising. However, I believe that a few such investments in the development of my blog will lead to greater popularity of my page and later, as a blogger, I will be able to advertise others and make money on it.

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OPENING YOUR OWN HAIRDRESSING SALON AS A BUSINESS

student gr. M-81 T. Ancibor

Motivation to start a business: opening a hairdressing salon and providing hairdressing services in Sumy in a residential area is an investment-attractive activity, especially in the context of the transition to a creative economy [1, 2]. Product: hairdressing services of the "KRISTAL" hairdressing salon for city residents will include women's and men's haircuts. The purpose of the project: development of the sphere of hairdressing services (construction, arrangement and organization of work of hairdressing services "CRYSTAL") in Sumy, adjustment of work of hairdressing salon.). Characteristics of services: A beautiful hairstyle is an integral part of the image of each person, a means of self-expression. However, today there are very few hairdressers that provide really high-quality hairstyles. That is why the creation of the hairdresser "CRYSTAL" in Sumy will provide quality services to the population. The hairdresser is included in the list of environmentally friendly types of business that do not harm the environment [3-15,18-22,26-31,34-38,46]. Hairdresser "

Table 1. - Calculation of the payroll

Position	Number of people	Salary	Remuneration fund
Hairdresser	4	5000 грн	20000
Maid	1	3000 грн	3000 грн
Director	1	15000 грн	15000 грн

Acquisition of fixed assets should be planned taking into account the cost of their transportation [16,17,23-25,32,33,39-45]. When allocating funds for the formation of inventory, it is necessary to take into account the duration of the production cycle and the timing of sales.

Table 2 - Calculation of the cost of production, UAH

Costing article	Women's haircut	Men's haircut
Raw materials	2.2	2.2
Pay	22	18
Rent	12.5	12.5
Other expenses	3	3
The total cost of production	39.7	35.5
Profit	25.3	19.5
Sale price	65	55

The calculation of the cost of production at the enterprise is made to determine the selling price of a unit of goods. It is recommended to make calculations for one product and monthly production volume.

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OPENING YOUR OWN FARM-STYLE CAFE

student gr. FM-91 / 1 an I. Vorobyouv

The purpose and task of this project is to meet the needs of consumers and provide high quality services. The business plan is dedicated to the opening of the cafe "Love it" in the center of Sumy on the street. Petropavlovskaya or on the street. Kharkiv. The cafe belongs to the section №56 of NACE 2010 "Activities for the provision of food and beverages", and therefore it is allowed to engage in this business in Ukraine. It should also be noted that this activity is not subject to licensing, but we will need a license to sell alcoholic beverages.

Why such a name "Love it"? Every visitor is special to us. Everyone has their own tastes and preferences. Some like to travel, others want to learn about the world of different dishes and discover something new, and for some it is most important to spend time with family. But unfortunately not everyone has free time or the opportunity to travel abroad with the whole family to try new dishes. This is what inspired us to create this institution and we can combine it all. And also this institution is decorated in the style of a farm, which we associate with childhood memories. Also, the topic of ecology is quite relevant today [1-17,21-23,26-32,35-39,47]. In addition, we try to meet the needs of the most demanding guests so that they feel at home. And we do all this with love. We ask the same of each other. It should also be noted that the financial reporting procedure BU and payment of taxes for private individuals is much easier than for legal entities, so you can do all the paperwork yourself, thereby reducing potential costs[18-20,24,25,33,34,40-46]. I would also like to add that the procedure for paying taxes (amount and date) for a private individual is usually already prescribed in advance and is called the "Entrepreneur's Calendar", for greater certainty you can use the Tax Code of Ukraine. Also, the analysis of the sales market showed that in this area today this market niche is filled, and, consequently, competition is expected. Particular attention should be paid to the "big players" of this market. These include: Viva Olive, Safari, New York, Soot, Chekhoff's, La Spezia and Simbiosi & Yappi. These are the largest and most popular establishments in the city that already have a reputation and regular customers, but nevertheless the establishment I offer will be able to give decent competition. It is proposed to introduce a modern European style of service. Modern farming style in design is at the same time a certain simplicity and on the other hand it is a modern environmental theme. Another distinctive feature of this cafe will be a flexible work schedule. The staff of the institution will consist of highly qualified employees. The cafe is quite democratic type, designed for visitors of any category. This business takes into account the fact that the basis of the range is aimed at European cuisine. Finally, I want to indicate the required amount of funds required for the implementation of this project. It is approximately

UAH 528,000, but just in case I propose to make another reserve of 10%. Another distinctive feature of this cafe will be a flexible work schedule. The staff of the institution will consist of highly qualified employees. The cafe is quite democratic type, designed for visitors of any category. This business takes into account the fact that the basis of the range is aimed at European cuisine. Finally, I want to indicate the required amount of funds required for the implementation of this project. It is approximately UAH 528,000, but just in case I propose to make another reserve of 10%. Another distinctive feature of this cafe will be a flexible work schedule. The staff of the institution will consist of highly qualified employees. The cafe is quite democratic type, designed for visitors of any category. This business takes into account the fact that the basis of the range is aimed at European cuisine. Finally, I want to indicate the required amount of funds required for the implementation of this project. It is approximately UAH 528,000, but just in case I propose to make another reserve of 10%.

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ADVANTAGES AND DRAWBACKS OF SALES PROMOTION OF GOODS

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Sales promotion of goods is one of the most effective and popular ways of their promotion in the market, what is important for Ukraine in conditions of stagnating production [1-5]. Sales promotion takes on special forms in Industry 4.0 and the digital economy [6-11]. Nevertheless, sales promotion has both advantages and drawbacks, which are important to take into account before using it. Sales promotion is used to encourage buyers to purchase commodities. It draws their attention to the provided goods. This simply helps to give them incentives to make a purchase. According to recent researches, in 2018 32.3% of all goods sold in the European Union were on some form of sales promotion [12]. The important advantage of sales promotion is its fast effect. Sales promotion is a marketing tactic, which allows to get fast results. Sales campaign gives a sense of urgency when it is offered for a limited time period. Customers believe they have to act to get the value of sales promotion before the deadline expires. Likewise, businesses can use sales promotion to rapidly reduce inventory in situations where replacement of certain products and services is required. It is advantageous that sales promotion tools can be easily set up and introduced. It is not so time-consuming process to coordinate sales promotion campaigns comparing with other tools of promotion [13]. In addition, businesses should take advantage of sales promotion to develop other marketing strategies. However, there are certain drawbacks, which may become an obstacle for successful sales promotion. The significant disadvantage of sales promotion is that it provides only a short-term effect to the sales. Often this short-term perspective may have negative consequences on the enterprise's long-term future. Promotions produce more short-term amount of revenue, which is hard to save for long. Excessive price discounting trains consumers to act as the source of profit for a specific company or good on the low price. Once consumers have grown accustomed to such reduced price points, it is hard to get them to pay the usual price. In summary, sales promotion of goods is an effective way to promote in the market, thanks to the wide range of advantages, such as: fast effect, certain simplicity, possibilities to reduce inventory. At the same time, it is important to take into account some disadvantages: a short-term effect, consumer's sensitivity to price changes and possible threats to the brand identity. sales promotion of goods is an effective way to promote in the market, thanks to the wide range of advantages, such as: fast effect, possibilities to reduce inventory. At the same time, it is important to take into account some disadvantages: a short-term effect, consumer's sensitivity to price changes and possible threats to the brand identity. sales promotion of goods is an effective way to promote in the market, thanks to the wide range of advantages, such as: fast effect,

certain simplicity, possibilities to reduce inventory. At the same time, it is important to take into account some disadvantages: a short-term effect, consumer's sensitivity to price changes and possible threats to the brand identity.

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PROBLEMS OF IMPLEMENTATION OF INDUSTRY 4.0 IN UKRAINE

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In the conditions of large-scale globalization, rapid development of artificial intelligence technologies, what seemed to be the distant future of society's development is coming too fast, world trends are changing every second. Yes, in the Middle Ages nothing could have changed in 20 years, but today the world is changing at an accelerated pace, and it is difficult to imagine what it will be not only in a century, but even in 10 years. [3] The consequences of the implementation of the results of the fourth industrial revolution will have a negative effect on those countries that are de facto among the weak economies with underdeveloped socio-economic institutions that have not "caught" the wave of technological innovation. [2] Given the difficult military-political situation in Ukraine, mass corruption, "technological stalemate" and raw materials export orientation, there are significant threats to Ukraine's consolidation as an outsider in the global processes of digital society formation and further degradation of the national economy. Instead, the realization of the potential to create a competitive Ukrainian technological and software product on the world market can be a driver for the formation of a national digital economy and its integration into the global socio-economic space based on the imperatives of the fourth industrial revolution. [3,14,27,28]

The purpose of the study is to identify the main problems of the introduction of Industry 4.0 in Ukraine

Since 2011, Ukraine has been moving towards the introduction of Industry 4.0. This is an important stage for the development of the national economy, but on the way to the realization of this perspective there are problems that need to be solved.

A major and important obstacle to the implementation of the concept of Industry 4.0 is the incomplete concept of Industry 3.0 in certain sectors of the economy. This applies to light industry, mechanical engineering, mining and processing, this problem can be avoided only by agriculture, which occupies one of the leading links in the country's economy. It should also be noted that at the moment there is no clear action plan for the introduction of Industry 4.0 in production processes. The list of industries that need to move to a new level of industrialization remains undefined.

An equally important factor is the unwillingness of staff to innovate. [3,26] The introduction of new technology into production requires a certain level of qualification. The process of retraining workers is too costly to understand the time and financial resources that will be lacking in the process of re-equipment and modification of equipment.

The next factor should be considered the corruption component. The problem of corruption remains one of the most important in the country. According to the Corruption Perceptions Index, Ukraine has only 30 points, which is a very low figure in this aspect, as the absence of corruption is an unattainable 100 points at the current stage.

It is not possible to build a strong and competitive economy in a country where most issues are solved by bribing a single link. All this will lead to the collapse of the system. It is not possible to win a tender, or to make purchases from those or companies that can really guarantee quality, or to be responsible for every penny spent.

Low level of innovation activity of domestic enterprises. [1] In most cases, this is caused by another important problem, namely the lack of investment. Most domestic industries have faced the fact that due to certain circumstances they have become unprofitable. This is caused either by outdated production technologies or by the non-competitiveness of products on the market.

Considering the structure of financial revenues, it can be noted that the share of foreign investment is declining every year, and support from the state also does not account for a significant part of the total. Based on this fact, we can conclude that all innovation occurs directly at the company's own expense, and given the fact that the cost of funds for the company will always be higher than for the investor - this has a negative impact on its overall financial condition. This is due to the notion of lost profits, because by investing in modernization, the company loses on the possible profit from the sale of finished goods, which could be produced for the money invested in the equipment[40-42,44-47,53].

Weak domestic demand for developments in the IT sector. As for the demand for the development of Ukrainian specialists abroad, the situation is reversed. In general, Ukraine's IT sector has a high level of development compared to many countries, but the problem is that most products are exported and not used for domestic purposes.

Weak domestic demand for developments in the IT sector. As for the demand for the development of Ukrainian specialists abroad, the situation is reversed. In general, Ukraine's IT sector has a high level of development compared to many countries, but the problem is that most products are exported and not used for domestic purposes. Therefore, the last decade (the period of introduction of Industry 4.0) we see an outflow of qualified specialists abroad, usually in countries with developed infrastructure of state support for this sector of the economy.

Unpreparedness of the legislative system for the introduction of Industry 4.0. [3] The problem becomes apparent when it comes to the legal regulation of the new economy. The legal framework, which was created to work in a pioneering industrial economy, does not meet the principles of Industry 4.0. With the introduction of the new concept, amendments will be required by most legislative acts, starting with the Labor Code and ending with certain parts of the Constitution.

Therefore, based on the above, we can conclude that the Ukrainian economy is partially unprepared for the introduction of Industry 4.0. Non-compliance with standards, a high level of uncertainty, risk and imperfection of the legal system make it clear that all problems should be addressed without exception. The state should also consider the prospect of enhanced support for the development of the IT ecosystem[24,25,29,30,43,54]. Only then will the introduction of a new stage of development be economically justified and possible in a general sense.

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ANALYSIS ON APPLICATION AND CONTRIBUTION OF INTERNET OF THINGS TO LOGISTICS ENTERPRISES IN THE CONTEXT OF GLOBALIZATION

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The Internet of Things (IOT) is a network that connects items to the Internet through a series of information sensing technologies and realizes tracking, identification, positioning and management of items through information exchange. By 2009, developed countries and regions such as the United States, Japan and the European Union had placed the Internet of Things in an important position in the development of national innovation strategies, and China also attached importance to the application of Internet of Things technology in the development and transformation of traditional industries. Therefore, in recent years, China's logistics industry, as a new service industry, has shown a rapid growth trend, and become the basic service sector of China's commercial development, irreplaceable more and more strong. However, the extensive development of China's logistics industry is increasingly unable to meet the needs of enterprises [1, p.112-113].

In the general operation process of logistics enterprises, the introduction of the Internet of Things technology has changed the traditional business process of logistics enterprises, so that the business efficiency of logistics enterprises has been improved, and logistics companies have begun to diversify their services. The flow and feedback of information in the traditional logistics business process has a certain lag, and its collection cost is high. If the Internet of Things technology is introduced into the whole business process of goods identification, positioning, storage, tracking, etc., the efficient, rapid and complete flow of information among logistics enterprises, suppliers and consignees can be realized based on the information network platform [2, p.1-5].

As the key link of logistics company operation, transportation is the most important link that determines the quality and efficiency of logistics service. With the development of e-commerce, consumers have higher and higher requirements on the time and quality of logistics transportation. In the traditional logistics and

transportation process, because the information flow has to go through multiple subjects and links, it cannot meet the requirements of consumers well. After the introduction of Internet of Things technology, logistics companies can keep track of the dynamics of the transport of goods at any time, optimize the transport scheme, supervise the transport of products in real time, save transport time and cost, and improve transport efficiency [3, p.89-91].

Traditional logistics distribution has low efficiency in information collection, communication and other aspects of goods distribution, which makes it difficult to meet the needs of the consignee for logistics information.

First, in the aspect of stocking and tally, traditional logistics cannot give accurate feedback on the information of goods distribution, and the consignee cannot timely understand the information of goods distribution.

Second, the logistics delivery link, unable to timely feedback the consignee's receiving information, consignors can not understand the reception of goods. After the introduction of the Internet of Things, the sorting and classification of goods and identification of signs can be completed by electronic devices, and information can be automatically uploaded to realize the sharing of consignee, consigner and logistics company. After delivery, the delivery information can be sent back to all parties in a timely manner, which helps the receiver and shipper to further promote the completion of the transaction. In general, the application of the Internet of Things in the distribution link can improve the multi-party sharing of distribution information and help to improve the service satisfaction of the receiver and shipper [4, p. 31-32].

Zhang Weiyang, a famous Chinese economist, believes that the core competitiveness of an enterprise is its viability and profitability. To sum up, core competence includes two aspects, one is resources, the other is ability. For logistics enterprises, the content of core competitiveness should also include two dimensions of enterprise's factor resources and enterprise's operation and development ability [5, p. 175-177].

The contribution of the Internet of Things to enterprise capabilities. First, the Internet of Things saves the cost of logistics enterprises. Although logistics enterprises need a large amount of capital investment in the initial construction of the Internet of Things, in the long run, their savings in logistics costs can greatly increase their profitability. On the one hand, the Internet of Things optimizes the whole business chain of logistics enterprises, maximizes the reduction of resource waste, reduces storage cost, transportation cost and management cost, improves the speed of business flow and greatly reduces the overall cost. Second, the Internet of Things improves the business performance of logistics enterprises. Third, the Internet of Things improves the customer management performance of enterprises. Logistics companies' customers include the shipper and the receiver [6, p. 36-39]. In the perspective of further research, the task is to improve the mechanism of

interaction between different stakeholders in the implementation of the Internet of Things in the activities of logistics companies, involving models B2B, B2C, B2G based on the study of works [7-31].

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PREDICTIVE ANALYSIS OF TRENDS IN THE TOURISM INDUSTRY IN TERMS OF EU COUNTRIES

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A critical and urgent problem today is the study of the effects of Covid-19 on the development of the international economy. The paper predicts the impact of Covid-19 on the development of tourism industries in the popular European Union countries, exactly in Germany, Italy, Bulgaria, and France [1, 2]. Forecasting was made by the following stages: descriptive statics, time-series smoothing, seasonal decomposition, development of the forecast. Primary statistical information was taken from the Eurostat database [3].

The sample is the data from January 2014 to April 2020. Basic stages of forecasting making were made by the next algorithm: implementations of tools of the descriptive statistics, time-series smoothing, seasonal decomposition and development of the forecast [4]. The calculations were made in the applied computer program Statgraphics Centurion.

To find the results for the descriptive statistics, it was applied to the procedure Describe/Time Series/Descriptive Methods. For all the countries studied, the results of the descriptive statistics are as follows: the series are not stationary; they are not random in nature. An example represents Bulgaria by figures 1, 2, and table 1. So there are models that we can identify and use as predictive.

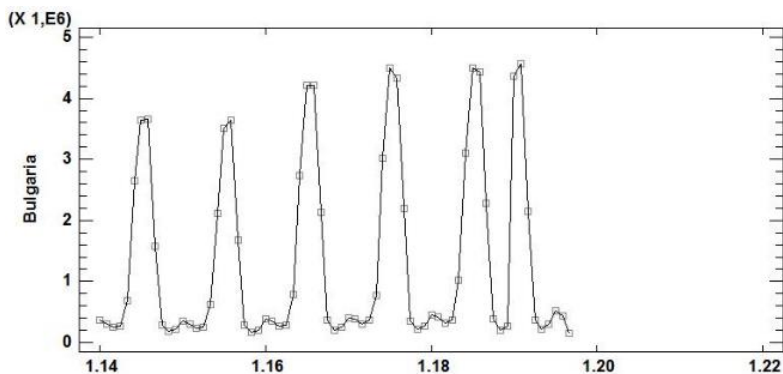


Figure 1. Time series plot for Bulgaria

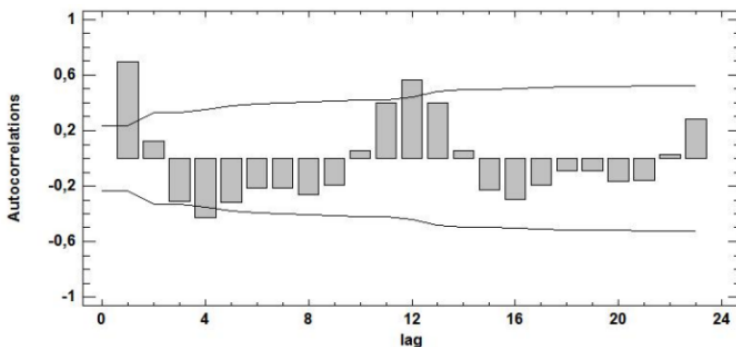


Figure 2. Estimated Autocorrelations for Bulgaria

Table 1. Estimated Autocorrelations for Bulgaria

Lag	Autocorrelation	Std. Error	Lower 95,0% Prob. Limit	Upper 95,0% Prob. Limit
1	0,696861	0,120386	-0,235952	0,235952
2	0,126972	0,169022	-0,331278	0,331278
3	-0,308684	0,170399	-0,333977	0,333977
4	-0,424144	0,178319	-0,3495	0,3495
5	-0,320457	0,192385	-0,377069	0,377069
6	-0,214909	0,199972	-0,391939	0,391939
7	-0,212241	0,203292	-0,398445	0,398445
8	-0,260271	0,206478	-0,40469	0,40469
9	-0,194352	0,211179	-0,413905	0,413905
10	0,0575637	0,213756	-0,418955	0,418955
11	0,401559	0,21398	-0,419395	0,419395
12	0,5678	0,224636	-0,44028	0,44028
13	0,401663	0,244553	-0,479317	0,479317
14	0,0550923	0,253934	-0,497703	0,497703
15	-0,230575	0,254108	-0,498043	0,498043
16	-0,295466	0,257122	-0,503951	0,503951
17	-0,192016	0,261996	-0,513504	0,513504
18	-0,0898833	0,264028	-0,517486	0,517486
19	-0,0889616	0,264471	-0,518355	0,518355
20	-0,166751	0,264904	-0,519204	0,519204
21	-0,158696	0,266421	-0,522177	0,522177
22	0,025884	0,267788	-0,524856	0,524856
23	0,28347	0,267824	-0,524927	0,524927

Note: Compiled by authors based on works [5-8]

Table 1 shows the estimated autocorrelations between values of Bulgaria at various lags. The lag k autocorrelation coefficient measures the correlation between values of Bulgaria at time t and time $t-k$. Also shown are 95,0% probability limits around 0. If the probability limits at a particular lag do not contain the estimated coefficient, there is a statistically significant correlation at that lag at the 95,0% confidence level. In this case, 3 of the 24 autocorrelation coefficients are statistically significant at the 95,0% confidence level, implying that the time series may not be

completely random. Periodograms were used to determine the characteristics of cyclic fluctuations. On a periodogram graph, we can determine the number of cyclic fluctuations. If there are sharp spikes on the chart, this means that the series behaves cyclically (fir. 3).

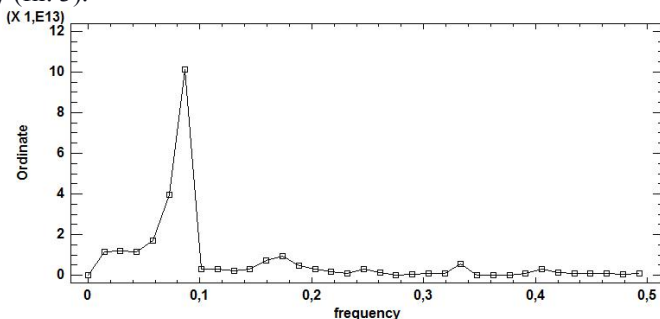


Figure 3. Periodogram For Germany

The quantitative indicator of cyclicality for Germany is six months. We define it from the Periodogram's table. For Italy indicator of cyclicality is two months, and no cyclicality for Bulgaria and France.

The next stage of analysis is time series smoothing. Smoothing allows you to get rid of a series of sharp outliers and demonstrate the main trend. The appropriated procedure in Statgraphics Centurion is Describe/Time Series/Smoothing with Simple Moving Average method, length of Moving Average is 12. As a result of smoothing, we get a visual representation based on which an assumption can be made about the future forecast model, which can be used with the input data [9-11].

The next stage is Describe/Time Series/Seasonal Decomposition. There are two models of seasonal decomposition. It is additive and multiplicative. The multiplicative model represents the seasonality indices in percent, the additive model in absolute values [12-14]. Seasonality indices show seasonal deviations from the annual average [15-17]. The analysis results for Germany are as follows: 2 months of increased demand, these are January and February. The lowest demand is in the month of May (table 2). The table 2 in bold indicates the numbers that correspond to the maximum and minimum values of the seasonality indices. As we can see, in January the demand exceeds the average annual value by 923819 tourists, and in May it is less than the average annual value by 791883 tourists.

Table 2. Seasonal Indices for Germany (Seasonal decomposition method: Additive)

<i>Season</i>	<i>Index</i>
1	828239,
2	923819,
3	-242613,

4	-242181,
5	-791883,
6	-475382,

The direct development of a forecast for the countries under study was carried out using the Forecast/User-Specified Model procedure. The main issue in the development of predictive models is their adequacy. The first thing to look out for is the autocorrelation of the residuals. The residuals should be random. If this is not the case, then the values of the autocorrelation function will go beyond the confidence intervals. Next, it's needed to build an adequate model based on the values of the model errors (the smaller the error, the better the model) and the results of passing the model of various tests. For Germany, this information represents in table 3 and table 4.

Table 3. Estimation Period

<i>Model</i>	<i>RMSE</i>	<i>MAE</i>	<i>MAPE</i>	<i>ME</i>	<i>MPE</i>
(A)	1,3142E6	1,01137E6	17,5114	-2,87614E-10	-2,78132
(B)	1,93868E6	1,51087E6	26,1343	-1910,87	-9,24693
(C)	1,68303E6	1,44964E6	24,2087	-22557,4	-5,78103
(D)	1,24469E6	957839,	16,3156	-19413,7	-3,2365
(E)	2,03597E6	1,74447E6	28,3785	-79689,3	-9,01905

Note: Compiled by authors based on works [3, 5, 19, 20]

Table 4. Tests for models validity

<i>Model</i>	<i>RMSE</i>	<i>RUNS</i>	<i>RUNM</i>	<i>AUTO</i>	<i>MEAN</i>	<i>VAR</i>
(A)	1,3142E6	OK	OK	OK	OK	OK
(B)	1,93868E6	***	***	***	OK	OK
(C)	1,68303E6	**	***	***	OK	OK
(D)	1,24469E6	*	OK	***	OK	OK
(E)	2,03597E6	***	***	***	OK	OK

Note: Compiled by authors based on works [3, 5, 21, 22]

Table 4 describes the type of models and test results: (A) Random walk with drift = -13773,2 (Seasonal adjustment: Additive); (B) Constant mean = 6,73882E6 (Seasonal adjustment: multiplicative); (C) Simple moving average of 3 terms (Seasonal adjustment: Multiplicative); (D) Simple exponential smoothing with alpha = 0,9999 (Seasonal adjustment: Multiplicative); (E) Brown's quadratic exp. smoothing with alpha = 0,1036; OK – the model passed the test; * – worse; ** – even worse; *** – practically failed the test. That is, the best model is the model A, Random walk with drift. The forecast values are presented in table 5.

Table 5. Forecast Table for Germany for the next 2 years (Model: Random walk with drift = -13773,2; Seasonal adjustment: Additive)

		<i>Lower 95,0%</i>	<i>Upper 95,0%</i>
<i>Period</i>	<i>Forecast</i>	<i>Limit</i>	<i>Limit</i>
70,0	1,94145E6	-581933,	4,46483E6
71,0	1,37797E6	-2,19063E6	4,94657E6
72,0	1,6807E6	-2,68992E6	6,05132E6
73,0	2,97055E6	-2,07621E6	8,0173E6
74,0	3,05235E6	-2,59009E6	8,6948E6
75,0	1,87215E6	-4,30884E6	8,05314E6
76,0	1,85881E6	-4,81743E6	8,53504E6
77,0	1,29533E6	-5,84186E6	8,43253E6
78,0	1,59806E6	-5,97208E6	9,1682E6
79,0	2,88791E6	-5,09172E6	1,08675E7
80,0	2,96971E6	-5,39939E6	1,13388E7
81,0	1,78951E6	-6,95173E6	1,05308E7
82,0	1,77617E6	-7,322E6	1,08743E7
83,0	1,21269E6	-8,22893E6	1,06543E7
84,0	1,51542E6	-8,25758E6	1,12884E7
85,0	2,80527E6	-7,28825E6	1,28988E7
86,0	2,88707E6	-7,51708E6	1,32912E7
87,0	1,70687E6	-8,99892E6	1,24127E7
88,0	1,69353E6	-9,30563E6	1,26927E7
89,0	1,13005E6	-1,01548E7	1,24149E7
90,0	1,43278E6	-1,01308E7	1,29964E7
91,0	2,72263E6	-9,11307E6	1,45583E7
92,0	2,80444E6	-9,29727E6	1,49061E7
93,0	1,62423E6	-1,07378E7	1,39862E7

Thus, we can conclude that over the next two years in Germany there will be a significant reduction in tourists. Similar models were built for Bulgaria, France, Italy. For all countries, there is a negative trend in the development of the tourism industry

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FORMAL AND INFORMAL APPROACHES TO RELATIONS CENTRAL BANK OF THE COUNTIES WITH THEIR GOVERNMENT

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Establishing formal and informal links between the country's central bank and the country's government is an important component in building an effective government economic policy. Consider the formal and informal approaches between the world's central bank and their government.

The approaches taken by governments to issue directives to central banks vary substantially, as illustrated by the procedures instituted in Canada, Korea, Malaysia and New Zealand [1, p. 45-63].

Banks and financial institutions of Nepal contributed around Rs 280 million to the government's Covid-19 fund after the central bank made it mandatory for them to contribute the remaining amount of their Corporate Social Responsibility Fund into the pandemic fund [2, p. 1].

The South Korean government disclosed that it has made a gentleman's agreement with central banks of select countries to mutually exchange information on planned government bond purchases in response to growing foreign investment in Korea's government-issued debt [3, p. 1].

Regarding the informal approach between the central bank of the world and their government in the process of implementing the economic policy of the central bank, Informal arrangements for interacting with government vary widely, but some major approaches are evident. A number of these approaches would seem to be most relevant for maintaining a productive relationship with government if they are seen by the central bank as part of their - active management of the relationship [1, p. 45-63].

Central Bank has requested commercial banks to ensure all legitimate demands for foreign exchange are met (within a reasonable time), with priority accorded to trade-related transactions. Trinidad and Tobago's net official reserves remain comfortable and currently stand at US \$ 10.1 billion, equivalent to almost one year's worth of imports [4, p.1].

The Gold Pool was created in 1961. The Gold Pool was an arrangement whereby central banks sought to share the cost of maintaining the London price of

gold at \$35 an ounce rather than depleting US gold reserves. There followed a «Gentlemen's Agreement» in which central banks promised not to convert their inherited dollar balances but remained free to convert any additional dollars they accumulated starting in 1968. [5, p. 39-50]. The Bank of Tanzania uses indirect instruments of monetary policy, implying that central bank operations are used to influence money supply indirectly. Indirect instruments were employed in Tanzania following the adoption of a market-based system of economic management, so as to exploit their higher efficiency, compared with direct instruments, in a market-based environment [6, p. 1-24]. In Canada the Minister of Finance and the governor of the Bank are supposed to consult regularly on monetary policy and on its relations to general economic policy (sec. 14 (1) Bank of Canada Act) [7, p. 1-33]. The history of reserve currencies further suggests that informal arrangements have been very important. Milton Friedman called those a «Gentlemen's agreement» among central banks not to press for conversion. In 2009, U.S. Secretary of State Hillary Clinton notably urged China not to sell its dollar reserves [8, p. 1]. Prospects for further research should be the construction of economic models of dependence of indicators of formal and informal approaches of the central bank of countries with their governments, based on the study of scientific papers [9-28].

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**THE IMPACT OF THE SECOND NATIONAL FADAMA DEVELOPMENT
PROJECT ON POVERTY REDUCTION IN THE GEIDAM LOCAL
GOVERNMENT OF YOBE STATE, NIGERIA**

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The major challenges facing by developing countries, such as Nigeria, are food insecurity (insufficient food) and poverty (DFID, 2006). More than a billion people in the developing world live in the rural area on less than a dollar per day, without enough money to buy food. It is estimated that of the 1.2 billion hungry and poor of the world, over 800 million suffer from chronic under-nourishment. Out of this, 34 million live in Asia, while 186 million live in sub-Saharan Africa (DFID, 2006).

Poverty is one of the gravest challenges facing the world today, with a staggering 40 per cent of the world's population living with the reality or the threat of extreme poverty, and one in five persons living in a state of poverty so abject that it threatens survival (Tokunbo, 2003). Globally, extreme poverty continues to be a rural phenomenon despite increasing urbanization. And out of the world's 1.2 billion extremely poor people, 75 percent live in rural areas and, they largely depend on agriculture, forestry, fisheries and related activities for survival (Tokunbo, 2003).

Poverty is a multi-faceted affliction as well as a raging economic and social phenomenon that manifests in the inability of the victims to acquire the basic necessities of life. Poverty goes beyond material deprivation to include insecurity, vulnerability and exposure to risks, shocks and stress. It specifically includes not having enough to eat, poor drinking water, poor nutrition, unfit housing, a high rate of infant mortality, low life expectancy, low level of energy consumption, low education opportunity, low employment opportunities, inadequate health care, lack of active participation in decision making process (Ajayi, 2008).

Poverty in Nigeria has been described as "widespread and severe" (World Bank, 2015). The United Nations Development Programme (UNDP)'s Human Development Index (HDI) ranked Nigerian as the 137th among the 174 countries listed with HDI of 0.384 in 1996; by 1997, the country slipped to 142nd position and ranked among the 44 poorest countries. In 2018, Nigeria ranked number 158 out of 189 countries on the Global Human Development Index³. Nigeria's basic indicators now placed the country among the 26 poorest countries in the world. The proportion of Nigerians living below the poverty line of one dollar a day has increased dramatically during the last two decades. In the year 2018, about more than 65% of

³ (<http://hdrstats.undp.org/en/countries/profiles/NGA.html>).

Nigerians were estimated to be living below the internationally defined poverty line. In the same year, in terms of GDP-PPP (in \$) Nigeria placed on 55 rank with 6,098\$ out of 191 countries (UNDP)⁴. About two-thirds of the Nigerian people are poor, despite living in a country with vast potential wealth (National Planning Commission, 2017).

The links between poverty and hunger are unambiguous, which means that poverty alleviation must play a major role in food security for all considerations (Franz, Achi, Nyangito, Martine, Gérard and Le Vallée, 2004). Food security is now defined as the situation when all people, at all times, have physical and economic access to sufficient, safe and nutritious food for a healthy and active life (FAO 1996; Franz, et. al., 2004).

However, this term has gone through stages of definition and redefinition. Approaches to its definition have ranged from an emphasis on self-sufficiency to an emphasis on coping with vulnerability and risk in food and nutrition access. In the 1970s, food security was equated to adequate food production. In the 1980s, food security was considered to refer to the security of food access and availability. In the 1990s, the importance of nutrition was recognized, and hence the concept of food security was combined with that of nutrition security. In the 2000s, the concepts of food and nutrition security were integrated with vulnerability, risk coping, and risk management (Franz, et. al. 2004).

In order to deal with the problems of food insecurity and high incidence of poverty among the rural poor in Nigeria, it is very imperative that agricultural productivity should be rejuvenated. It has been empirically established that low productivity in agriculture is the cause of high incidence of food insecurity and poverty in Nigeria (World Bank, 1996). This is because agriculture is the mainstay of Nigeria's economy, contributing about 42% to total GDP and employing about 77% of the working population. It is therefore obvious that any policy measure aimed at alleviating poverty must take agriculture and rural development into consideration. Adeolu and Taiwo (2014), analyzed the poverty trend in Nigeria and noted that poor families are in higher proportion in farming households that are mainly in the rural area. Therefore, it is very important to raise food production, create employment, and improve the institutional and policy framework for agriculture, as well as to rehabilitate and expand physical and social infrastructure in rural areas; all of which require increased and sustained investment and support for agriculture (Franz et. al., 2004).

This study aims to examine the economic impact of the National Fadama-II Development Project (NFDP-II) on poverty reduction and food security among farmers in Geidam local government of Yobe State, Nigeria. For this purpose, four communities have been identified and selected through random sampling in it and

⁴ United Nations Development Programs Report, 2018.

these four, cultivated crops like rice, millet, maize, vegetables and okra. A total of one hundred respondents have been interviewed via questionnaire. For the analysis of this study, a descriptive statistic like frequency and simple percentage were used. After careful evaluation of collected data, one can find out that the majority of the farmers (78.9%) were male and their mean age was 44 years. The out of 95 respondents 75 (78.9%) were associated with the Fadama and remained 20 (21%) have no association with the project and 60 (63.2%) respondents have been replied that it is having positive impact on poverty reduction. Out of 95 respondents, 48 (50.5%) are doing farming as their occupation and the result of the study further revealed that all the Fadama-II farmers share similar opinion on ten identified constraints. These constraints were grouped into three that are technical problems, institutional problems and economic problems. After the careful analysis of the collected data one can reach on conclusion for the successfulness of any project like Fadama is to provision of the credit facilities for land preparation to farmers, the supply of subsidized farm inputs and farmers' training by the Fadama facilitators. Therefore, this study provides strong suggestion to create more awareness about the programme among the people of so that they may come forward to participate actively in it. Therefore, it enhances their income level and they may be able to utilize it for the betterment of their active and health life.

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FRONTIER ANALYSIS OF THE BANKS' FINANCIAL MONITORING EFFICIENCY CONCERNING ASSESSING THE RISKS OF MONEY LAUNDERING

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Over the last ten years, there has been a significant acceleration in the evolution of new methods for money laundering, which are becoming more diverse and specific, and the mechanisms for presenting criminal proceeds in the form of fairly legal proceeds are becoming more complex and diversified. Therefore, the issue of assessing the risks of money laundering requires in-depth study, analysis and development.

Risk is a rather complex and multifaceted phenomenon not only in the economy but also in other spheres of society [4, p.91; 6, p.53; 7, p.39]. This is confirmed by the variety of views on the essence of the concept of risk [2, p.111; 11, p.5; 12, p.109; 14, p.123; 15, p.5]. Also, considerable attention of scientists is paid to the issues of combating money laundering, solving the problem of terrorism in its various aspects [3, p.39; 5, p.99; 13, p.37]. Therefore, researchers have considered the features of regulation and counteraction to money laundering through the use of various tools [1, p.52; 8, p.83; 9, p.32; 10, p.57].

To calculate the efficiency of banking institutions in Ukraine, it is proposed to use Banxia Frontier Analyst 4 software. It is noted that Frontier Analyst is a tool for Windows performance analysis, which uses a technology called Data Envelopment Analysis (DEA). The study involves a series of successive stages.

1 stage. Clustering of Ukrainian banks based on the k-means method.

Stage 2. Entering basic data. One output variable was selected: RLKD - quantitative assessment of the risk of money laundering, as well as input variables: K1 - the share of financial transactions registered on the basis of internal financial monitoring; K2 - violation the resolution of the NBU's Board; K3 - violation of the Law "On legalization"; K4 - violation of the Law "On Banks"; K5 - the share of cash receipts from the total amount of receipts; K6 - the share of cash expenditures of the total expenditures. The expediency of its inclusion in the model by the method of PCM at the program Statistica 6.0 was checked. According to the results of factor loads and the schedule of talus, it was identified that to assess the technical efficiency of Ukrainian banks it is necessary to include all the above variables.

Stage 3. Structuring the project of DEA-analysis for the operating environment by constructing an input-oriented BCC-model of the fractional-linear

programming problem of minimization of conditional inputs and an output-oriented CCR-model of the fractional-linear programming problem of maximizing the ratio of conditional outputs with constant scale. The minimum and maximum values of the indicators' priority are selected on the basis of the Fishburne formula. Mathematical formalization of model construction (formula 1) is carried out:

$$\max \theta = \frac{\sum_i u_i w_i y_i}{\sum_i v_i w_i x_i} \quad (1)$$

$$\left\{ \begin{array}{l} \frac{\sum_i u_i w_i y_i}{\sum_i v_i w_i x_i} \leq 1, \\ \min w_i \leq w_i \leq 100\% \\ x_i \geq 0, y_i \geq 0 \end{array} \right.$$

where - θ the level of technical efficiency of the financial monitoring for the selected banking institution; $u_i(v_i)$ - characteristics of the econometric model concerning the dependence of the technical efficiency and the financial monitoring for the selected banking institution on the category of conditional outputs (inputs); $y_i(x_i)$ - characteristic of conditional outputs (inputs).

Stage 4. Analysis of the obtained results concerning application of input-oriented BCC-model of fractional-linear programming problem for conditional inputs minimization and output-oriented CCR-model of fractional-linear programming problem for maximization of conditional outputs ratio with constant return of scale for efficiency of Ukrainian banks' financial monitoring. A comprehensive analysis of the results is shown on the example of 34 banks of six groups of banking institutions in Ukraine for 2019.

Stage 5. Systematization the obtained results and creation the practical recommendations for improving certain areas of strategic management of banking institutions in terms of financial monitoring. Initially, groups of efficient and inefficient banking institutions are formed. Thus, the work of financial monitoring on both models at 10 banks is effective. Next, the model let us identify the available reserve and the potential for increasing the effectiveness of financial monitoring for the group as a whole, and for each individual bank. Based on the data at Table 1, a clear interpretation the feasibility of intensifying certain areas for strategic management for banks' financial monitoring is presented.

Table 1 - The potential for increasing the effectiveness of financial monitoring on the example of three groups of Ukrainian banks in 2019.

Indicator	1 group of banks		2 group of banks		3 group of banks	
	BCC-model	CCR-model	BCC-model	CCR-model	BCC-model	CCR-model
K1	-25,87%	10,52%	16,46%	22,19%	-1,99%	-21,48%
K2	-11,13%	-5,52%	-14,05%	-9,78%	2,46%	-17,07%
K3	-16,5%	-8,29%	-8,8%	5,99%	-1,44%	-13,96%
K4	-24,6%	15,27%	-45,46%	-29,25%	-0,84%	-13,96%
K5	-8,04%	2,43%	-1,36%	12,1%	-5,89%	-15,86%
K6	-13,87%	40,68%	-13,87%	10,29%	0,11%	-17,65%
RLKD	0%	-17,29%	0%	-10,4%	87,28%	0%

Thus, the proposed model can be used in the introduction of supervision based on the assessment of the banking institutions' effectiveness of Ukraine in terms of compliance with the requirements on financial monitoring regulations. The Frontier Analyst approach provides an opportunity to conduct a comparative analysis of performance; to build a visualization of information important for further activities; to carry out more efficient distribution of available resources; find the information needed to develop a planning strategy; identify the worst and best units of research; to study more deeply indicators, characteristics and units of research.

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FUTURE LOGISTIC'S TECHNOLOGOIES IN CONTEXT OF INDUSTRY

4.0

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Introduction. Technology and digitalization are penetrating and changing all areas of business, and logistics is no exception. Logistics both today and in the future will be one of the main factors in the competition. Success in competition between enterprises and economic regions is determined by the level of competence and technology in logistics.

Robotics in warehousing

The first works in the supply chain were in production. George Devol registered the first robotics patent in 1954, and his company Unimation made the first industrial robot in 1956. This first robot was able to move material at a distance of about three to six meters. General Motors installed the first robot at the plant in New Jersey in 1962. For a long time, the works were only suitable for work in industrial production because they were dangerous to people while they were being used.[1]

Autonomous mobile works (AMR)

Autonomous mobile robots do not need a specified track or a predetermined route between locations. AMR understands its position with the help of computers, on-board sensors, and maps. These small and clever works can identify the information on each package and sort it. AMRs can move around the warehouse, so create your own routes depending on the required operation. If necessary, they also change the route and avoid obstacles in their environment.[2] These works provide efficiency, accuracy, and safety in the sorting process. They also help reduce redundant sorting so that employees can perform other roles. People are sometimes more prone to mistakes when work is very boring and monotonous. Omit, modern work provides stable accuracy regardless of the tedious nature of the process. As a result, warehouses have a higher level of inventory accuracy.

AMRs not only assist in the picking and sorting process but can also be used for daily inventory checks. Accounting robots, such as TagSurveyor, can scan inventory at a distance of up to seven and a half meters thanks to RFID sensors and scanners. Not only will your inventory data be more accurate, but it will also prevent inventory theft.[2]

Chinese warehouses are one of the fastest-growing segments of the country's economy. In fact, 40% of the world's parcels were delivered from China. Their desire for speed and accuracy has led to the creation of autonomous mobile robots. AMR can sort up to 18,000 parcels per hour, and manual labor costs are reduced by 70%.[3]

Automated storage and retrieval systems (AS / RS)

Automated storage and retrieval systems are technology that inputs and outputs inventory. It usually works in conjunction with warehousing software that manages operations.

AS / RS comes in different forms depending on the type of task, the required system, or the products it will work with. They work either as a shuttle operating on a fixed path or as a crane lifting goods between passages. Although now there are works that go up the aisles, such as Skypod, which also receive customer orders. Order picking can account for 50% or more of your warehouse's labor costs, especially for large warehouses. By reducing labor costs and time spent searching, workers can focus on more complex processes, such as packing and shipping goods.[3]

Alibaba, the world's largest retailer, has proven how useful AS / RS can be in their warehouse in China. Using 60 robots, they reduced labor costs in the warehouse by 70%. The robots work via Wi-Fi to deliver working equipment for packing and placement. As a result, their operations increased, and tripled production.[3]

Internet of Things in Logistics

The Internet of Things increases the transparency of the supply chain. You can track the location of your cargo up to a single unit. Location tracking is not limited to the timely delivery. In fact, location data obtained through the Internet of Things in logistics technologies helps transport companies to ensure the quality of goods from production to the time it arrives at its destination.[1]

This information is useful in the case of perishable goods, such as fruit. , when transporting long distances, location information can play a vital role in choosing the best alternative route in the event of a possible failure. Thus, real-time location data provides a better understanding of each link in the supply chain. The Internet of Things can improve supply chain intelligence. Being able to lock a load while it is on the road can help companies reduce risks and take immediate action, especially for temperature-sensitive loads if something goes wrong.

Besides, the ability to control the temperature throughout transportation helps companies in the supply chain to maintain the quality of perishable goods and pharmaceuticals. This data is used by the system, which notifies the relevant personnel in case of temperature drop. Internet of Things technologies can collect data related to environmental factors such as pressure, humidity, light. These systems provide important route information to help companies analyze the safety aspect. This feature can reduce supply chain losses even for the most sensitive loads.[2]

The company focuses on SenseAware is a subsidiary of FedEx, which offers to track logistics using sensors. It detects changes in light, humidity, pressure, and temperature. It also offers alerts based on time and location and is currently available in 20 countries.[3]

With an IoT-based system, supply chain companies can track the location of their

vehicles, as well as personnel assigned to a vehicle, at any time. This gives a clearer idea of how resources are used and provide insight to further improve resource allocation.[2]

The Internet of Things can help companies automate car maintenance and repair. Compliance and safety are important aspects of supply chain management, and automating this process can help companies avoid problems. , there are supply chain companies that plan to use the same technology to track the health of their drivers.

With more accurate information about vehicles, drivers, and traffic, better strategies can improve fleet and fuel management.

Conclusions

Technologies in logistics are developing rapidly, each logistics company invests time and money in research and implementation of new technologies to optimize costs and increase added value. But it is worth noting that each of these companies takes risks. First of all, this is an innovation risk, because no one knows how relevant the new technology will be and whether a more optimal technology will be invented before it pays off. There is also a great legal risk, because some new technologies are not regulated in the legal field, so companies have to wait for the approval of regulatory laws, and no one knows the terms of these same laws. Another negative factor is that due to the high cost of research, new technologies are usually introduced by large companies, which poses a threat to small and medium-sized enterprises, and can lead to market monopolization by individual corporations. On the other hand, due to excessive investment in technology, companies can go bankrupt if the technology does not pay off, or if competitors come up with better technology. And new logistics operators will enter the market. But the digitalization of logistics gives rise to new activities for IT companies, such as big data analysis, predictive analytics.

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INTERNATIONAL ECONOMIC TRENDS DURING PANDEMICS: FROM PLAGUE TO CORONAVIRUS

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Historical evidence demonstrate that humanity has always suffered from large-scale pandemics. In addition, there were less significant epidemics, which yet dramatically affected the development of the world economy. Pandemics threaten not only the existence of mankind in the short term, but also form the long-term economic development trends and the society wellbeing as a whole. [1] Historically, the most famous were the plague pandemics, the 'Spanish flu' pandemics, and nowadays humanity is suffering from COVID-19.

These issues were investigated by lots of scientists and researchers. Some focused on problems and trends in healthcare systems of different countries cases [12,13,15]; some studied relevant trends in development of financial institutions and investments [16 - 23]; another researched socioeconomic challenges and trends, as well as trends in HR management [24 - 28].

Based on statistics and historical data obtained during the third plague epidemic, the original sources and ways of spreading the disease were identified, the extent of the damage and the number of victims were determined for several regions: North America, South America, Africa and Asia [2]. The main sources of that pandemic were natural outbreaks, but the scale of its spread through ports were serious and caused its second name - "a port pandemic" [3].

However, we lack a detailed documented account of causes and effects for Europe, making it difficult to compare local and global transmission models. In Europe, cases of plague occurred in the period from 1899 to 1947, a peak was in 1899 and 1920. [4] The cases were geographically widespread, although they were also primarily found in coastal or inland port cities. But, for example, the northern countries did not report any cases of plague during the pandemic. In general, its flames in Europe were limited by the advent of antibiotics [4].

The recommendations of international trade conferences for governments have resulted in a complex system of rules that controled carriers arriving from infected regions. For example, in Venice in 1897, the city authorities organized quarantines without interrupting the trade flows, and regulated the hygienic condition of ships, travelers, crews and goods arriving to Europe. Although plague is not a problem for Europe today, the threat of the disease remains: it is currently present in 11 countries.

The Spanish flu pandemic (A/H1N1 virus) in 1918-1920 is often called the deadliest pandemic in human history. The disease spread rapidly throughout the world, mainly through the movement of trains and ships, primarily military, returning from the First World War. Another reason was the large movement of troops, terrible sanitary conditions, poor nutrition and difficult living conditions in places of refugee concentration. In addition, the immunity of soldiers, many civilians and especially refugees has been weakened. [5] Yet, one of the positive effects of the Spanish flu pandemic is the improvement of the health care system. Realizing the consequences, governments in many countries have begun to actively disseminate information on disease prevention and the development of an extensive health care system. In the 1920s, ministries of health began to emerge, and there was a need for joint international efforts to combat epidemics, so international health structures started to be established as well. The coronavirus pandemic, lasting less than a year, has significantly affected the usual order of the world society. It is believed that at the moment it has strongly influenced the economies of all countries. In contrast to the plague quarantine, COVID-2019 quarantine significantly restricted international trade and even led to a record decline in oil prices and, as a result, a fall in the shares of many companies [8]. The purchasing power of the population has decreased. Many small and even medium-sized businesses could not stay afloat and were forced to close. Thus, the IMF says that this year the global economy will shrink by 3%. This is considered to be the strongest decline since the Great Depression of the 1930s [9]. In general, the consequences of quarantine will be most noticeable in underdeveloped and developing countries. And even middle-developed countries have suffered greatly, such as Spain, where almost half of GDP is from tourism. Ukrainian airlines are forced to reduce the number of aircraft and, consequently, crews, in order to save the company from complete bankruptcy. Analyzing the information presented above, it is possible to trace the common and distinctive features of the three most famous pandemics, comparing the extent of the damage and assuming what quarantine outcomes might happen. It is yet believed that the recovery from the quarantine crisis may take several years. Thus, as the pandemic is still ongoing and it is unknown when it will end, it is impossible to draw definitive conclusions about the consequences of quarantine. Despite the negative forecasts, it should be noted that the world economy is a very adaptive system, so we can trace some positive aspects and directions that will contribute to the exit of the pandemic. For example, the relationship between employees and employers has already changed. Face-to-face negotiations and business processes shifted to more quick and easy digital forms including electronic document management. As a result, up to 80% of employees are at risk of losing their jobs, while there are industries that can work remotely successfully. Another part of the companies that did not get closed became able even to increase their production capacity that leads to opening new branches. This will result in the need for the labor force supply.

Customers are looking for new suppliers of goods and services. This is considered a good chance to engage them to buy goods from a particular shop and to increase buyer's loyalty, which incorporates price, professionalism, service quality and social value. [10] Consequently the companies should increase the quality of their work, which requires investments of financial and labor resources. There is also a growing demand for automated technologies, such as self-service cash registers in stores. Courier services are developing rapidly and the popularity of online stores is growing. The format of the educational process is changing as well: due to the experience of distance learning during lockdowns, most learning processes are to be adapted both by students and the teachers. However, the problem of providing participants with the necessary equipment, and, above all, skills and abilities to work online, remains relevant and acute. Health care system is still suffering from a huge flow of patients. These institutions and their workers are not able to handle the situation with a sufficient level of service. The workers motivation and moral encouragement are also the burning issues nowadays. [14] These are the fields of growth nowadays, e.g. there are already the studies of the innovation in service quality measurement using the case of Nigerian healthcare sector. [11]

To sum up, the general trend of the society's further development is to try to reduce the negative impact of quarantine restrictions on the economy, as well as the transition to a contactless style of work and the emergence of new professions related to the specifics of post-quarantine society.

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DIGITIZATION OF THE HOUSING SERVICES AS A TOOL FOR ENSURING SUSTAINABLE DEVELOPMENT OF SETTLEMENTS

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The sphere of housing services in Ukraine has always been at the center of scientists, ecologists and economists attention due to its significant energy-intensive consumption and extremely large greenhouse gases emission into the atmosphere [1, p.62]. The energy balances of Ukraine have not undergone significant changes in recent decades. In 2018, the household sector accounted for 36% of electricity consumption and almost 42 % of thermal energy consumption [4], that considerably exceeds the appropriate amounts of industry and transport consumption. At the same time, the rating of the country's economic sectors in terms of CO₂ emissions shows that 51 % of emissions are provided by the energy sector, 18 % by industry, 15 % by transport and 13 % by households [5] that, taking into account the above, makes it possible to establish the leading positions of households in generating greenhouse gases in Ukraine.

The statistics clearly demonstrate to us the advisability of focusing the main attention of urban scientists who are engaged in ensuring sustainable development of settlements specifically on households, and, to be more precise, on their energy consumption both for heating, for lighting, hot water supply and others goals.

At the same time, the possibilities, and prospects of reducing the level of energy consumption by the housing services sector and its greening in Ukraine as a result of the introduction of modern information technologies are of particular interest. The intensification of the introduction of digital technologies in the household economy sector, obviously, actualizes the need to address a range of issues, which include the following:

1. selection of the most successful model for the development of the digital economy in the housing and utilities sector of Ukraine at the local level, taking into account national specifics: planned, market, or hybrid;
2. formalization and systematization of all possible advantages and economic incentives that can act as a real driving force for the digitalization of the housing services sector in Ukraine;
3. regulatory support for the digitalization of the housing services sector;
4. determination of the participants and beneficiaries of the process of introducing digital technologies in the housing services sphere of Ukraine; groups and a list of key indicators determination for assessing the effectiveness of such

implementation [2, p. 274].

It is well known that in the market model, a significant role in digitalization is assigned to private structures, which should pick up the impetus of government events and complete the framework of a digital economy. But are there appropriate prerequisites for the implementation of the market model in Ukraine: do the interests of private players in the market of housing services coincide with the expectations of the state, society and end consumers of these services?

Today, the following factors can be distinguished, which should be considered the most important for assessing the prospects for the digitalization of the housing sector in Ukraine:

- the growth of housing services tariffs raises the issues of reducing household spending and saving wherever it possible.
- a decrease in the motivation for energy saving among companies that earn the more the more resources they sell;
- additional external costs of digitalization for obtaining more detailed and timely information about housing services and resources are difficult to associate with specific benefits and effects for consumers;
- a high level of housing services sector monopolization and the lack of interest of suppliers in increasing the transparency of the market for relevant services;
- a high level of corruption of regulatory bodies and a significant influence of certain oligarchic structures on the state regulator in the housing services sector.

The need to search for a model of long-term, sustainable and mutually beneficial public-private partnership between key players in this sector of the economy is obvious. The stability of such a model should guarantee the collinearity of the strategic interests of the population, as the party that bears the entire burden of utility bills and the state, as a key player that sets the rules of the game and regulates the intensity of traffic in the indicated direction.

Taking into account the modern European experience, one or two pilot projects for digitalization of the housing services sector could be chosen, which would have a huge social resonance and should have a significant chance of success in the realities of Ukraine, which would create a number of consistent, positive and irreversible changes for households in Ukraine.

An example of such a project could be the Smart Electrical Thermal Storage project, the essence of which is that the accumulation of thermal energy necessary for heating hundreds and thousands of apartments and houses of individual households is carried out under the control of artificial intelligence exactly at the time (not necessarily at night) when this requires the country's energy market. We will show what the key factors for the success of such a project for Ukrainian households can be and what the chances are for the successful implementation of similar projects.

We can talk about the presence of direct economic incentives for the implementation of relevant projects. Let us demonstrate this with a conditional example. For a conventional apartment with an area of 100 square meters, we will have the following data on the economic efficiency of the implementation of smart thermal energy storage systems: in the most optimistic scenario, the intelligent network management system for thermal energy storage will bring its owner an approximate positive effect in the amount of only 200\$ during the heating season and this despite the fact that at once it will be necessary to incur additional capital costs at the level of 1000 \$, which will be used to pay for the standard connection to power grids [5] and directly for the purchase of the Smart Electrical Thermal Storage equipment [3, p. 128].

But direct economic effects for the consumer are far from all that should be taken into account when assessing the feasibility of implementing such projects. It is necessary to take a comprehensive look at the problems of the energy market of Ukraine and then it will become clear where additional sources and incentives for the introduction of digital technologies in the housing and utilities sector of Ukraine are hidden.

It is widely known that atomic energy is the cheapest in the world. The nuclear energy tariff in Ukraine is really low. In April 2020, Energoatom sold electricity to the state-owned company “Guaranteed Buyer” at 0,02\$ per 1 kW*h. [7] At the same time, nuclear power plants are inflexible. They are designed to operate at a constant capacity, while the demand for electricity varies throughout the day and year. That is, for the normal operation of a system with a large number of nuclear power plants, it is always necessary to have shunting balancing capacities of thermal power plants.

But at the same time, firstly, the cost of electric energy generated by thermal plants is several times higher than similar indicators for nuclear generation and, depending on the power station, from 1.4 to 2.6 UAH per 1 kW*h of electricity [8] and, secondly, their impact on the environment is simply catastrophic compared to any other energy sources available now.

It seems absolutely logical for us to be able to balance the country's energy market not only by promptly “switching on” additional shunting capacities of thermal stations, but also by intelligently controlling the intensity and schedule of energy consumption, in particular in the housing sector. Similar ideas have already been repeatedly tested in countries with different climatic conditions and different specifics of local energy markets [9].

Considering the above, a single network of heat / electric energy consumers, which will number hundreds and thousands of isolated households with intelligently controlled energy consumption, will be able to dampen fluctuations in the energy market in a cheaper way than it is possible today. The balancing function of intelligently controlled energy consumption by households in Ukraine should be

paid for and such a fee should be at least 50% of the losses incurred by the economy today as a result of the purchase of electricity from thermal generation. The additional UAH 0.7-1.0 received by households for each kW*h consumed exactly at the moment when the country's energy system requires it, will make it possible to recoup the additional capital costs incurred during one heating season.

Thus, the implementation of digitalization projects in the housing services sector can today not only help to ensure the sustainable development of local communities primarily reducing greenhouse gas emissions Smart Electrical Thermal Storage equipment installations, but also to do this on a mutually beneficial basis for the state, society, investors and households.

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ECONOMIC AND MATHEMATICAL MODELING REASONS FOR DIFFERENTIATED DEVELOPMENT OF PANDEMIC IN UKRAINE

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As of October 30, 2020, the level of vulnerability of the population to COVID-19 in Ukraine, namely the number of infected/dead, is the highest in Kharkiv (37180/51) and Lviv regions (30236/876) and the lowest level in the Kirovohrad region (2610/92) and Kherson (4153/85). What exactly caused such differentiation? The question of the negative effects virus COVID-19 has changed the vector of scientific interests of many scientists. Economists' goal is a find quick way to overcome the economic crisis, by reason of total quarantine and search the cause-and-effect relationships between the different spread of the disease within country. The pandemic is destroying the economy due to many companies' bankruptcy and high level the unemployment rate [11]. Researchers [10; 13] considered factors that may contribute to economic development. In [6], economic the crisis is studied as one of the elements increase of terrorism, so the impact of a pandemic may have preliminary consequences worldwide. The authors [1] learn indicators that can positively affect economic growth, which is a topical issue given the pandemic's negative effects on the world economy. High-quality state regulation of business [19], increasing the efficiency of workers [18], socially responsible public investment system [20], increasing foreign investment [17] is the driving force in overcoming the pandemic. The medical sphere state now occupies great attention in the scientific community [3; 12; 15]. Researchers [2; 5; 16] have paid sufficient attention to health workers' quality of life and motivation to work. The search for environmental factors, which has impact on the overall development of the country's economy [9], and in [4] sufficient attention was paid to the need to introduce "clean industry". The issue of an innovative approach to information data as one of the aspects of providing economic benefits for the rapid overcoming of the pandemic's crisis consequences is relevant [7; 14]. So, the problem of finding causes of various effects of pandemics in the regions is relevant. As regresants, we use data on the regions of Ukraine (1.10.2020) on the incidence of COVID-19 and the number

of deaths caused by the COVID-19. We chose the composition of the population of Ukraine, the state of health care, the ecological state of the region, investment in environmental protection, gross regional product, household income, migration.

Stage 1. Multicollinearity testing using the Farrar-Glober algorithm for input data. Thus, we withdrew from the study some indicators and reduced the number of indicators from 22 to 16.

Stage 2. Let us construct a multiple regression model to estimate the significance of the coefficients. After performing a preliminary analysis of the linear regression model, we obtained a satisfactory result. So, that we will apply logarithmization of indicators.

Stage 3. Construction of nonlinear multiple regression of the form:

$$\ln y = a_0 + a_1 \ln x_1 + a_2 \ln x_2 + \dots + a_{16} \ln x_{16} \quad (1)$$

Using the MLS, we calculated the coefficients for each regression. For "Mortality" coefficient of determination: $R^2 = 0.86$; Fisher's test $F = 3.71$. For "Incidence" $R^2 = 0.89$; $F = 3.86$. We conclude that the coefficient of determination is statistically significant, and indeed there is a relationship between the dependent variable and 16 independent variables. The most significant for the number of deaths (S) from COVID-19 were: the people of Ukraine, 64+ (P); declarations (D); emissions of pollutants (E); household income (I); number of arrivals (M):

$$\ln S = -3,1 \ln \ln P + 1,3 \ln D - 1,2 \ln E + 1,4 \ln I + 0,9 \ln M + 26,3$$

(2)

The most significant for the number of infected COVID-19 (01.10.2020) were the following indicators: the number of arrivals (M), % of wage arrears (W), air pollutant emissions (E), the number of doctors (L), the population of Ukraine, 64+ (D) result (3):

$$\ln Y = -1,1 \ln \ln D + 2,1 \ln L - \ln E + 1,8 \ln W + 1,3 \ln M - 1$$

(3)

Stage 4. Let's check the connection between random deviations and residual values in other observations - that is, the presence of autocorrelation. To test, apply the Darbin-Watson test. After performing the calculation, we obtained $DW1 = 2.03$ ($DW1 = 1.3$). The obtained result within acceptable limits, which means that autocorrelation of residues does not exist.

Stage 5. We analyze residues' dependence on the variables included in the final model to determine the presence of heteroskedasticity using the Spearman test. All values are more significant than critical - the rank correlation is insignificant, so there is no heteroskedasticity in the model.

Both constructed spatial logarithmic models have high indicators of quality, adequacy, and closeness of the dependent variable's connection with independent ones, so the results can be used to find a method to slow down the spread of the virus in the regions, and to develop anti-epidemiological measures.

Thus, among the considered factors of development of the regions, those

that determine the region's vulnerability to the COVID-19 pandemic have been identified. Namely, the migration movement of the population, which has a positive impact on the number of deaths and morbidity. Therefore, we believe that closing the country's borders really helps slow down the spread of the virus. Also significant is the region's ecological state, the development of the health sector, and households' well-being. The study results may be useful in creating road maps of particular regions to overcome epidemiological influences. This work is carried out within the taxpayer-funded researches: No. 0118U003574 "Cybersecurity in the banking frauds enforcement: protection of financial service consumers and the financial and economic security growth in Ukraine".

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TAXATION IN LIFE INSURANCE SYSTEM

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The idea of life insurance is to save and increase the funds of policyholders, additional pensions, insurance coverage in case of death, disability and health problems. Revenues from life insurance companies include income from insurance and reinsurance operations, investment income and income that arises in the course of economic activity that does not belong to insurance operations. Accordingly, the insurance market is a powerful financial instrument that accumulates and invests significant amount of funds. Therefore, the issue of taxation is extremely important. In the life insurance system, we can talk about two components of taxation: the taxation of the insurance companies themselves and the taxation of insurance payments. Key aspects and controversial issues of this topic were considered in the works of both foreign and domestic scientists. It is necessary to mention that each country has its own approach to life insurance taxation and in many cases it occurs to be client oriented in some cases not.

In Ukraine the activities of life insurance companies in matters of taxation are regulated by the Law of Ukraine "On Insurance" and the Tax Code of Ukraine.

Tax benefits are provided for life insurance companies. However, they are not completely exempt from taxes. This abstract is devoted to the analysis and logical arrangement of issues of tax rates concerning both insurers and policyholders and its consequences that can result in insurance market totally. According to the Article 136 of the Tax Code, tax rates are:

- 3% of the object of taxation under insurance contracts [1];
- 0% under contracts for long-term life insurance, long-term voluntary life insurance within the framework of non-state pension provision, in particular supplementary pension. In this case, the contract of long-term life insurance is a contract concluded for 5 years or more and provides for a lump sum or in the form of an annuity [1, p. 14.1.25]. The beneficiary may receive funds upon expiration of the insurance contract. Supplementary pension insurance contract is a contract which stipulates that the insured may receive funds not earlier than 10 years before the official retirement age [1, p.14.1.52²].
- 18% of insurance and non-insurance activities, which are taxed at the general rate. In this case, if the contract of life insurance or supplementary pension is terminated during the first five years of validity, there is a taxation of 120% of the discount rate of the National Bank of Ukraine.

For owners of life insurance policies and supplementary pensions, according to the Article 170.8 of the Tax Code taxation occurs in the following cases:

- 0% - when receiving funds for medical options [1];

- 0% - upon receipt of annuity payments under life insurance contracts or supplementary pensions by citizens who have not reached the age of legal majority or older than 70 years [1];

- 0% - when receiving insurance payments by the heirs of the first line of kinship [1];

- 18% - 60 percent of the amount of one-time insurance payment at the end of the insurance contract is taxed, provided that the insured and the insured person are different people. If the beneficiary under the contract is an insured person, then the amount of excess of the insurance payment over the amount of insurance payments is subject to taxation [1];

- 18% - when receiving insurance benefits by heirs who are not the first line of kinship and a non-resident person of any age [1];

- 1.5% of the military fee from the amount of excess of the insurance payment over the amount of paid insurance premiums. In this case, the military fee is levied only on contracts that are taxed at a rate of 18% [1].

Policyholders who are officially employed, so they are taxpayers, are entitled to a tax rebate. The tax rebate is set at 18% of the amount of premiums paid under a long-term life insurance contract or a supplementary pension contract. This payment has a zero tax rate. This option aims to encourage citizens to take care of their own financial future. But there are some exceptions. Entrepreneurs who are not taxpayers in the general system are not entitled to a tax rebate.

Talking about corporate insurance it is important to distinguish long-term life insurance contracts and supplementary pension contracts. In both cases, the amount of insurance premiums is attributed to gross expenses and is not taxed. However, when concluding a long-term life insurance contract, single social security tax is calculated and paid on the amount of the contribution, and when concluding a supplementary pension contract, such contributions are not a subject to single social security tax. This difference in the interpretation of insurance programs is quite significant. Not all life insurance companies have the option of "supplementary pension insurance"[2]. Therefore, in the process of work there is a large number of misunderstandings and lack of interest, as there is a double payment of a single social security tax. Therefore, companies and organizations are reluctant to consider creating of additional retirement savings for their employees. The maximum amount of contributions to insurance programs should not exceed 15% of annual salary. The legal entity - the insured cannot act as the beneficiary under the contract of corporate insurance. The only beneficiary is the insured person. Therefore, when receiving insurance benefits, taxation of insurance benefits is carried out according to the general rules for individuals.

Special system of taxation of insurance companies is of two part approach to the activities of insurers. They carry out both insurance and investment performance. The amount of investment resources is not large enough at present, as

the level of demand for insurance products among the population is quite low. On the other hand, insurance provides for the creation of additional pensions and social protection. Therefore, the excessive tax burden will reduce demand. Tax benefits for both insurers and policyholders should be an indicator of reliability, to encourage people to use these services. By promoting the development of the life insurance system, the state has the opportunity to actively influence the solution of social problems, revive money circulation, increase the purchasing power of the national currency, and increase the country's investment opportunities. After all, in countries where this system is developed, the standard of living of ordinary citizens and the level of economic condition of countries is much higher than in countries where insurance is not a priority type of social protection and economic relations. It is the tax system that can help to create demand for insurance products, which in turn will allow insurance companies to have an attractive investment portfolio.

In order to encourage citizens to create their own pensions, life insurance programs and pension insurance programs should be exempt from taxation, as this is a solution to the pension problem at the expense of citizens. And the funds received as a pension will return to the economy. So this question is quite controversial and it needs thorough studying and discussing.

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PECULIARITIES OF THE ORGANIZATION OF PAYMENT AT THE ENTERPRISE

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As the experience of European countries shows, great success in their economic development is achieved only by those enterprises that have created favorable conditions for the realization of the creative potential of employees and introduced advanced innovative payroll technologies.

Wages - is one of the most complex and important socio - economic categories. It is, on the one hand, the main source of income for employees, and on the other - a share of production costs and an effective means of motivating employees to achieve the goals of the enterprise.

There are now a large number of interpretations of the nature of wages, due to different views of scientists.

To clarify the essence of the concept of "wages", consider this interpretation in the economic literature (table).

Table - Definition of the essence of the term "salary"

Author, source	Interpretation of the concept
1	2
Law of Ukraine "On Remuneration of Labor"	- it is a remuneration, calculated, as a rule, in monetary terms, which under the employment contract the employer pays to the employee for the work performed by him [3];
W. Petty	- "Natural price of labor", the level of which is determined by the physiological minimum means of subsistence of the employee and his family members [2];
A. Kalina	- it is a part of value added in the form of money which as a result of its distribution arrives to workers depending on quantity and quality of the work spent by them [5];
A. Kolot	- is an economic category that reflects the relationship between the owner of the enterprise and the employee regarding the distribution of newly created value; - is an element of the labor market, which is the price at which the smallest worker sells labor services [4];

Continuation of table

1	2
G. Shvidanenko	- is any earnings, calculated, as a rule, in monetary terms, which under the employment contract, the owner or his authorized body pays the employee for the work performed or services rendered [6];
O. Grishnova	<ul style="list-style-type: none"> - is an economic category that reflects the relationship between the employer and the employee regarding the distribution of newly created value; - is the remuneration or earnings, calculated in monetary terms, which under the employment contract the employer pays the employee for the work performed or to be performed; - is an element of production costs and at the same time the main factor in ensuring the material interest of employees in achieving high end results [1];

Source: built by the authors

The organization of wages in the enterprise is one of the main components of management, it depends on productivity and efficiency, and it is a strong incentive and motivator for employees. Every day the urgency of the topic of wages is growing. The performance of enterprises is quite unstable. There are changes in the organization of wages, reducing the number of employees, the profitability of enterprises and production and sales. For the majority of the population, wages have lost their reproductive and stimulating function.

The organization of wages, based on the use of its traditional elements in the form of tariff rates and salaries, various types of bonuses, surcharges and allowances, poorly receptive to scientific and technological progress, improving product quality, saving resources. The tasks of the organization of wages in enterprises must meet both the interests of the employee and the interests of the employer, it is: ensuring the necessary growth of wages while reducing its unit costs and guarantee higher wages of each employee as the efficiency of the enterprise.

Today, among the mechanisms of personnel management of the enterprise the leading role is played by material stimulation. In many countries, it is the motivational aspects of personnel management that are important. In modern economic conditions at some enterprises these problems are well solved by a flexible non-tariff system of remuneration.

The flexibility of the tariff-free system lies in its ability to transform in accordance with any tasks of operational planning and incentives. Non-tariff is manifested in the fact that the definition of basic parameters of wages, namely the minimum mandatory level, rates, salaries, tariffs is based on the goals and objectives

of a particular business and the characteristics of regional market conditions. The introduction of a flexible system of remuneration has a number of advantages for determining the results of employees, among which the main ones are strengthening the motivational function of wages and a high impact on stimulating efficient and highly productive work.

Also quite interesting is the system "Employee participation in profits", which at the expense of a predetermined share of profits, a bonus fund is formed, from which employees receive regular payments. The amount of payments depends on the level of profit of the enterprise. In this system, bonuses are paid for achieving specific results and are calculated in proportion to the salary of each employee, taking into account his characteristics and seniority, the absence of absenteeism and delays, innovation and innovation.

When using this system, it is necessary to remember that the increase in profits may be short-term and depend on market factors. Therefore, the rate of return is not always the best basis for increasing wages. Using this system is a risk of loss, because the company is subject to many external factors that are beyond control. Therefore, this system can be used temporarily.

Thus, with the transition to market relations, a fundamentally new organization of wages is formed. There is a need to replace the outdated, inefficient wage model, which significantly constrains the realization of the potential of workers and slows down economic development. Therefore, before implementation at the enterprises it is expedient to offer the following directions of increase of efficiency of the organization of payment (fig.).

Directions for improving the efficiency of wages
raising the level of workplace organization
timely issuance of a work assignment
improving the technical condition of the workplace, timely repairs, modernization
improving the system of labor rationing
the dependence of wages on the quantity and quality of work and on the final results of the enterprise
development of a flexible system of individual and collective material bonuses based on the results of work
creating optimal conditions for career growth of employees
use of various forms of control over the work of performers
definition of clear responsibility for various kinds of violations

Figure - Directions for improving the efficiency of wages
Source: built by the authors

In my opinion, all these components will help companies reach a new level of market relations, increase the efficiency of wages, improve the financial results of the company and motivate employees to perform quality work and as a result, to receive high wages.

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INTERACTION OF FINANCIAL DEVELOPMENT AND REAL ECONOMY

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Let us briefly touch upon the problems of the influence of the level of financial development on economic growth. The author has already touched on this or similar problems in one way or another [1–8]. Interest in studying the mutual influence of the level of financial development and the level of the real economy has always been in the focus of attention of both economists and financiers. This is due to large-scale financial crises, which constantly caused the need to rethink and understand the place and significance of finance in economic processes.

In the economic literature, there are different opinions in assessing the impact of finance on economic growth.

1995 Nobel laureate R. Lucas excludes money turnover and finance from factors influencing economic growth [9, p. 6]. “I will also be abstracting from all monetary matters, treating all exchange as though it involved goods-for-goods. In general, I believe that the importance of financial matters is very badly over-stressed in popular and even much professional discussion and so am not inclined to be apologetic for going to the other extreme. Yet insofar as the development of financial institutions is a limiting factor in development more generally conceived I will be falsifying the picture, and I have no clear idea as to how badly” [9, p. 6]. From this perspective, finance does not cause economic growth, but simply responds to changes in the real economy.

The opposite point of view is presented in the study of the 1990 Nobel Prize laureate M. Miller, who claims that financial markets contribute to economic growth [10, p. 14].

Classical economic theory recognizes the interaction and mutual influence of finance and economic development. According to the classical theory, economic crises are expressed in the over accumulation of capital in three forms: 1) commodity in the form of growth of unsold production; 2) productive in the form of an increase in the underutilization of production capacities, an increase in inventories, an increase in unemployment; 3) money in the form of an increase in the amount of free money not invested in production. The first and second forms are economic characteristics, and the third form is the financial component. Based on this approach, the place of financial capital in relation to the real economy becomes clear. It becomes clear that money not invested in production begins to “live” independently and may not participate in the processes of the real economy by its “independent turnover”. In other words, financial capital has a dual character, which determines its possibilities for relatively isolated development in the process of real

(related to the economy) and in the process of fictitious (divorced from the economy) money capital.

Therefore, the chosen view of the economy as interaction and interpenetration on the one hand is monetary and financial turnover and on the other hand is commodity production and public service processes.

By monetary and financial turnover we mean the volume of such a money volume, which for a selected period of time, directly, but not indirectly: 1) participates in the movement of all goods (both during their production and during their sale); 2) participates in the provision of any services in terms of the amount of money that goes into the sphere of monetary and financial circulation; 3) ensures the functioning of the labour force at all levels of commodity production; 4) participates in the performance of state and interstate functions.

By commodity production and public service processes we mean the processes of production of all goods and all types of services, the implementation of which is ensured by the movement of the previously mentioned monetary and financial turnover.

Here we draw your attention to the fact that the term “monetary and financial turnover” we are introducing has a different essence and a different interpretation, in comparison with the term "finance" and / or the term "money circulation".

The terms “finance” and “monetary and financial turnover” indicate the different directions of movement of money in creating, for example, real GDP. Finance and monetary and financial turnover overlap, but do not coincide. Now the term “finance” in Ukrainian science is understood as a set of economic relations arising in the process of formation, distribution and use of centralized and decentralized funds of funds. But the formation, distribution and use of funds is only partially filled with money from the movement of goods and services. For example, the budgets receive amounts of money that are part of the movement of goods and services, and this is: income tax, value added tax, excise taxes, taxes on personal income and others. But, the same budgets also receive money that is not related to the production and trade movement of goods and services, and this is: property taxes, land payments from individuals, customs duties from individuals, non-tax receipts such as: income from issuance licenses, administrative fees and payments, fines, income from capital transactions, transfers from foreign states and international organizations. The same "financial" and "monetary-financial" division has the distribution of budgetary funds. That is, part of the budget funds is directed to participation in the production and movement of goods and services, and part of the budget funds is directed to other areas that are not related to the production and movement of goods or the provision of social and industrial services, for example, to pay and service government loans.

Also, the terms “money turnover” and “monetary and financial turnover”

have different directions of money movement in creating the GDP. Also, money turnover and monetary and financial turnover intersect, but do not coincide. Now the term “money turnover” is understood as the movement of money in cash and non-cash forms, which serves the sale of goods and non-commodity payments of business entities, households and individuals. But the term “monetary and financial circulation” includes the movement of money in cash and non-cash forms, which serves the sale of all goods of industrial and public consumption, but does not take into account non-commodity payments of business entities, households and individuals.

As a result, the category "monetary and financial turnover" differs from the categories “finance” and the category “money circulation” because it shows the movement of the mass of money that directly in a selected period of time participates in commodity-production and public-service processes aimed at creation of GDP and / or national income. The categories “finance” and “money circulation” in these interpretations, only in their parts, but not completely, are directly involved in commodity-production and public-service processes aimed at creating GDP and/or national income. Therefore, the use of only financial macro indicators or macro indicators of money turnover to consider the degree of influence of financial development on economic growth will always distort the real economic picture. In our opinion, this is the state of interaction between financial indicators and the real economy that the Nobel laureate Lucas R. E. had in mind when he said: “Yet insofar as the development of financial institutions is a limiting factor in development more generally conceived I will be falsifying the picture, and I have no clear idea as to how badly” [9, p. 6].

By the way, an important and interesting fact. In Western scientific and educational literature, general definitions of finance, as a separate term, are usually not given, finance is interpreted rather broadly. “Finance is the science of how people manage the expenditure and flow of scarce monetary resources during a period of time” [11, p. 38]. Usually it is specified what kind of finance we are talking about: public, corporate or personal finance. “Public finance deals with expenditure and income of public authorities of the state and their households also with the financial administration and control” [12, p. 2]. Corporate Finance or Finance of Organizations mean proper money management [13, p. 3] or the art and science of money management [14, p. 1]. Thus, the terms “financial management”, “managerial finance”, “corporate finance” and “business finance” are practically equivalent and are interchangeable [15, p. 3-5]. The theory of finance means the theory: arbitrage pricing theory, capital structure, mean-variance analysis, the theory of pricing of financial assets, options and other theories based on H. Markowitz, W. Sharpe, R. Merton, F. Modigliani, M. Miller, J. Tobin, F. Black, etc. On the basis of this fact, it is quite reasonable to introduce a new, for our study, the term “monetary and financial turnover”, because it becomes necessary to study the influence of the level

of monetary and financial development on real economic growth.

Rationale. One of the main forms of finance is money. However, not all the mass of money is covered by the term “finance”. The movement of money in terms of commodity-money exchange (this is trade in consumer goods and trade in industrial goods) is not included in the finances, or affects this area indirectly.

Part of the money that fills the financial funds comes from other financial funds and is not reflected in the commodity-money movement. This is due to the fact that part of the money flowing from the funds operates outside of commodity production and outside of social production services. For example, interbank money transactions that reduce some funds and replenish others are not included in the monetary and financial turnover that we discuss.

However, due to the inevitable interaction of cash flows and commodity outputs, cash flow and/or the traditional financial sector can be both factors of economic growth and sources of permanent economic instability, as well as factors of economic regression. But these are further studies that can be based on the interaction of the categories of “monetary and financial turnover” and “commodity-production and public-service processes”.

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OPTIMIZATION OF THE SYSTEM AND MECHANISM OF REGULATION OF FINANCIAL MONITORING OF INSURANCE COMPANIES

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In the development of modern society, insurance activity plays an important role, because it is one component of the country's financial market and performs the protective function of society from industrial and domestic risks. Insurance activities are directly related to financial transactions and various risks. The issue of the financial monitoring system in the activities of insurance companies needs considerable attention and constant modernization [1, p.80; 4, p.52; 7, p.21; 8, p.44].

Taking into account the Law of Ukraine “On Prevention and Counteraction to Legalization (Laundering) of Proceeds from Crime, Financing of Terrorism and Financing of Proliferation of Weapons of Mass Destruction”, there are two types of financial monitoring: primary and state. The main subjects of primary financial monitoring are: banks, insurance companies, credit unions and other subjects of the country's financial market [2, p.39; 10, p.65]. According to the legal norms of the Law, insurance companies, as subjects of primary financial monitoring, must strictly comply with the obligations set forth in Article 2 of this Law, as well as comply with the requirements of the Regulation on Financial Monitoring by Financial Institutions.

Thus, the insurance company must carry out internal financial monitoring, adhering to the main stages of legal requirements: assessment of risks of money laundering; mandatory identification of the client and keeping records of suspicious transactions; mandatory reporting of suspicious financial transactions to the SCFM [5, p.69; 6, p.57; 15, p.38; 17, p.5].

Detailed analysis of the activities of insurance companies, let us to say that

most of them do not have a work plan, business model, and development strategy, and this leads to the development of insurance risks [3, p.35; 11, p.69; 14, p.117]. An equally important factor in the activities of insurance companies is the imperfection of current legislation and regulatory functions of the state, which gives unscrupulous insurers the opportunity to conduct insurance transactions in order to reduce taxation and evade payment of their tax liabilities [9, p.56; 12, p.43; 13, p.58; 16, p.63]. Thus, given the above problems, it can be concluded that unscrupulous insurers may engage in money laundering, and other illegal financial transactions. To optimize the system of financial monitoring for insurance companies, the following methods can be proposed:

- Creation of more effective control mechanisms to determine the ownership structure of the insurance company.
- Introduction of reputation standards for owners of insurance companies.
- Defining and building the management structure and internal control of the insurance company.
- Introduction of a mechanism for guaranteeing insurance obligations under signed contracts.

Summing up, we can say that financial monitoring in the activities of insurance companies occupies one of the key positions in the fight against money laundering, which in essence is a type of insurance risk, and financial monitoring, in turn, leads to minimum negative consequences of such activities.

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THE BLOCKCHAIN TECHNOLOGIES IN PUBLIC ADMINISTRATION

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At the present stage of development, each country is not only an area with defined borders, population and sovereignty, but with the development and complication of socio-economic relations, the number of processes that the country should perform to ensure its own functions increases. Also, the number of services provided by the state to individuals and businesses increase every year. These processes are facilitated by technological progress that should be used by the country in the management process. The technologies used by the state in the process of government are obsolete too quickly. With the changing generations, with the broadest stratum of citizens belonging to the “Generation Y (Millennials)” and the growing “Generation Z”, who have a fast pace of life and feel free in the technological world of the country, it is necessary to be modern to meet the needs of the population. Today, blockchain is the most secure, persistent and transparent technology of data organization and transaction execution [1], which can solve many governmental issues, including information security issues [2]. There are three factors of technology security: the distribution registry, cryptographic encryption, and the consensus algorithm.

A fundamental and topical issue today is investigating the features and opportunities of using blockchain digital technologies in all areas of the country's economy [3], starting with financial-credit sector [4, 5] and security of online banking [6] and ending with strategically important public administration and governmental branches related to the management of e-documents by business entities, executive bodies (election campaign support), educational institutions [7-9], medicine.

The author's research provided an opportunity to generalize the scope of blockchain use within the framework of public management of worldwide organizations (table 1).

Blockchain is a special kind of database that only allows you to enter information, and removal and modification prohibit. The blockchain structure is reminiscent of a chain of blocks that is essentially a certain amount of data (physically – a separate computer) that add to the database. Each block of the system contains a Hashcash of the previous one, that is, a specific pointer to it, timestamps, and a particular set of metadata to confirm its authenticity. Here is a list of the clear

benefits of blockchain: decentralization, complete transparency, confidentiality, reliability, compromise [15-17].

Decentralization is a blockchain architecture that lacks a master data server. Each member of the system stores all records. It affects the stability of the system because if part of the blocks fails, the information will store on the remaining functioning blocks. Full transparency allows any blockchain user to track transactions that have occurred on the system. The privacy feature will enable you to save all data in encrypted form. The user can track transactions but cannot identify the sender or recipient of the information. It is only allowed to users with appropriate rights. The operation requires a unique access key. The reliability is that any attempt to make unauthorized changes will reject because of inconsistencies with the previous copies. Legally changing the data requires a special unique code, issued and validated by the system. Other participants check the data added to the system through the hash transaction listing (compromise property).

Table 1. Overview of cases which blockchain technologies used

Case	Company/Companies
Proof of ownership of modules in app development	Assembly
Proof of purchase for digital content storage and delivery	Blocktech (Alexandria), Blockparti, BlockCDN
Points based value transfer for ride sharing	Ln'Zooz
Digital security trading ownership and transfer	Symlont, Mirror, Secure Assets, Coins-e, DXMarkets, MUNA
Digitization of documents/contracts and proof of ownership for transfers	Colu (Colored Coins)
Decentralized storage using a network of computers on the blockchain	Storj
Provide digital Identity that protects consumer privacy	Sho card
Escrow/Custodian service: Gaming industry, Gaming industry and loan servicing, E-commerce	PlayCoin, Bitplay, New System Technologies, Founds.org
Decentralized patient records management	Bithealth

Note: Compiled by authors based on works [10-14]

Consider one of the everyday tasks that occur when transmitting digital information between participants in a session. Vast arrays of records transmit data in the form of blocks from one transmission node to another. The question is: how to

save and quickly find the current location (status) of a particular block. The answer is a general-purpose hash function:

$$h(k) = k \bmod n, \quad (1)$$

where n is a number of available storage places, k is a number; \bmod is a remainder of number division. The data transfer and the code snippet checked by the hash function is shown in Fig. 1.

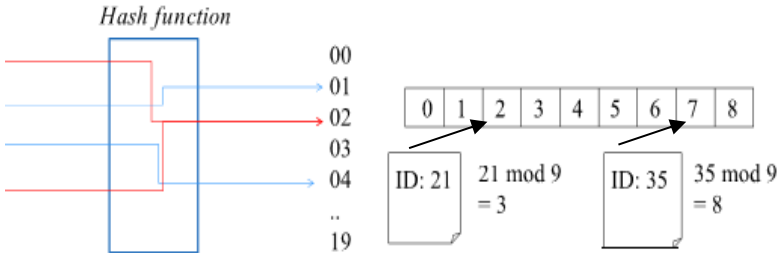


Fig. 1. Data transmission and retrieval of information in the information block based on checking the remainder correctness of the integer division

When using hash functions, a common problem is when collisions occur when two different records have the same interpretation of the save check (Fig 2).

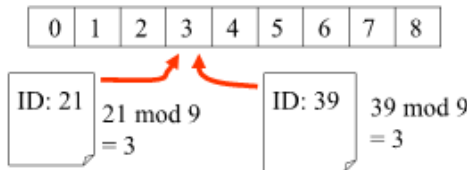


Fig 2. The result of different digital money exchange sessions has the same save address

This problem can be solved by using hash sequences that check the following available space in your computer’s memory:

$$\begin{aligned} h_0(k) &= k \bmod n, \\ h_1(k) &= (k + 1) \bmod n, \\ &\dots \\ h_m(k) &= (k + m) \bmod n, \end{aligned} \quad (2)$$

Modifications to the algorithms for checking the record correctness and the subsequent location of the transmitted information block are massive. However, the hash function to be considered cryptographically stable, three conditions are necessary and sufficient. They are irreversibility (stability) to the prototype restoration, resistance to collisions of the first kind or restoration of the second prototypes. This condition should be interpreted as follows: for a given message M it must be computationally impossible to select another message N for which $H(N) = H(M)$. The collision of the hash function H is called two different input data blocks x and y such that $H(x) = H(y)$. The third condition for cryptocurrency hash functions speaks of collision resistance of the second kind, i.e. it should be computationally impossible to pick up a pair of messages (M, M') having the same hash. These requirements are not independent.

The disadvantages of blockchain include its scalability, size and user requirements. Blockchain has limitations on its growth. In open systems, it is difficult to add new blocks. It is due to the limited technical specifications, the low number of computers with a broad data channel, the risk of constant attacks, the complexity of cryptographic tools. This drawback does not apply to private blockchains in which each block is certified. The drawback to the blockchain is that the information is overwritten on each block. It causes space to run out on this block. Certain public administration tasks implemented through blockchain can bypass this limitation. But if you need to store large amounts of data, you will need to create a hybrid blockchain. In such a blockchain, the block stores only records of transactions or transactions performed and linked to a centralized data warehouse, which of course is encrypted. The lack of system user requirements is explained as follows. Each system user should be responsible for their own information. All records are completely anonymous on the system, but some identifiers indicate a particular user. And if a person somewhere illuminates or loses that ID outside the blockchain system, then everyone on the Internet can find out about those person's transactions in the blockchain.

Blockchain networks are divided into two main classes: private and public [19, 20]. Public blockchains are a way of network construction in which all members of the network provide the control of the operation: developers, users, service providers, miners, who ensure the integrity of the network and ease of work in it. The performance of such a network is achieved by updating a protocol that prevents malicious changes. They also provide a way to protect users from developers by limiting their opportunities. The developer cannot change the code or data in public blockchain applications by himself.

Private blockchains are blockchains in which the creation of blocks is centralized, and all the rights to conduct operations belong to one organization. The public is only able to view information (if there is a key), and only trusted, certified nodes can audit, manage databases, and other applications. Private blockchains are

characterized by low transaction costs, as their validation is carried out by trusted and high-performance nodes, instead of tens of thousands of user devices. Additionally, private blockchain can be configured so that the number of transactions per second will be much higher than that of public networks. In this case, the only limitation is the throughput of the weakest node in the system. The main advantage of a private blockchain is greater control over the system by the organization. Private blockchain allows you to update functionality quickly [19]. Only a private type of blockchain is suitable for public administration because all rights to conduct transactions on the network and information belong to the state. Users, citizens or organizations, have access to the system with a key.

Now blockchain is associated with the cryptocurrency, financial and banking sectors [20-22]. But there are many areas for its use. Next, we look at the main possibilities of using blockchain technology in public administration.

Blockchain for personal identification. In this network, you can store electronic versions of documents that confirm the identity and concerns it. So, each citizen can open his documents for presentation at any time, and received documents will already have confirmation of originality, since the system units verified the request for their receipt. Besides, government organizations can receive data from the network upon request, or the user himself can send them through the blockchain. Using blockchain technology in this way has its pros and cons. Advantages include security of information, the stability of work, convenience of electronic document flow. Disadvantages include the need to create an organization that will verify the documents and register them on the system.

Blockchain for elections. With blockchain technology, it is possible to exercise the right of citizens to elect representatives to the authorities. Moreover, this system can be done both in its pure form: voting only through blockchain and in a hybrid way when some voters come to the polling stations, and some of them vote at home.

The use of this system will solve many significant problems, such as transparency of voting results, the complexity of organizing elections for specific categories of citizens, including citizens abroad, reducing the cost of printing ballots, their delivery and the calculation of results. When using blockchain falsification of results at polling stations will not be real, if the record was added to the system, it was copied by all blocks, and it will be impossible to make changes. The disadvantages include the difficulty of implementation due to the low computer literacy of the population, especially the older generation and the additional costs of equipping polling stations.

Blockchain for tax service. With the help of blockchain technology, taxes for individuals and legal entities can be realized. Blockchains have already been implemented to financial asset flow. This system will have the only difference when

all resources flow to one holder to the country, but the fact of tax payment will be known to all participants of the blockchain.

Blockchain for medical care. The use of blockchain technology to maintain a patient's online medical record is quite promising. In this case, the blocks are medical institutions of different types. Beneficiaries are physicians who bring examination results, diagnoses, and referrals directly to the patient's profile. The use of such a system will facilitate the information exchange between laboratories and clinics. The patient will have access to a profile with complete medical history. Blockchain security will ensure stable access and reliability of the information [23].

Blockchain for notarization of documents. Blockchain technology can completely replace notaries for using it as a Smart Contract [24]. A smart contract is a system that captures the conclusion of a particular agreement between the system participants and depending on the conditions for fulfilling the deal, it gives one or another result. The guarantee of the invariance of the smart contract is recorded in the databases of all blocks. It is impossible to change the terms of the contract, except as previously determined. Even if the parties, by mutual agreement, want to change something, the smart contract will only fulfil what it has written. In such circumstances, the evidence is not given to anyone, written documents are not taken into account, and litigation is inappropriate.

Thus, the necessary actions of notaries can be implemented with the help of smart contracts: certification of contracts, other documents, issuance of certificates of ownership, other extracts from state registers. The introduction of such a system will prevent corruption and reduce the cost of supporting transactions. An interesting solution may be the use of blockchain technology by the Ministry of Education. This technology will be useful as well as for testing students to enrol in higher education. Using this system will reduce the cost of testing, prevent corruption. The users of this blockchain will be not only entrants but higher education institutions in the future to form the rating lists and entry of entrants. Also, the blockchain may store information about the educational documents of the person used in hiring. The documents received from this system will be legal for the employer.

The described blockchain technology can be implemented in public administration. The use of this technology will bring a number of advantages and transformations of the usual modern public administration. The introduction of blockchain technologies is recommended in order to increase the efficiency of functioning of organizations, enterprises and other socio-economic objects in the field of public administration, to reduce the costs of congested operations and intermediaries. The use of blockchain is also appropriate in the field of finance, medicine, education. Developments and wealth of the country depend directly on the informatization rate of all spheres of activity, quality of implementation and use of modern innovative technologies, especially blockchain technologies.

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SMART TRANSPORT AND LOGISTICS ENVIRONMENT

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Forming smart TLE is a challenge for modern cities and enterprises due to limited knowledge about the streams of cargo, their flows and impact on the environment, but even in conditions of limited knowledge analyzing and processing this information is becoming an increasingly difficult task.

In our previous investigations [7, p.16] we mentioned that being “SMART” became more and more popular: SMART city, smart transport, smart house, smart logistics, etc. “Smart” means a portfolio of projects, the implementation of which provides innovative development of the system based on the integration of socio-communication, information and telecommunications technologies. Smart projects aim to improve the quality of life through the use of the latest innovative ICT, improve the services efficiency, ensure economic growth, and save the environment. ICT are the main means of achieving this goal. The main factors that characterize Smart projects in the context of ICT development are: application of a wide range of electronic and digital technologies; use of ICT for information environment transformation in the region; implementation of ICT in state government systems; introduction of innovations for effective development of knowledge potential of citizens.

Many authors in their works [1-5, 9-16, 20-29] investigate problems of SMART city, smart transport and problems of its providing.

In our previous studies [6, p.1013; 7, p.17; 8, p.63] we discovered main features of green Smart city logistics infrastructure, analyzed the influence of trading company logistic activity, and formed organizational and economic mechanism of environmentally-oriented regional logistic system and mechanism of corporate social and environmental responsibility.

Because of the high level of complexity the transport and logistics process related to freight distribution and passenger transportation needs ICT solutions for providing the high level of logistics services (flexibility, lowest costs and shortest delivery time). They refer to provide effective warehousing, inventory control and transshipment of goods before reaching the final destination point. City logistics (CL), city transport and Internet are significant concepts related to sustainability of logistics systems and freight and passenger transportation. CL aims to reduce the negative impact of freight movements within cities by improving mobility and

decreasing environmental impact in term of congestion without lowering the level of social and economic activities [19, p.80].

We consider TLE as a structured and integrated movement of people, goods, services and information in environmentally friendly mode in an urban area in order to improve the quality of residents' life. According to [17, p.179] we can define key areas of smart TLE: Smart Delivery (smart transport; fuel efficiency and vehicle emissions control; geolocation of public transport, etc.), Smart Distribution (e-commerce; recyclability; reusable packaging, etc.), Smart Storage ("clean energy" storage; reducing power consumption; warehouses outside the city; energy efficiency etc.), Smart Logistic Provider (network management; logistic network design; logistics efficiency; timetabling, scheduling; supply chain management, etc.).

Based on the analysis, we can conclude that information and telecommunication networks are necessary component in Smart TLE projects and a key to successful project implementation.

Creating a Smart TLE is a multifactorial task that, more often, requires a dramatic change in the city's existing infrastructure, to which most cities are not ready either at the level of residents' consciousness or financially. The limited financial capacity of the authorities often prevents them from making drastic decisions on the complete restructuring of the existing transport and logistics infrastructure of cities, even knowing its irrationality. Therefore, the practice of directly transposing the best international or European standards for the construction of Smart TLE cannot yet be fully implemented.

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WORLD MODELS FOR ASSESING THE EFFECTIVENESS OF ENVIRONMENTAL TAXES ⁵

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The importance of environmental taxes is determined by the deterioration of the environment. The further development of the economy will depend on the degree of effectiveness of environmental tax policy and new approaches to solving global environmental problems through the market regulation instruments.

The problems dealing with environmental performance were discussed in the papers [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]. Financial efficacy of the national systems in global dimensions was analyzed in the works [11, 12, 13, 14, 15]. The estimations of taxation policy associated with ecological issues were provided in the following researches [16, 17, 18, 19, 20].

In the world practice, the following approaches to assessing the effectiveness of environmental taxes have been developed (Fig. 1).

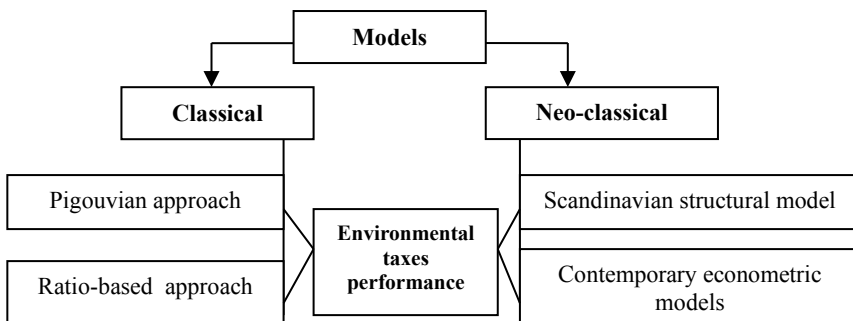


Fig. 1. Models designed for estimation of environmental taxes efficacy (authors' findings)

Pigouvian approach. A representative of the Cambridge neoclassical school, A. Pigou, proposed to internalize the cost of pollution by setting an environmental tax for the polluter (emitter). This tax was later called the "Pigouvian tax". Pigouvian

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tax (1920) is a tax imposed on measured emissions, which serves as a mean for regulating and correcting the impact of negative externalities. The aim of the environmental tax is that it encourages the tax agent to reduce the level of environmental damage caused to the third parties. In this case, the environmental tax is a tool to achieve a balance between the taxpayer's production and society's losses, so the effective tax should be equal to the marginal social costs.

Ratio-based approach. The traditional ratio-based approach is grounded on the calculation of basic analytical indicators. In the arsenal of researchers there is a large set of indicators of fiscal performance of taxes, which, however, can be used as a methodological basis and in relation to environmental taxes. Here are some of the main indicators: the share of total taxes in GDP; the share of tax revenues in budget revenues; the share of taxes by industry and field of activity; tax indebtedness; tax collection rate; tax elasticity coefficient; dynamics of taxes; fiscal efficiency ratio; tax cost index; tax multiplier; tax accelerator; tax loyalty ratio; effective tax rates.

Scandinavian (pioneer) model. Designed to answer the question of compliance with the "polluter pays" principle in the practice of applying environmental taxes in the Northern Europe. For the purpose of analysis, all industries were aggregated into 4 groups (primary sector, secondary sector (manufacturing), energy, services), and households were also included in the review. The approach is based on determining the share of energy consumption (or pollution) in each of the sectors and the corresponding share of accrued energy taxes. Based on the presence or absence of correspondences between the analyzed indicators, a conclusion is made whether there is a link with "polluter pays" principle. Such technique can be applied to any type of environmental taxes.

Contemporary econometric models. Given the point of view of the subject of our research, the regression model of assessing the effectiveness of environmental taxes for 50 economically developed countries is of special interest [21]. The working hypothesis of the study is the assumption that higher rates of environmental taxes help reduce pollution and reduce the production and consumption of non-renewable energy sources in the long run. The object of the study is the revenue from environmental taxes. Scientists claim that energy and transport taxes are fiscal in nature. The model examines the relationship between environmental tax revenues and the quality of the environment, which can be assessed through some environmental indicators. In particular, such variable indicators are: CO₂ emissions per capita, afforestation area, energy consumption per capita, share of fossil fuel consumption, electricity production from non-renewable sources per capita, electricity production from renewable sources per capita, concentration of PM 10 in atmospheric air, the level of water pollution by organic matters and electricity consumption per capita. Higher budget revenues from the payment of environmental taxes are closely correlated with the reduction of CO₂

emissions per capita, energy consumption, fossil fuel consumption, water pollution and the concentration of PM 10. Environmental taxes helped reduce carbon dioxide emissions by 12.2% and reduce concentrations of PM 10 in the air by 6.9% [21].

All of the models analyzed above can serve an excellent battery of developed techniques to estimate the performance of environmental taxes for any country if data available.

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THE RISK OF MONEY LAUNDERING: OVERVIEW THROUGH THE OPERATIONS OF INSURANCE COMPANIES

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The expansion of global integration processes in the world economy in recent years has created favorable conditions for criminal structures for money laundering [10]. This issue became extremely acute on the background of the growing size of the shadow economy in Ukraine [12, 27]. Nowadays, scientists mostly pay attention to the using of banking operations to money laundering. Instead, very small attention is paid to money laundering through insurance companies [21]. Therefore, it is important to identify and describe the risk of money laundering through the operations of insurance companies [14, 7].

Given the specifics of insurance operations and services other non-bank financial institutions, the level of their involvement in the process of money laundering proceeds also differs. The highest level of involvement in legalization among financial institutions is typical for banks [2, 9]. For example, in the first three quarters of 2020, the State Financial Monitoring Service registered 43,226,226 notifications of financial transactions subject to financial monitoring. Of these, 4281902 notifications were received from banking institutions and just 43920 from non-bank financial institutions and organizations and 404 notifications were received from specially designated subjects of primary financial monitoring [23, 24, 1, 9, 11].

At the same time, it is fair to say that the most popular non-bank financial activities among fraudsters are the operations of insurance companies [28]. In Ukraine, the market of insurance services is relatively young and dynamically developing. According to National Commission for State Regulation of Financial Services Markets only in the first quarter of 2020, the volume of gross insurance premiums amounted to UAH 11.549 billion, and insurance payments – UAH 3.750

billion [16]. The National Bank of Ukraine in the Review of the non-banking sector states an increase in the level of payments from 25% to 30% by insurance companies, which characterizes the growth of the insurance services market in Ukraine [15, 8, 3, 13]. The low level of control over the operations of insurers, a large number of insurance companies in Ukraine, the possibility of using one company at once three risk-sharing instruments: life insurance, general insurance and reinsurance makes the insurance sector attractive for money launderers [18, 6, 17].

We describe the risk of money laundering through the life insurance. The most risky in this case are operations:

- 1) Acquisition of a single premium policy. Under this type of life insurance, the insurer pays the insured a lump sum in exchange for a guarantee of payment in the event of reaching the age under the contract or in the event of death. This method allows money launderers to get rid of a large amount of money momentarily, and after some time to get an insurance payment in the form of "net" money.

- 2) Obtaining an annuity. Money laundering is carried out upon receipt by the subject of legalization of insurance payments, after payment of insurance premiums with "dirty" money.

- 3) Buying insurance policies with lots of small regular premiums to avoid undue attention. It is possible, as financial monitoring is usually of interest to large sums of money.

- 4) Deliberate overpayment of premiums or return of premiums by insurance companies directly to the insurer's bank account [19].

- 5) Replacement of the beneficiary. Currently, the number of beneficiaries of life insurance is not limited legally. It is also possible to change the beneficiary in the process of insurance. This vulnerability leads to stratification of money when receiving insurance benefits [5].

- 6) Return of the policy. Legalization entities can return their policies with losses, to return their deposited money.

Life insurance has larger risk of money laundering than general insurance. The main reason for this is the investment nature of life insurance. Yes, the premium paid by the policyholder in general risk insurance is related to a specific type of risk and the type of risk covered by the policy. As a rule, such insurance is limited to the potential return of an unexpired or unused premium. Non-residential goods do not have accumulated monetary or investment value. However, these restrictions do not exclude the risk of using this type of insurance for money laundering.

Examples of the use of general insurance can be:

- a) using of funds obtained illegally for the payment of premiums or significant overpayment of premiums, followed by a request for a refund of both full and overpaid amount.

b) insurance of movable or immovable assets for illegal funds, further intentional damage to the asset and obtaining compensation under the policy [22].

c) using of pseudo-insurance contracts. With this type of insurance, companies seek to "avoid" risks, the probability of which is minimal or almost zero. After concluding a contract, part of the sum insured paid by related parties in the insurance company is converted into cash and returned to the managers of the enterprise. In addition, this scheme is used by companies to evade taxation by reducing the tax burden [20].

d) using of fictitious insurance of financial risks. In this case, fraudsters are easily forging insurance cases for financial risks. For example, if the receipt of funds under the supply contract was insured and such an insured event occurs within a very short period of time after the signing of the contract [4].

Reinsurance should be mentioned separately. Reinsurance has a significant risk of being used in the process of money laundering. One of the main threats is the withdrawal of capital from the country through reinsurance companies. As quite often national insurance companies due to significant risks are forced to reinsure in foreign insurance companies, which is used by fraudsters [25, 26].

The risk of money laundering through insurance transactions is underestimated and insufficiently studied. This is evidenced by the low number of suspicious transactions from non-bank financial institutions and the large number of vulnerabilities in insurance to build schemes to legalize illegal income. Imperfect regulatory requirements in this area can be traced. Therefore, government regulators should make additional efforts to manage and reduce the risk of using the operations of insurance companies.

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BRAIN DRAIN FROM UKRAINE: HOW TO SLOW DOWN AND BREAK THIS TENDENCY IN THE CONTEXT OF KNOWLEDGE ECONOMY?

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The process of globalization and active integration of the Ukrainian economy in the world movement gives new huge opportunities in the sphere of employment and getting higher qualifications. The phenomenon of labor migration is common in most countries. And it is of concern only when a country loses an excessive amount of labor, especially highly skilled ones.

If we consider the migration of human capital, then human capital can be defined as knowledge, skills, competencies, and attributes embodied in individuals that facilitate the creation of personal, social, and economic well-being [1, p. 29]. However, intellectual migration really narrows the circle of migrants. Currently, there are no clear criteria by which to distinguish the migration of intellectual potential from human capital in general. However, we assume that such type of migration is the migration of people with higher education abroad in order to obtain a permanent employment contract or even residence of that country.

The formation of the “knowledge economy” is directly connected with such areas as scientific and educational activities, services, production of scientific and technical products, that’s why the most important resource is highly skilled workers and their knowledge. The loss of this resource has become not only relevant but also an acute problem for Ukraine, as the best condition is attractive for citizens, including young and able-bodied ones, to migrate abroad.

Oppositely, Europe is in the condition of a demographic crisis in a form of an “aging of the nation”. That’s why the majority of European governments consider the involvement of foreign experts as a solution to this huge problem in a prospective way. This is evidenced by changes in the migration policy in favor of migrants in such countries as Germany, France, Italy. EU migration policy aims to increase labor mobility.

A characteristic feature of the external migration of Ukrainians is the dispersion around the world. Most Ukrainian emigrants live in the EU – about 2,7 million and half a million in North America [2, p. 185, 187].

Firstly, let’s consider the problems caused by the international exchange of human capital. The declining population, especially the able-bodied is one of them. The majority of emigrants are able-bodied people of reproductive age, so in addition

to leaving able-bodied citizens, the donor country also loses the shape of the future population - the progeny of emigrants.

Emigrants outside their country usually are not provided with sufficient legal protection, often work in difficult conditions, are under pressure from employers, do not receive qualified medical care due to lack of funds and, sometimes, stay in another state in a semi-legal status. As a result of labor migration in Ukraine, families split, children are left without care.

Excessive labor emigration leads to a deterioration of the ratio between the able-bodied and incapacitated population, which in turn leads to a shortfall in contributions to state social insurance funds.

“Brain drain” must be one of the most acute challenges for Ukraine, as young, educated and self-confident people do not have the proper motivation to stay at their own state and build it. The lack of prospects for adequate material support of their family forces them to emigrate in search of better financial state. Due to mentioned above reasons, other countries are ready to provide more favorable conditions for employment, thus saving money for the training of specialists in their own country.

Despite these shortcomings, the phenomenon of migration also has advantages. “Brain drain” provides an opportunity to gain foreign experience in a business arrangement, technology, investment, ideas, etc. Traveling abroad, talented people usually do not break ties with their relatives, colleagues in homeland, and friends.

As a result, such intellectual migrants try to transfer experience in establishing similar enterprises with the participation of relatives or friends in Ukraine, create subsidiaries or joint ventures, promote cooperation with foreign institutions, initiating it from abroad [3].

Being and working abroad, highly qualified personnel, in general, create a positive reputation for Ukraine. Also, they help to promote Ukrainian goods in foreign markets, increase the level of recognition of the country and its brands abroad.

Intending to emigrate legally and get a job in prestigious institutions, Ukrainians seek to improve their skills and gain experience. But not everyone can manage to emigrate, so the prospect of emigration is a motivation to acquire new knowledge. Employers, meanwhile, are forced to improve working conditions in order to retain professionals.

If we take into account the rate of talent retention in a country, Ukraine according to the data from “The Global Competitiveness Report”, is 85 from 141 places in the ranking (fig. 1) [4, p. 15]. In terms of wages and productivity, Ukraine ranks 45th out of 141, the respondents believe that wages in our country are greatly influenced by its productivity. According to questionnaires, most of the intellectual migrants plan to return, but in reality, the opposite situation often takes place.

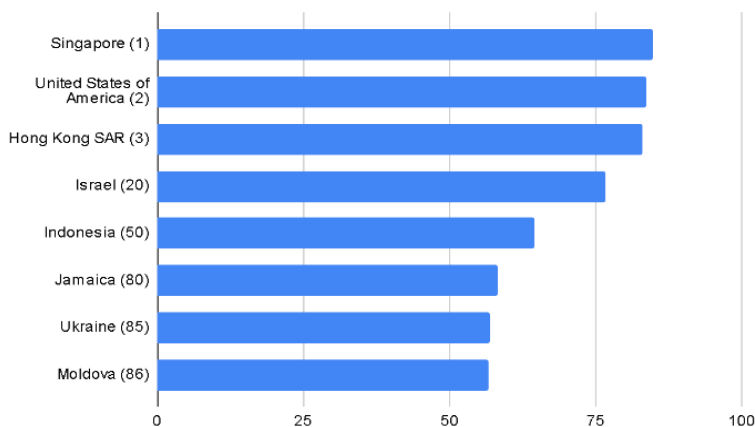


Fig. 1 The Global Competitiveness Report, 2019 [4]

Thus, to manage the problem of excessive emigration of educated people, the government of Ukraine must work to achieve conditions that would retain talent in the country. A clear migration policy will not be enough for this, as the root causes of migration are dissatisfaction with the socio-economic situation of the population. It should be noted that the policy on the return of emigrants should be tactful in relation to permanent citizens of Ukraine, as excessive incentives, motivations for re-emigrants can negatively affect the formation of social contacts. With rising living standards and other socio-economic indicators, a special policy may not be needed to return Ukrainians from abroad and keep them in Ukraine. It should be understood that raising social indicators is impossible without a developed scientific sector. Investing in science will pay off enormously while investment in the social sphere will temporarily eliminate the consequences of the problem. And, sure, all previous steps will be senseless without enough investment into the educational sphere which is separately from science. Education means developing positive thinking about prospective life in Ukraine, putting the “cult of mistake”, where people are not afraid of risking and backfire, growing the culture of responsibility for the country’s future among young generation – good imposing the mind that it is they who are able to create Ukraine of a new quality [5-24].

Looking to the experience of countries that have moved to a knowledge economy and implemented some of the previous steps, it can be concluded that such an economy needs highly educated workers which are responsible citizens of their homelands at the same time, what ensure states that intellectual migration is not a threat but a habitual phenomenon.

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INFLUENCE OF BUSINESS PROCESSES ON REGIONAL INFRASTRUCTURE

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Current trends in the development of regional infrastructure are aimed at the formation of vertical structures in management [1-5]. Thus, the main components of the formation of regional infrastructure are:

- management decisions at the regional level [6-10];
- distribution of financial resources according to regional needs [11-14].

However, there are a number of questions about the effectiveness of management decisions. It is clear that regional needs for infrastructure development are shaped by population demand. In addition, the main components in this process are enterprises [15-17]. It is enterprises in the process of regulating the supply of goods and services that influence the formation of demand. And this is reflected in the amount of tax revenues [18-21], which are directed to the development of regional infrastructure. Therefore, it can be argued that due to tax revenues from enterprises and the formation of demand for goods and services, it is possible to manage the development of regional infrastructure. And the amount of tax revenue, in turn, depends on the organization of business processes in the enterprise. Thus, Figure 1 shows the scheme of the impact of business processes of the enterprise on the regional infrastructure.

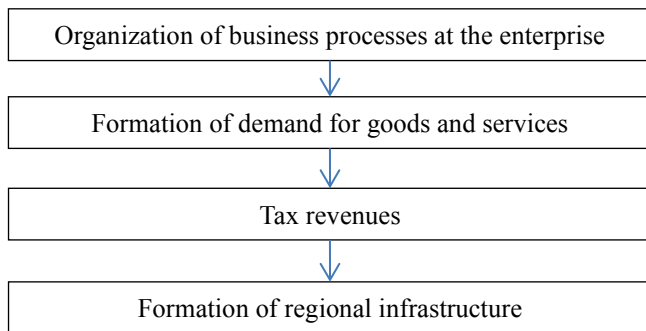


Figure 1 - Scheme of the impact of business processes of the enterprise on the regional infrastructure

It is necessary to determine the components of the infrastructure. According to Y. Saenko [22, p.189] consider the following:

- institutional component (I_1): management, legal service and judiciary, public and party organizations, lending and insurance, science, defense;
- production component (I_2): transport, communications, geology, logistics and sales, procurement;
- social component (I_3): trade, public catering, housing and communal services, consumer services, passenger transport, health care, physical culture and sports, education, culture.

In this case, the main components of business processes of the enterprise are:

- human resources management (BP_1);
- inventory and material resources management (BP_2);
- production capacity of the enterprise (BP_3);
- information and technological resources (BP_4).

That is why there is a need to identify interdependencies that will reflect the impact of business processes on the formation of regional infrastructure. This dependence can be represented by the formula:

$$I = f(BP) \quad (1)$$

where I - assessment of changes in regional infrastructure, BP - assessment of the development of business processes of the enterprise.

That is why the main research to determine the impact of business processes on regional infrastructure is to assess the changes taking place inside the enterprise (assessment of business processes) and externally (assessment of regional infrastructure). The most optimal will be the assessment of individual components of business processes. And this requires the development of models for the formation of operational strategies of the enterprise [23], the introduction of educational innovations for training [24,25], the development of active strategies for the enterprise [26,27]. An enlarged model of this approach is shown in table 1.

Table 1 - The relationship of business processes of the enterprise and regional infrastructure

	BP_1	BP_2	BP_3	BP_4
I_1	$I_1=f(BP_1)$	$I_1=f(BP_2)$	$I_1=f(BP_3)$	$I_1=f(BP_4)$
I_2	$I_2=f(BP_1)$	$I_2=f(BP_2)$	$I_2=f(BP_3)$	$I_2=f(BP_4)$
I_3	$I_3=f(BP_1)$	$I_3=f(BP_2)$	$I_3=f(BP_3)$	$I_3=f(BP_4)$

Thus, the assessment of the impact of business processes on the regional

infrastructure allows to form the main directions of improving operational activities both at the enterprise level and at the regional level.

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METHODS REVIEW FOR ASSESSING THE INVESTMENT ATTRACTIVENESS OF INNOVATIVE BANK TECHNOLOGIES

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The use of information and communication technologies significantly changes the modern business space. Today banks are actively applying approaches to customer service, based on the use of innovative information technologies. These technologies provide a competitive advantage for a bank and contribute to growing its profitability [1, p. 134, 2, 3]. At the same time, it is risky to invest in innovations, since new technology implementation may not bring the desired effect. Therefore, the investment attractiveness assessment of innovative banking technologies is actual for banks, and the use of assessment will avoid inefficient and risky investment decisions.

The investment attractiveness of states, regions, and enterprises has been studied in great detail and many scientific papers have been devoted to its consideration. At the same time, the issue of investment attractiveness of innovative projects is paid much less attention and there are no uniform universal approaches to calculating the indicators of investment attractiveness of innovative projects.

The study's purpose is to review methods for assessing the investment attractiveness of projects related to the implementation of innovative technologies in the banking sector.

Innovation is impossible without investment, and investment makes sense only for the realization of something new. Mostly the innovation efficiency is viewed through investment activity. For example, the identity of methods for evaluating the effectiveness of innovative projects and investment projects are noted in [4, p.80]. To assess the investment attractiveness of innovative projects, mostly use two groups of methods: static and dynamic. Static methods are based on the economic evaluation of the project and don't take into account the project duration and the inequality of cash flows during its life cycle. The main advantages of these methods are their simplicity for understanding and calculating. Also, these methods allow ranking projects [5, p.150]. Dynamic methods are based on the principles of economic theory and apply the concept of "cash flow" and the concept of "discounting". These methods allow us to take into account the change in the value of money during the project lifecycle, the required rate of return, and project risk [4, p.75; 6].

Indicators of static methods:

1. The payback period PP is the minimal value of the period required to recover the investment cost IC by the net cash flows CF generated by the project. [5, p.150].

Another definition:

The payback period PP is the ratio between the required investment IC (or sometimes the average investment) to the average annual net income \underline{P} [7; 8, p. 127].

Formula: $PP = \min n$, when $\sum_{k=1}^n CF_k \geq IC$, where k – period. $PP = \frac{IC}{\underline{P}}$

Decision Rule: Choose the project with the shortest payback period.

The payback period for single project must be economically reasonable.

2. Single rate of return SRR - the ratio of net income P to the value of the required investment [5, p.150; 8, p. 127].

Formula: $SRR = \frac{P}{IC}$

Decision Rule: The project can be accepted if the SRR value exceeds the normative (desired) level of profitability. The project with a higher SRR value is more preferable.

3. Average rate of return ARR - the ratio of average annual income \underline{P} to the value of the required investment IC [8, p. 128].

Formula: $ARR = \frac{\underline{P}}{IC}$

Decision Rule: The project can be accepted if the ARR value exceeds the normative (desired) level of profitability. The project with a higher ARR value is more preferable.

4. Accounting rate of return ARR is the ratio of average annual income to the average value of the investment. If the residual or liquid value RV is forecasted, its estimate should be taken into calculations [5, c.150].

Formula: $ARR = \frac{\frac{P}{N}}{\frac{(IC+RV)}{2}} = \frac{2P}{N \cdot (IC+RV)}$, where N – the number of periods.

Decision Rule: The project can be accepted if the ARR value exceeds the normative (desired) level of profitability. The project with a higher ARR value is more preferable.

5. The ratio of income and expenses R - the ratio of net income P to the sum of required investment IC and operating (current) costs E [8, p.128].

Formula: $R = \frac{P}{IC+E}$

Decision Rule: The project can be accepted if $R > 1$.

Indicators of dynamic methods:

1. Net present value NPV is the excess of the total amount of discounted net

cash flows generated by the project CF_k over the amount of investment costs IC [5, c.151; 7; 8].

Formula: $NPV = \sum_{k=1}^N \frac{CF_k}{(1+r)^k} - IC$, where r - project discount rate.

Decision Rule: If $NPV > 0$ the project can be accepted. Otherwise, it must be rejected.

2. Discounted payback period DPP is the minimal value of the period required to recover the investment costs IC by the discount net cash flows generated by the project [5, c.152].

Formula: $DPP = n$, when $\sum_{k=1}^n \frac{CF_k}{(1+r)^k} \geq IC$

Decision Rule: The project can be accepted if the project implementation period exceeds the DPP value.

3. Profitability index PI - the ratio of the total amount of discounted net cash flows generated by the project to the investment costs IC [5; 8].

Formula: $PI = \frac{\sum_{k=1}^n \frac{CF_k}{(1+r)^k}}{IC}$

Decision Rule: If $PI > 1$ the project can be accepted. Otherwise, it must be rejected.

4. The internal rate of return IRR is the interest rate at which $NPV = 0$ [5, c.152; 7].

Formula: $IRR = r_1 + \frac{NPV(r_1) \cdot (r_2 - r_1)}{NPV(r_1) - NPV(r_2)}$, where r_1 - the interest rate at which $NPV > 0$ ($NPV < 0$); r_2 - the interest rate at which $NPV < 0$ ($NPV > 0$).

Decision Rule: The project can be accepted if the IRR value exceeds the cost of capital.

5. Modified internal rate of return $MIRR$ is the discount rate at which the present value of the investment costs is equal to the future value of the cash flows [5, p. 153].

Formula: $MIRR$ value is determined from the equation:

$$\sum_{j=1}^m \frac{IC_j}{(1+r)^j} = \frac{\sum_{k=1}^n CF_k \cdot (1+r)^{n-k}}{(1+MIRR)^n \cdot IC}$$

Decision Rule: The project can be accepted if the $MIRR$ value exceeds the cost of capital.

These groups of methods can be extended by risk methods that take into account the risks of investing. There are method of equivalent certainty [6; 9; 10]; method of adjusting the risk of the discount rate [9]; sensitivity analysis [6; 10].

The first method divides cash flow into two parts - definite and risky. Discounting cash flows occur at a safe rate after converting them to safe (certain) cash flows. For example, the rate of government bonds may be a safe rate [10]. The second method is based on adding the risk premium to the safe discount rate [9]. The

third method allows establishing the change in the net present value of the project when changing various factors such as the discount rate, material costs, labor costs, etc. This method allow determining the riskiness of the project [10].

Assessing the investment attractiveness of customer service bank technologies is relevant for banking institutions. Static and dynamic methods, as well as risk methods, are used to assess the investment attractiveness of innovative projects. Static methods are based on the economic evaluation of the project and don't take into account the project duration and the inequality of cash flows during its life cycle. Dynamic methods are based on the principles of economic theory and allow us to take into account the change in the value of money during the project lifecycle, the required rate of return, and project risk. Risk-methods allow determining the riskiness of the project.

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ACTUAL PROBLEMS OF THE ECONOMY AND SOCIETY GREENING

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Throughout life in the modern world, a person constantly faces many different problems that need to be solved. There are a number of broad problems that are common to all people, regardless of race, nationality, social or state affiliation: the overpopulation of our planet, the quality of drinking water and its shortages in some countries, air pollution and global warming, the spread of dangerous diseases to humans, soil degradation, food shortages, various accidents, especially industrial ones.

Environmental problems are also directly reflected in all this. However, a stricter designation of the given list is required to add another name to the problems – environmental problems. Environmental problems are widely disclosed in the works of such scientists [1-21].

At present, the current environmental and economic situation directly indicates the need to replace the existing image of the economy with a sustainable ecologically balanced type of economic development. There is a need to reconsider the direction of priorities in both macro- and microeconomics. In this case, all macroeconomics should be included in macro-ecology. They directly depend on each other, though sometimes this dependence seems insignificant. This fact should be accepted not only by economists but also by ecologists.

Man, as the main economic entity, always has destabilizing effects on the environment, and the most intense attacks on it began in the era when capitalism began to develop. Such a low level of science development, mastering of a powerful "tool" (thermal, mechanical, electric kinds of energy), improvement of its "energy facilities" combined with hunting for maximum profit, the rapid development of industries based on natural resources (mining of mineral resources) led to a consumer attitude towards the nature around us.

Pollution of the nature around us is defined as a process of undesirable change of its various properties in the course of input of various compounds and substances as a result of anthropogenic activity that can bring environmental systems into crisis.

At the end of the twentieth century, environmental problems have put society before the choice of its further path of development: to have, as before, a benchmark for the expansion of production or this growth must be consistent with

the real possibility of the environment and the human body, commensurate not only with neighboring but also distant goals of human development.

Laws and customary traditions of macroeconomics were developed at a time when the overall impact of human activities on nature did not exceed the limits of the potential for ecosystem self-recovery. At present the situation is different: in most parameters, anthropogenic load exceeds the limits of sustainability of natural systems and environmental sphere in general.

Economic growth, which is determined by the supply and stimulation of demand for secondary means of consumption, leads to the fact that the natural basis of life support and the ability to meet primary human needs are under threat. Human society has reached one of the most important milestones in history, which requires, in addition to demographic changes, a change in the paradigm of the economy - its functioning and structure. It is necessary to move to a new level of material culture, which will be compatible and balanced with the already depleted natural potential of our Earth. Further development of the economy along the usual and traditional ways faces two serious limitations: first, the limited capacity of the environment to accept production wastes, and second, the non-renewable nature of the Earth's natural resources.

Mankind must realize that it is excessively fast; the essence of new strategies has no alternatives: it is necessary to obey the environmental imperative and go to lower quantitative levels, but at the same time climb to higher qualitative levels. One of the most important conditions for the implementation of these strategies is the processes of ecologization of the economic sphere of society [1].

The process of greening the economy is the most important requirement of the modern world. It means the most versatile and systematic approach to the material environment surrounding humanity, the awareness of the main role of nature in human existence. Ecologization of the economy is one of the necessary conditions and the main component of ecological development. In fact, it means the process of ecologization of the entire social and economic structure and development of human society.

It is important to identify the main components of the process of ecologization of the economy, they are a rapid and fundamental change in the investment structure of the economy in the direction of resource-saving industries, the introduction of various objects, factors, and conditions of environmental nature, especially the totality of renewable resources, in a number of economic categories as equal to other categories of wealth, the subordination of natural resources and economic productivity to the ecological restriction and principles of balanced use of natural resources, etc., and to the principles of sustainable development.

This will be based on changes in the structure of industries and technical re-equipment directly under the control of the environmental and economic nature, significant expansion and clarification of payment systems for the use of natural

resources, the process of transition to other principles of the pricing system, which will fully take into account environmental factors, damage and risks, rejection of the principle of residual-cost approach to measures related to environmental protection and inclusion of functions on nature protection and environmental protection in production

Thus, the development of mankind in a social and economic context is necessarily accompanied by an increased impact of the anthropogenic factor on the environment. This leads to the loss of the environment's self-recovery ability. Due to the increasing pace of scientific and technological progress in recent years, there are obvious signs of an environmental crisis. The consequences of the crisis are depletion of the resource potential, impoverishment of the genetic pool, and, eventually, deterioration of the quality of life of the population. Society should realize the importance and necessity of transition to the model of sustainable development. This model implies the integration of solutions to environmental, social, economic, and technical problems in order to ensure the growth of the well-being of present and future generations of people.

To sum up, the main task of introducing greening is to prepare the national economy for the transition to a sustainable development path. To achieve it in modern conditions, it is necessary to immediately abandon the extensive use of natural resources and find more progressive and innovative models of management. The development of new energy production technologies and efficient use of natural resources is an effective engine of economic growth. Ecological innovations, "green" economy - these are the areas where opportunities for further sustainable development are concentrated. This is important in the context of the increasing failures of the global financial and economic system.

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STATE REGULATION OF SOCIO-ECONOMIC DEVELOPMENT OF REGIONS

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The most important task of the development of Ukrainian society is to improve the management quality of socio-economic development of the state and regions. The need to improve state regulation of socio-economic development of regions is due to inefficient use of financial and material resources aimed at development, the inability of most regions to solve their socio-economic problems, limited powers of regional authorities to regulate the rational use of resources and create conditions for improving quality of life.

The results of the search for effective methods of state regulation of regional development are presented in the papers of such domestic scientists as O. Amosha, V. Bodrova, V. Geets, S. Dzyubyk, E. Libanova, Y. Navruzova, S. Melnyk, L. Shvaika and others. But it must be acknowledged that Ukraine has not yet developed a methodological basis for the formation of the concept of socio-economic development of the region, has not identified technologies for choosing strategies and development priorities, methods for assessing the effectiveness of achieving goals and tools for their implementation.

Today in Ukraine in the process of economic growth there is an increase in the differentiation of regions according to the levels of key economic indicators.

Uneven regional development and high differentiation of living conditions and living standards increase social tensions, restrain the dynamics of socio-economic growth of the country, complicate international cooperation, including the one within European structures. Under these conditions, the implementation of a balanced state regional policy is necessary. Such a policy should be based on the basic principles of European regionalism, basic long-term goals, and ensuring socio-economic growth of regions, overcoming major interregional asymmetries, promoting the introduction of norms and state standards of living standards for all citizens of Ukraine [1].

In a systematic way, the criteria for regionalization of the country are presented mostly in the following version:

- general features (area, population composition, development history);

- features of geographical location;
- natural conditions and resources;
- population (number, location, structure, demographic situation, labour resources);
- characteristics of the economy (industry, agriculture, infrastructure);
- internal differences;
- place in the world (interstate and internal relations, participation in international integration and politics, share in the world economy);
- prospects and problems of development [3].

Different territories of Ukraine have their own peculiarities and differences both in terms of economic development and in social, historical, linguistic and mental aspects. It is the lack of its own regional policy in recent years that has led to significant disparities in the regional structure of the state's economy, the accumulation of economic and social problems. Among them: imperfection of the branch structure of most regional economic complexes, their low economic efficiency; significant differences in the socio-economic development of the regions and a significant lag of some regions from the current standards of development of social and industrial infrastructure (especially in rural areas); irrational use of local natural and labour resources; excessive pollution in many cities and districts; lagging behind the integrated development of cities and villages; unsatisfactory implementation of the regions' opportunities for international integration of Ukraine, joint ventures in the field of tourism and recreation, attracting foreign investment to the country, etc. [1].

State regional economic policy is a set of organizational, legal and economic measures taken by the state in the field of regional development of the country, in accordance with its current and strategic goals.

These measures are aimed at stimulating the effective development of the productive forces of the regions, the rational use of resources, the creation of normal living conditions for the population, ensuring environmental safety and improving the territorial organization of society.

The concept of "socio-economic development of the region" means natural changes in the functioning of the regional system, which are objective in nature and cause the emergence of new forms and relationships between elements (subsystems) of the region [4].

Creating equal conditions for dynamic, balanced socio-economic development of the regions of Ukraine is one of the priority state tasks [2]. Taking into account that the social and economic components of the region as a complex system that is developing dynamically, have slightly different tasks and operating conditions, we propose an aggregate structure of the regional socio-economic system with key factors of subsystem development.

Thus, the economic subsystem is characterized by factors of economic

development, including:

- gross regional product, development of the foreign economic sector of the economy (export and import of goods and services);
- innovation of key sectors of the economy (industry, construction, agriculture, wholesale and retail trade, transport and communications, education and health, etc.);
- growth of savings and investments;
- growth of incomes and expenses of the population; growth of indices of industry, agriculture;
- reducing inflation and strengthening the national currency, etc.

Today, regional programs are being developed in each region, the purpose of which is to determine long-term development goals and parameters of forecast changes. Such programs are not limited to identifying promising areas of regional development. They provide for specific actions of regional authorities in terms of priority areas of economic activity for the regions in order to achieve the desired forecast targets [5].

To ensure a sustainable balanced pace of socio-economic development of the regions of Ukraine, it is necessary to use effective mechanisms of regional governance. Let's define the meaning of the concepts "management mechanism" and "regional management system" [2].

Thus, state regulation of socio-economic development of regions is a set of organizational, legal and economic measures taken by the state in the field of regional development of the country in accordance with its current and strategic goals. These measures are aimed at stimulating the effective development of the productive forces of the regions, the rational use of resources, the creation of normal living conditions for the population, ensuring environmental safety and improving the territorial organization of society. State regulation of socio-economic development of regions includes administrative, legal, economic and specific-territorial regulation.

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MODELING THE TRANSMISSION OF SYSTEMIC FINANCIAL RISK TO THE DEVELOPMENT OF THE ECONOMY'S REAL SECTOR

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The national economy, which is widely integrated into the world economy, receives both additional opportunities to increase the pace of its economic growth, and creates many risks and threats that cause destabilization in the financial market [11,16], depreciation of the national currency [5], decrease in consumption [3], increase in unemployment, and so on. The consequences of the 2008 financial crisis and the COVID-19 pandemic indicated a high level of integration and convergent ties between the countries across the globe, which both led to large-scale financial losses at the level of national economies and caused a chain reaction of imbalance in the development of the entire world economy [1, 2]. In these circumstances, special attention should be paid to the implementation of an effective macroprudential state policy, which is supported by a system of coordinated measures that are aimed at improving the stability of the financial system and ensuring the solvency of financial institutions.

The stable functioning of the national financial system creates objective conditions for increasing the market capitalization of economic entities [14], increasing the inflow of foreign investment [8], improving the business climate in the country, as well as increasing GDP growth in the short and medium term. In other words there is a close interrelationship between financial and real sectors, which reflects the financial relations between such key economic entities as "producer–consumer" and "investor–producer", "producer-supplier of resources" etc [4]. It is worth noting that there has been an active increase in speculative operations conducted by financial institutions during the past decade, which does not mediate real trade turnover and does not reflect the real situation on commodity markets. Therefore, the real sector of the economy today largely depends on the dynamics and state of financial relations development in the country.

Cyclical crises that occur in the real sector of the economy affects the functioning of the financial sector negatively as well. This is due to the fact that a significant part of the financial sector is aimed at servicing the real sector, namely the provision of credit resources, accumulation of temporarily free funds and increasing their value, settlement services of current and foreign economic transactions and so on. A cyclical downturn in the dynamics of the real sector inevitably leads to instability in the activities of financial institutions.

The following approaches can be used to determine the relationship

between variables: force entry method [12], multiple regression analysis [15], correlation analysis.

The financial stress index has been chosen to characterize the level of systemic risk in the country [13]. The state of development of the real sector of the country's economy is proposed to be analyzed on the basis of the following key indicators: the volume of exported goods (EXP), the volume of imported goods (IMP), the Industrial Production Index (Ind), the volume of retail trade turnover of enterprises (RTL), the index of agricultural production.

The Granger test has been used to assess the causal relationships between indicators. This test based on the evaluation of autoregressive equations, the given formula of which has the following form:

$$y_t = \alpha_0 + \alpha_0 y_{t-1} + \dots + \alpha_p y_{t-p} + \beta_1 x_{t-1} + \dots + \beta_p x_{t-p} + \varepsilon_t \quad (1)$$

$$x_t = \alpha_0 + \alpha_1 x_{t-1} + \dots + \alpha_p x_{t-p} + \beta_1 y_{t-1} + \dots + \beta_p y_{t-p} + u_t$$

where y_t , x_t are the studied variables; p is the lag value; α , β is the influence parameter; ε , u are random model errors.

The Granger test that determine the causality of the relationship between the level of systemic risk in the country and indicators of the development of the real sector of economy were carried out taking into account the impact of 3 lags. The results of checking for causal relationships between stationary time series are shown in Table 1.

Table 1- the results of checking for a causal relationship between the level of systemic risk in the country and indicators of the development of the real sector of the economy in terms of lags

Null hypothesis	Lag = 1		Lag = 2		Lag = 3	
	F-stat	<i>p</i> -stat	F-stat	<i>p</i> -stat	F-stat	<i>p</i> -stat
EXP does not affect FSI	0,198	0,657	3,07	0,049	2,808	0,042 2
FSI does not affect EXP	0,045	0,832	0,346	0,709	0,137	0,937
IMP does not affect FSI	1,438	0,233	5,268	0,006	3,7	0,013
FSI does not affect IMP	0,117	0,733	0,821	0,442	0,73	0,536
IND does not affect FSI	3,815	0,053	2,95	0,056	1,959	0,123
FSI does not affect IND	1,355	0,246	0,285	0,751	0,701	0,553
RTL does not affect FSI	5,454	0,021	4,358	0,147	3,138	0,027
FSI does not affect RTL	0,097	0,756	0,198	0,82	0,381	0,766
AGR does not affect FSI	4,769	0,031	5,182	0,007	3,152	0,027
FSI does not affect AGR	1,958	0,164	1,693	0,187	2,802	0,043

Source: own calculations

The analysis showed that the reason for the aggravation of crisis phenomena in the real sector of the economy is precisely the effect of systemic risks. In particular, changes in the volume of foreign economic activity of the country are a consequence of the concentration of systemic risk in the country. In addition, the dynamics of industrial production depends on the level of systemic risk during the first two months.

Thus, the transfer of systemic risk to various areas and sectors of the real sector of the economy leads to such destructive consequences as: reduced credit financing, higher interest rates on loans to the corporate sector [6], falling market value of assets [9], increasing pessimistic expectations among investors and reducing trust to financial institutions [7].

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THE IMPACT OF GLOBALIZATION ON COMMUNICATION

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Globalization has impacted different aspects of human lives starting with business, governments, education, and so on. It had an influence on communication too. The way we interact with each other is completely different than it was even twenty years ago. The rise of technologies, invention of social media contributed to this too as they made happen communication faster and easier. However, there are some other negative consequences that appeared in communication due to Globalization as well. In this article, positive and negative impact on communication will be discussed and summarized. First, it should be addressed the concept of Globalization and communication, and how they are linked to each other. Globalization is a compound term that refers to different aspects of our life. Globalization is, according to the Cambridge Dictionary, "the development of closer economic, cultural, and political relations among all the countries of the world as a result of travel and communication becoming easy" [1]. Consequently, one of the indicators, that is included and has a direct influence on Globalization, is communication. Now the definition of communication will be scrutinized. In the website Thoughtco.com states, "Communication is the process of sending and receiving messages through verbal or nonverbal means, including speech, or oral communication; writing and graphical representations (such as infographics, maps, and charts); and signs, signals, and behavior" [2]. Putting the definition simpler, it is a creation and exchange of means between mediums. There can be a lot of them such as governments and intergovernmental organizations, business and transnational corporations, NGOs and Charity Foundations, and even more simple occasions like people with different backgrounds. In our era, this exchange of verbal, nonverbal, or written means is essential as it can build up transparent and accountable relations between, for example, a national government and an intergovernmental organization. The best exemplar is the relations between the European Union and Ukraine. They signed the Association, and the Ukrainian government is needed to prove and present all completed obligations by using Social Media or governmental sites to be transparent and communicate the completion well with its partners. On the other hand, it can turn out as a negative factor. Another example can be a bad influence by Social Media on young generations and creation of a new addiction as trends become almost the same everywhere and they are wanted to be followed like getting more likes or followers. So now let go deeper and analyze the impact of Globalization on communication closer. First, it should be said

Globalization has a direct influence on the way individuals consume information and news. With the rise of Facebook, Instagram, YouTube, Twitter, and other Social Media, it has become easier to post and reach a particular audience. Many News Media like BBC, CNN, the New York Times have launched their official pages on listed media above. It gives an opportunity for their readers to follow them and get informed easier. In the survey made by the Pew Research Center, it states that around four-in-ten American adults receive their news from Facebook. In percentage, it would be 43%. It allows to see that it is almost half of all responders. In the gender comparison, women are more likely to use Facebook and a news platform than men (61% vs. 39%) [3].

As information gets to the public quicker and follows by an enormous number of reposts, ill-minded people can use this feature and turn as a tool to share fake news and disinform people. For instance, a research team of Princeton University tracked Americans during the elections in 2016 and they realized that Facebook to be the referrer site for untrustworthy news sources over 15% of the time. By contrast, Facebook referred users to authoritative news sites only 6% of the time [4]. Moreover, such examples of spreading fake news across the world are a lot as there are 2.7 billion active users [5] on the platform, and global-concerned information like about the COVID-19 or new negotiations with North Korea can be reposted by million people on their accounts. If one share fake news and a lot of users would start to do the same, it can lead to massive disinformation. Therefore, it should be various tools to prevent such scenarios as Media Literacy for example. Furthermore, Globalization by impacting communication has created a favorable position for companies to enter the world market as entities were able to reach people across the globe and persuade them to buy/use their products or services. Before, they would utilize TV or national newspapers. However, those approaches would be too local and narrow. It would require investing more money to generate a different message to other cultures and countries and use very specific means to communicate it. Yet, it is still used but now companies have a main focus on audience in Social Media with kind of the same message but with an adaptation to local realities. To illustrate, there is an example of McDonald's who has opened 36,000 locations in more than 100 countries around the world [6]. It led to the creation of a trustful image that now can be easily recognized in any place. The slogan of the company "I'm Lovin' It" has become famous worldwide and has been translated into other languages as well. Moreover, they try to reach a different audience. Thus, they use various platforms to communicate it. For the young generation, Instagram, would be the best place as well as creating an app to give an opportunity to become a part of the community and show how they value every customer by giving coupons or discounts. For adults and seniors, they would still use TV or cities' billboards to attract attention and advertise their service. Yet, the US market represents half of the total revenue of the company. As for 2018, it had \$7.7 billion generated by the US

stores and \$7.6 billion internationally [7]. However, Globalization helped to establish a good communication within nations and doubled its revenue.

On the other hand, such an opportunity was available not for all entities. In fact, only big ones or who smelled a chance and first-jumped-in have received the most benefits. Nevertheless, local businesses were and still behind them. From the communication perspective, they do not really have enough resources to compete with international or national gains as their brands are not recognizable and trustful enough for public. According to the SmallBusiness.com, "Consumers generally buy off-brands for price benefits" [8]. It is said that there are a lot of reasons why clients choose well-known companies such as confidence in experience, social acceptance, and fitting in, customer loyalty to brands [8], and many others. Therefore, to have a solid name brand, local companies should invest more resources and establish better communication with their customers and prospective ones too as it is essential to attract not only by providing products but also by building up reliable Public Relations that involves communication.

Hence, Globalization has a direct impact on communication which has turned out to be a main factor and driver that shaped modern communication and brought negative as well as positive consequences like people to get more news from Social Media but fake news are spread too or opportunities for International Business but not for local ones. In the article, it is shown that communication and Globalization are correlated terms as they have a direct influence and shape each other. By only understanding both of them, we can predict the future development of humanity and their impact.

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AGILE METHODOLOGY OF THE PUBLIC ADMINISTRATION SYSTEM IN THE CONTEXT OF DIGITAL TRANSFORMATION OF UKRAINE

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Turbulence and variability of the modern world has led to the active development and emergence of new forms of organizational activity. And this applies not only to business, the corporate sector, but also to public authorities. These forms have emerged as a challenge to improve the effectiveness of their activities.

Systemic shortcomings of traditional management in public sector authority do not allow us to solve some important tasks in a timely and effective manner, as well as quickly respond to changes in the external environment.

An important aspect of the modern development of Public Administration is the active introduction of project management principles. Although until recently, it was believed that those methods could only be used in the field of it and entrepreneurship.

In conditions of complexity and uncertainty, the Project Management methodology is also changing and modernizing, and the need to implement it in the organizational activities of public authorities is increasingly relevant.

Despite the traditional effective methodologies of Project Management, the prerequisites for its continuous improvement in the public administration system are two main aspects:

1. persistent complication of subject areas of the sphere of activity of state authorities, which are automated by Information Systems;
2. the rate of changes in the external environment that affect the structure of processes [1-3].

Currently, Ukraine is experiencing an intensification of digital transformation in all areas. There are many prerequisites and objective reasons for large-scale digitalization, and the situation in the country and the world with the coronavirus pandemic has accelerated this process significantly.

By the way, Ukraine demonstrates quite ambitious goals in the field of digitalization of the economy and the public sector. Thus, the Ministry and the committee for digital transformation of Ukraine intend to provide 100% access to public services to citizens and businesses online by 2024 and attract 6 million Ukrainians to the digital skills development program [4].

The ministry has already successfully implemented important projects:

1. Action. Digital state (public services online).

2. Action. Business (national project for Entrepreneurship Development).
3. Action. Digital education (national digital literacy campaign).
4. Action. Child safety on the internet (protecting children from online threats).
5. E-Residency (online services for foreigners that provide them with remote access to public services).

The Ministry and the Digital Transformation Committee are also launching a guide to public services, an online information portal about all services provided by executive and local authorities[5].

These and other changes in the public sector, respectively, require other, new approaches to managing processes, teams, and results. Therefore, the topic of introducing the methodology of flexible methods of Project Management to public administration is becoming increasingly relevant. In particular, the practical aspects and prospects of applying the Agile methodology, as well as its individual components in the work of public authorities, are of particular interest .

Since 2001 the Agile ideology has traditionally been used in the development of primarily software and Information Systems [6]. In particular, a special feature of the Agile methodology is that it does not include practices but defines the values and principles that guide successful teams. So-called Agile Manifesto contains 4 main ideas and 12 principles, which are based on teamwork, adaptation, positive perception of changes, for more information, see [6].

It should be noted that the Agile methodology does not act as a tool for monitoring and managing a team. This is primarily a work culture, way of thinking, and principles of interaction.

Agile approaches have spread to virtually all areas of the business environment, and in some Western countries they have even become standards in public administration practice (Table 1) in Ukraine, this direction is just beginning to move.

Table 1 Foreign experience in using Agile principles in the activities of public authorities

Examples of Agile Implementation	Principles of Agile Management in the public administration sphere
United Kingdom	
<ol style="list-style-type: none"> 1. Development of a government portal Gov.uk, where users are provided with all the main government services and data of most 2. Government organizations. Modernization of the main programs of the Organization of the Odt Hub system and the Core Systems, Modernization system. 	<ol style="list-style-type: none"> 1. Focus on the needs of the consumer. 2. Iterative product development. Continuous improvement of services and teams after commissioning. 3. Quickly identify errors and learn from them. Failures that occur in the early stages are easier to fix, and their consequences are not so severe. 4. Adaptation of plans.

USA	
<ol style="list-style-type: none"> 1. FBI: creation of the Sentinel Case management System. 2. Ministry of Finance, Office of Management and Budget (administrative and budgetary Management) and 18F (joint project). 3. The California health and human services agency: the California Digital Child Protection service project. 	<p>It has a complex structure, based on:</p> <ol style="list-style-type: none"> 1. US Digital Service (US digital service). General Services Administration (Office of General Services). 2. Department for management and budget (administrative and budgetary Department). 3. Technology management of acquisition transformation services (technology transformation Procurement Service Department). 4. 18F.
Australia	
<ol style="list-style-type: none"> 1. Development of the Digital Marketplace platform, which provides technology purchases by government agencies, placement of specialized digital services by small and medium-sized businesses and startups. 2. A multifunctional My Post Consumer platform for sending parcels has been created. 3. The National Blood Authority 	<p>Digital Transformation Agency (Digital Transformation Agency) works with Australian government agencies to help create simple, clear and fast public services. The Australian Public Service Commission provides training for professional development programs for civil servants.</p> <p>The public organization Agile Government Leadership («leadership in flexible government management») ensures the implementation of Agile practices in the work of state structures.</p>

Formed by the authors on the basis of [7-14]

Note, that among flexible methodologies, Scrum is considered the most popular. This technique allows you to fulfill your obligations with less effort, in a shorter time and at a lower cost. It is widely used in working on products, services, and more recently in government, marketing, and organization management.

In general, in our opinion, the vocation of Agile in public administration is to transform the very understanding of the work culture in certain areas of activity of public authorities, the way of thinking of teams, responsible persons, etc. and this applies not only to processes and projects of digital transformation [15,16] (where Agile is undoubtedly the basic principle of work). The Agile mechanism of action can also be used to effectively organize the process in the field of project management for the socio-economic development of territorial communities. For example, the management body of a territorial community can be considered a project team; the state (community) – the customer; the duties of the customer's representative and Scrum Master can be assumed by the project management office or the project office (a structural division of the Regional Development Agency).

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MEASUREMENT OF POVERTY AND SOCIO-ECONOMIC REQUIREMENTS OF BPL IN INDIA

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Traditionally, as far we know about the Poverty, it is a state or condition in which a person or community lacks the financial resources and essentials for a minimum standard of living. What will be the standard of living? The standard of living of the family is decided by the head of the family based upon the family income resources and size of the family. This family size impacts the family for meagre income of the family. Among BPL families, it may be observed that family earners find meagre income in compared to size of family. This kind of mismatch between family income and family size need to be treated the real cause of the poverty/ family poverty. The families which are found to be rich; small in size and each young member of the family having the adequate occupation and/ adequate opportunities to earn according to the family needs.

Besides this, in poverty, we need to focus on various other aspects to determine the poverty which lacks of security of *Roti Kapda Aur Makan* (Food, Shelter & Clothing), and the denial of Human Rights. Now a day, the poverty has become a human right issue which is globally accepted; however, there is no universal human right indicators & safe guards. Poverty may be defined in various kinds of thoughts, such as, Caloric based, Basic Needs based, Consumption level based, Income based, etc. Under the human right framework, the poverty covered recognition of social inequality, exploitation, deprivation, and moral & psychological deprivation. A large number of populations are living in India in poverty compared to other countries. Due to poverty in the family, family face many kinds of problems such as, domestic violence, divorce, stress amongst growing children and their parents, poor health of the family members due lack of nutrients in insufficient food, poor medical facilities, lack of facilitated house facility, motivation towards to do crime to earn money, etc.

Poverty is one kind of Modern Slavery. What is modern slavery?, Modern slavery is the severe exploitation of other people for personal or commercial gain. Modern slavery is all around us, but often just out of sight. People can become entrapped making our clothes, serving our food, picking our crops, working in factories, or working in houses as cooks, cleaners or nannies.

During 1993 to 2013, various kinds of committees were constituted in India from time to time to determine the line to consider poverty population in India, e.g. (1) Lakdawala Committee was constituted, this committee recommended calorie intake method in which 2400 calories intake for poverty line was suggested for rural areas & 2100 calories intake for people living in urban areas; (2) Tendulkar Committee

recommended Mixed Recall period under which people were asked what they consumed in last 30 days for food items, and 365 day period was used for non-food item, (3) N. C. Saxena Committee, and (4) S. R. Hashim Committee were also constituted to suggest the way for determination of below poverty line population in India. In order to reduce inequality and lift more and more people out of poverty, the Socio Economic and Caste Census 2011 (SECC 2011) was conducted in India with the financial and technical support through comprehensive programme involving the Ministry of Rural Development, the Ministry of Housing and Poverty Alleviation, the Office of the Registrar General and Census Commissioner, Ministry of Home Affairs and State Governments/ UTs Administrations.

According to Rakhee Bhattacharya and Govind Bhattacharjee (2018), the gap between the rich and poor has increased manifold. In comparison to peoples residing in economically poor states and regions, people residing in the economically good conditions in states and region could gain more in terms of income, opportunities, and accessibilities to get skills, education and other prospect. According to SOS Children's Villages, around 70 percent of the Indian population are living in poverty. In absence of adequate employment in villages, many villagers are forced to move to urban areas.

In order to eradicate the poverty from India, under the National Social Assistance Programme (NSAP) for persons belonging to Below Poverty Line (BPL) households, the Government introduced various policies to provide benefits to the BPL population, disabled, old aged, & widow population of India. The Government implemented number of targeted programmes for overall development in the country, such as- Deen Dayal Upadhyaya Grameen Kaushalya Yojana, Deendayal Antyodaya Yojana - National Urban Livelihoods Mission, National Social Assistance Programme, Mahatma Gandhi National Rural Employment Guarantee Act, and Shyama Prasad Mukherji Rurban Mission. Indira Gandhi National Disability Pension Scheme, Indira Gandhi National Old Age Pension Scheme, and Indira Gandhi National Widow Pension Scheme, etc. Now days, the poverty is an issue in India which is felt at grass root level during covid-19 pandemic impact in India.

In India, during nationwide lockdown to control the spread of deadly COVID-19 pandemic was announced on March 24, 2020. The nationwide lockdown hurt marginalized and labour class communities due to loss of livelihood and lack of food, safe shelter, meagre availability of medical facilities, and other basic needs. The Government announced various kinds of economic relief packages to provide free food and cash transfers to the BPL population and vulnerable populations of India. Daily wages workers were affected more due to the COVID-19 pandemic. During this COVID-19 pandemic, it was felt that the below poverty line population increased compared to past years. During this COVID-19 pandemic, people lost their jobs, forced to live without money & food and forced uncertain death of their family

members. As per the data available on the web portal, on 31st October, 2020, 122149 deaths were reported in India (around 10 percent) in compared to 1199744 deaths in the world due to COVID-19 virus. During this COVID-19 pandemic in India, the numbers of BPL families have increased despite many facilities provided by the Government, and there is no doubt to say that this COVID-19 pandemic impact will be continuing for a long time.

India has a large population which spreads over its states, North East States, and Union Territories. The shares of population of India (Census 2011) are given in the table. In the year 2020, in total, 216658400 BPL persons were reported in Parliament of India, in rural area 53124000 BPL persons were reported in urban area as per Tendulkar Methodology. The Shares of BPL persons in India in the year 2020 are also given in the table.

The detailed from the table, in rural India, with 18.619 % share of population, Uttar Pradesh is number 1 in terms of highest population and 22.125 % population living below poverty line. With 14.788 % in Bihar is at 2 in terms of highest population living below poverty line in rural areas while it is at rank 5 in case of urban population (7.106%) living below poverty line. Similarly, Madhya Pradesh has rank 3 with 8.813 % population in rural area & it has rank 4 with 8.113 % population living below poverty line in urban areas, with 6.949 % in rural area Maharashtra reached at rank 4 while it has rank 2 in case of urban population (8.915 %) living below poverty line, and West Bengal is at rank 5 in terms of highest population (6.514%) living below poverty line in rural areas while it has rank 3 in case of urban population (8.251%) living below poverty line.

The figure (given in this abstract) is reflecting the matching between population and population living below poverty line in India.

During the present modern days, apart from qualitative food, good shelter, and clean clothes, it is too difficult to manage livelihoods expenditures like payment of electricity bills, maintenance household durables, local transportation and children's education in minimum wages and meagre financial assistance from the Government to the needy in India.

To resolve the poverty issues in India to face COVID-19 pandemic like emergency situation in future, it will be better if a policy may be planned to uplift BPL population according to the modern life requirements. The measurement of the poverty and BPL population has to be reformulated given the emergency like situation become of pandemic COVID-19 which caused a massive loss of livelihood capabilities in Indian states and Union Territories.

Table: Percentage Share Distribution of Population and Below Poverty Line (BPL) population in India's States and UTs.

Sr. No.	States/ UTs	Share of Population in 2011		Share of BPL Population in 2011-12	
		Rural	Urban	Rural	Urban
1	Andaman & Nicobar Islands	0.029	0.036	0.002	0.000
2	Andhra Pradesh	6.765	7.483	2.852	3.196
3	Arunachal Pradesh	0.128	0.083	0.196	0.124
4	Assam	3.215	1.164	4.249	1.734
5	Bihar	11.052	3.110	14.788	7.106
6	Chandigarh	0.003	0.272	0.000	0.440
7	Chhattisgarh	2.353	1.574	4.103	2.865
8	Dadra & Nagar Haveli	0.022	0.042	0.053	0.053
9	Daman & Diu	0.007	0.048	0.000	0.049
10	Goa	0.066	0.240	0.017	0.072
11	Gujarat	4.162	6.818	3.478	5.060
12	Haryana	1.984	2.339	0.896	1.771
13	Himachal Pradesh	0.740	0.183	0.244	0.056
14	Jharkhand	3.005	2.103	4.804	3.810
15	Karnataka	4.508	6.252	4.283	6.957
16	Kerala	2.094	4.225	0.714	1.593
17	Lakshadweep	0.002	0.013	0.000	0.004
18	Madhya Pradesh	6.306	5.319	8.813	8.113
19	Maharashtra	7.388	13.478	6.949	8.915
20	Manipur	0.228	0.218	0.344	0.523
21	Meghalaya	0.284	0.158	0.140	0.107
22	Mizoram	0.064	0.149	0.088	0.070
23	Nagaland	0.169	0.152	0.127	0.188
24	NCT Delhi	0.113	3.422	0.023	3.098
25	Odisha	4.195	1.855	5.822	2.332
26	Puducherry	0.047	0.225	0.032	0.104
27	Punjab	2.079	2.755	0.616	1.849
28	Rajasthan	6.187	4.529	3.886	3.526
29	Sikkim	0.055	0.040	0.021	0.011
30	Tamil Nadu	4.464	9.268	2.734	4.405
31	Telangana				
32	Tripura	0.325	0.255	0.207	0.141
33	Jammu & Kashmir	1.097	0.905	0.495	0.476
34	Ladakh				
35	Uttar Pradesh	18.619	11.793	22.125	22.370
36	Uttarakhand	0.843	0.820	0.381	0.631
37	West Bengal	7.468	7.726	6.514	8.251
	Total	100.000	100.000	100.000	100.000

Source: (1) https://en.wikipedia.org/wiki/2011_Census_of_India

(2) <https://forumias.com/portal/poverty-line-explained/>

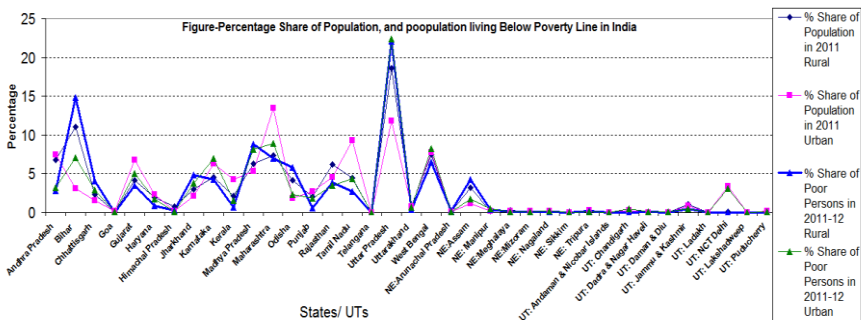


Figure Source: Table of this abstract.

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ANALYSIS OF INTERNATIONAL CONFLICTS: ANALYTICAL ELEMENTS AND TOOLS

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Nowadays conflict analysis plays a key role in the development, implementation, and evaluation of programs for prevention and resolution of international disputes.

Conduction of conflict analysis helps to better understand conflict nature and its results can be used to form recommendations aimed at promoting positive changes in the conflict situation and reducing the potential for violence [1].

Traditional conflict analysis involves detailed examination of four key analytical elements: profile, causes, actors, and dynamics of a conflict (Table.1).

Table 1 - Core analytical elements of conflict analysis [1; 2]

№	Elements of conflict analysis	The main research directions
1	Profile	General overview of the situation
2	Causes	Investigation of drivers of instability and causes of the conflict
3	Actors	Investigation of the conflict's actors, their impact on the conflict
4	Dynamics	Investigation of trends and changes in the conflict dynamics

1. Conflict profile is a general picture of a conflict that helps to understand the situation and context of a conflict as a whole. The analysis of the conflict's profile generates the first level of information needed to understand a conflict at later stages.

The aim of analysis of the conflict's profile is to briefly outline the historical, political, economic, security, social, cultural, environmental and other issues in a conflict-affected area at specific point in time.

To conduct profile analysis such tools as timeline and geographical mapping can be used [2].

Timeline is a simple tool that shows graphically depicted key events of a conflict over a period of time. Depending on the scale, it may include years, months or days of conflict evolution events.

In conflict analysis, using this tool helps to look at various interpretations, points of view and to understand that there is no single “truth” about the history of a conflict as different people note different events, understand them in different ways, and describe them differently.

The timeline is used as a basis for conflict analysis within other analytical elements and it is a valuable tool in the negotiation process, especially when people disagree about events or do not know about the history of a conflict.

Geographical mapping of conflict arena is a tool for spatial analysis of conflict. Its purpose is to visualize the geographical arena of significant borders, communication links, patterns of violence, location of natural resources, etc. Mapping such types of information can be crucial for full understanding of a conflict’s territorial aspects and dynamics both in internal and regional contexts.

2. Conflict analysis implies deep assessment of existing conflict’s causes and potential sources of tension. Causes analysis is a fundamental component of the conflict analysis, which aims at looking beyond the visible manifestations of conflict in order to focus on the factors underlying them.

During the conflict analysis two main types of conflict’s causes are considered: 1) structural causes of a conflict are long-term or systemic causes of a conflict that have already built into “the norms” of a society; 2) proximate causes of a conflict are more recent causes that are changed more quickly and can lead to the conflict escalation. To conduct conflict’s causes analysis such tools as iceberg, and conflict tree can be used [2]. *Iceberg* is a visual tool demonstrated different levels of causation. The analogy with an iceberg is particularly appropriate to understand the hidden role of root and structural causes in threatening the situation stability. Like the submerged part of an iceberg, most of the conflict’s causes are difficult to identify, while the consequences of a conflict are usually clearly visible as the top of an iceberg.

Conflict tree is a graphic tool aimed at identifying key causes, core problem and consequences of a conflict using the image of a tree, where the roots represent the underlying or structural causes of a conflict; the trunk – the core problem of a conflict; the branches – consequences of a conflict.

3. Analysis of conflict’s actors is a fundamental part of any conflict assessment. It examines full spectrum of visible and less visible actors at local, national, regional and international levels who have any relation to a conflict.

To conduct conflict’s actors analysis such tools as “onion” and ABC triangle can be used [2].

“*Onion*” is a tool that uses the visual analogy of onion layers to identify positions, interests, and needs that influence the behaviour of conflict’s actors.

The three components of “onion” can be defined as follows: 1) positions: what people say they want; 2) interests: what people really want; 3) needs: what people must have.

The aim of this model is to demonstrate graphically that, although a conflict has many layers to consider, only those, which are on the surface are visible at first. Therefore, it is necessary to peel away as many layers as possible in order to reach the underlying needs that drive people's actions.

ABC triangle is a tool based on an idea that conflicts have three major components: attitudes (A) refers to the psychological state of actors, their emotions and feelings; behavior (B) involves undertaken actions (positive or negative); context (C) considers the overall situation (in political, economic and social terms).

These components are graphically represented as the corners of a triangle, symbolizing a conflict as a whole. The arrows indicate the mutual impact that attitudes, behaviors, and context have on each other.

4. The analysis of conflict dynamics investigates the interaction between current situation, identified conflict's causes and actors. This step of conflict analysis focuses on the dynamic forces that drive negative or positive changes. Understanding these interactions is important to estimate the possibilities for conflict to increase, decrease or remain stable. To conduct conflict's actors analysis such tools as issues synergies diagram and scenario-building can be used [2].

Issues synergies diagram focus on describing the nature of the causal interaction. Conflict causes do not exist independently of one another, they interact with and influence each other in various combinations. In order to understand the combined effect of various conflict factors, it is recommended depict their linkages and synergies between them in a simple diagram.

Scenario-building is the hypothetical description of future conditions during a certain period of time. Scenarios are stories set in the future. Scenario-building does not represent an attempt to strictly predict the future. It works as a strategic tool to provide a "reality check" in order to identify opportunities to better react on future trends of the conflict. Using above tools is a valuable approach to conflict analysis, which looks at conflict within its own boundaries, examines its constituent parts and driving forces (causes and actors) and observes its evolution over time (dynamics). This traditional approach has some limitations, but those are outweighed by the gains that an orderly analytical approach can produce.

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FEATURES OF NON-TRADITIONAL TYPES OF INVESTMENT

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Each investor is interested in maximum income at all stages of the investment process in a short-term or long-term period. However, building a stable investment strategy for the long investment period is quite a difficult task today.

It is known that only a small proportion of popular traditional investment assets on the market can increase their value in perspective. On the other hand, a lot of shares of companies lose their value every year. This is due to the principle of the long-term development of companies, which states that any company, no matter how successfully it performs on the market today, still goes bankrupt in the long-term and new companies take over the industry.

In order to diversify the investment portfolio, a certain group of non-traditional (alternative) assets can be used.

The term "alternative investments" defines non-traditional investment instruments – investments in investment funds which are not limited to traditional assets (hedge funds, futures, venture capital) and certain investment assets (real estate, art) [1, p. 15]. Involvement of such assets in the process of forming an investment portfolio leads to an increase in its profitability and level of diversification. The presence of non-traditional assets creates a unique structure of the investment portfolio, qualitatively different from the traditional one.

Considering non-traditional areas of investment, we will firstly pay attention to direct (real) assets as one of the main categories of alternative investments.

This category includes any material asset which allows you to generate profit or increase your own value and does not depend on any changes in the stock market [2]:

- art and antiques;
- precious stones and metals;
- real estate;
- innovative projects and enterprises that have a high level of technology and knowledge;
- resources (investments in the production or processing of natural resources: oil, gas, wood, coal and others);
- various rare collections and rare items.

Alternative investments have been used since ancient times, but the most widespread alternative investments became widespread in the West since the beginning of the XXI century, when the market was highly volatile and there was a clear decline in the trend [2]. The profitability of such instruments is not related to the profitability of the market or is weakly correlated with it.

Alternative investments, which are represented by certain assets in the overall investment portfolio, bring additional diversification in case of skillful use of the feature of weak or negative correlation with the market. This also allows to obtain a return on alternative investments in any market conditions regardless of its rise or fall. The traditional portfolio consisting only of stocks and (or) bonds will always be more sensitive to changes in market conditions rather than a portfolio, which consists of alternative investments.

Today, along with the most popular alternative investments in gold, silver, works of art and various collections, there is also a wide range of other non-traditional investments. The latter are not as common as SWAG investments, but also bring significant returns.

Forbes has created a ranking of the most extraordinary investments, which include [4]:

- rent of a cow;
- financing the search for treasures;
- bets on death rates;
- bets on rates of states defaults.

Investments in various unusual breeds of animals are becoming widespread. For example, the income from investing in cats ranges from 3 to 23 thousand dollars per month.

Investments in art objects in 2016 turned out to be almost three times more profitable than investing in the stock market of stocks and bonds. For comparison, we can take the indicators of the Mei Moses All Art Index and S&P 500 [5]. Yields on them in 2016 were at the level of 7.8% and 2.7%, respectively. This happens due to the behavior of investors that invest in the least risky assets – gold and art objects in times of crisis.

Making alternative investments means investing in such non-traditional non-financial instruments, which are based primarily on the possibility of obtaining a high rate of return compared to traditional investment markets over a long investment period (up to 15 years) [6, p. 25].

Table 1 shows the profitability of alternative investment objects depending on the term of investment. This dynamics of growth in the yield of non-traditional investment instruments differs sharply from the situation, which is typical, for example, for the bond market. The yield on securities for up to 10 years decreases against the growth of inflation and other market factors. In the case of non-financial assets, their profitability is not related to inflation and exchange rate fluctuations in the world.

Table 1 – Comparative profit of objects of alternative investment in 2016, % [7]

Object	Investment term up to 1 year	Investment term up to 5 years	Investment term up to 10 years
Works of art	5	17	226
Wine collections	3	45	226
Precious stones and jewelry	0	39	163
Retro cars	25	111	469

Thus, investing in unconventional assets can not only reduce the risk of the investor's portfolio and protect investments from inflation, but also bring income in the form of consumption, increase the status of the investor, satisfaction with the owning of art objects. Evaluation of such assets is linked to the difficulty in obtaining data and a significant degree of subjectivity.

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USING SOCIAL MEDIA PLATFORMS TO CREATE AND DEVELOP BUSINESS PROJECTS

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Social networks are a fundamental component of contemporary life. For some people even more. Not only in terms of the social attitude and communication, but the media also are effective means of creating and developing entrepreneurial initiatives and various business projects and startups. Social media are considered to be a source of communication, a way to find information, music and video. They actually gradually penetrate the trade market and are actively involved in commercial intercourse (sale and purchase transaction), they serve to carry out financial transactions (payments, credit, fiscal operations, etc.), so act as work contractual counterparties. Therefore, in this virtual environment, having a huge number of potential customers, it is possible to create and develop a business, directing to its target audience. Modern business is firmly united with The Internet. It is unimaginable to find a company nowadays that does not have its own page in the media. Webs are the driving tools for doing business, so a large amount of people earn money using them. The main thing in such a field is to create high-quality content and focus on the right target audience. Social networks as trade surroundings offer a wide range of work areas and all these do not require linking to a particular place of work. Doing business is achievable from another country, making and taking clients calls and sending goods or services.

Problems of creating a business in social webs were studied and described in works domestic and foreign authors like Yuri Danko, N. Yermolova, E. Sernovitsy, D. Kennedy, D. Kremneva, A. Filina, D. Gubanov, A. Senatorov, D. Khalilov, K. Smith, E. Kryukova, D. Saveliev, etc. [1-21]

By 2018, the sum total of the Internet users' has reached 4 billion, and the grand total of social media has exceeded 3 billion. Moreover, people operate with their smart phones about 47 times per a day, and the youth even more often - around 86 times per a day. Social networks consume all humanity's free time [22]. According to a study conducted by the sociological center "Socis" with the support of "Novaya Poshcha", Ukrainians spend a third more time on social networks than on walking and 8 times more than on jogging [23].

The age range of people who frequently use of social media is from 18 to 29 years, fewer people aged from 40 to 60 years. Figure 1 shows the frequency of

social media use by the population [1].

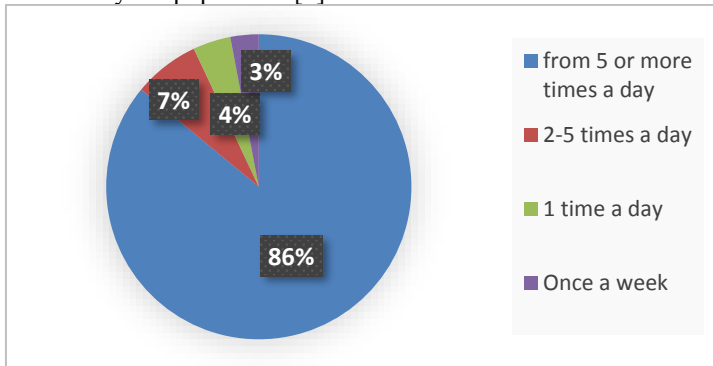


Figure 1 – Frequency of social media use

According to The Statistics Portal since April 2020 and till now there are some social networks, which are in high demand among the customers:

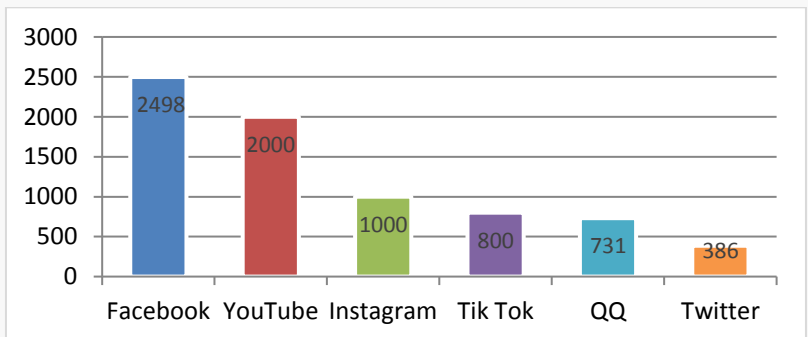


Figure 2 – Rating of the most popular social networks [24]

According to Statista.com, Facebook is widely acclaimed social network, having around 2.5 billion users per month [3]. The research witnesses that the social network appeals to users of all ages with diverse social statuses. Facebook is undoubtedly suitable for solving serious business goals having had a wide range of functionality, that people use for their own purposes. It has a large number of advertisers who actively promote products and services, thus making Facebook a reliable choice for many customers. Having such a large audience, it is no surprise that the vast majority of Facebook's income is generated from advertising. And some anticipate that the number of the social network clients' will only increase and, consequently, business transactions will grow.

Instagram has reached 1 billion users, which is number one of growing rapidly media in the world. During 2019, this platform has created many updates that facilitate interaction and promotion. Next years will be promising for Instagram, and the number of users will only grow exponentially. There are many tools that accelerate progress in product promotion for business: providing advanced analytics, publishing a content on a correct schedule, putting likes by artificial intelligence.

So, the advantages of business development in social networks is that the level of goods / services sales increases, the brand becomes recognizable, there is an increase in traffic, the ability to work from anywhere in the world; initial costs of the project are minimal; the possibility of promoting business partnerships; there is a consolidation of its influence in the country; it is conceivable to save on advertising and attract a great number of potential customers; the confidence of the clientele increases due to pages in social networks have open entry. Proceeding from the fact that there is a dramatic escalation in business income in the media, it has a beneficial impact on the national economy growth and enhances its development.

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INNOVATIVE ACTIVITY AS A BASIS FOR SUSTAINABLE ECONOMIC GROWTH

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It is known that rapid economic development and growth directly depend on effective modern technologies and technologies of the future. Continuous changes in market conditions dictate to today's business world a constant search for new ideas and their implementation in the form of innovations [11-14,18,19,20,24-39].

According to the authors of the source [1] “Innovative development is one of the priorities of the State's economic policy. The need for state regulation of innovation is due to the scale of the financial costs of research and implementation of their results.”

If we consider the problems of innovative development of our state, we should note that there is still a significant imbalance between political slogans and the implementation of government decisions. The government declares the need for innovative development of the economy, but does not back it up with sufficient funding for specific measures, government programs and mechanisms to stimulate innovation. At the same time, Ukraine is one of the most underestimated countries in terms of innovative potential. Outdated technical base and macroeconomic instability are the main factors that hinder investment processes in innovation in all major sectors of the Ukrainian economy. Confirmation of this is the example from the source [2], which provides the following: “Today, there is an order from abroad for the products of the Kharkov plants of OJSC “Turboatom” and SE plant “Electrotyazhmash” which provides them a normal financial and economic status. However, they supply products that were developed back in the 60s and 80s of the last century, which are outdated today. It is mainly used for the needs of repair and replacement of equipment in existing complexes.”

All of the above means that modern management is faced with the problem of managing the rapid development of the economy and economic activity. To guarantee a high level of efficiency of production technologies in conditions of rapid changes, when the uncertainty of economic and social phenomena is very high, is possible only on the basis of management of innovative processes. Consequently, modern business should have an innovative type of thinking, which is characterized by such features as a critical assessment of oneself and the world around it and the

transition from assimilation of the accumulated to the creation of something new [3, 6, 7].

The source [4] believes that “the lack of a clear and consistent innovation policy in Ukraine, as an integral part of overall economic development, can be explained by two assumptions: low level of democratic transformation and lack of certain conditions in the country that can stimulate innovation.” The authors of this publication also note that the main factors that influence the potential for innovation are geographical location, climate, availability of sufficient natural resources, human resources, finances, and so on.

Areas of increasing innovation capacity are used by many countries around the world. For example, in the United Kingdom, at the legislative level, priority methods to develop innovation in major industries have been identified. At the same time, they use the "foresight" method, which is based on systematic actions to study the technologies of the distant future and the possibility of adapting these technologies in business and social spheres.

In the United States of America, innovation is stimulated through the activities of venture capital firms, special research centers, and the financial sector. In this regard, the US National Science Foundation - NSF is the undisputed favorite. This fund supports such areas as assistance to small high-tech businesses, scientific research in industry, innovation in organizational change.

Support for the development of innovation in Germany is in many ways similar to other advanced countries. Large technoparks have been built there (the technopark in Karlsruhe has an area of over 300,000 m²), business incubators for high-tech startups, and so on. Stuttgart is one of the leading scientific and technological centers in Germany. The Steinbeis Foundation occupies a special place in the technology transfer system.

The science and technology parks of Italy united into a common association, which later served as a stimulating step in creating a product market for innovation, increasing the production of high-tech products and increasing jobs.

In Canada, a special national research council has been set up to monitor and support research and innovation projects. At the same time, benefits are provided such as:

- subsidies for the implementation of industrial research projects in the amount of up to half of the cost of salaries of research staff;
- tax credit in the amount of 10-25% of capital and operating costs, depending on the scale of the corporation and its territorial location;
- reduced corporate tax by an amount equivalent to part of the increase in the company's own costs.

France has built one of the world's largest technology parks near Nice with an area of 2.3 thousand hectares. It houses 1,200 enterprises and employs about 25,000 workers.

Government support for innovation in Japan is to stimulate through:

- reduction in preferential income tax;
- guaranteed return (up to 80%) of funds invested in the venture business;
- encouraging small innovative enterprises to receive half the interest rate for using a loan;
- exemption from taxation of pension funds of small innovative enterprises, creation of mutual credit societies and more.

Finland is a country that invests a significant part of its GDP in innovation. We should note that the support concerns mainly the social sphere and the environment. Tekes– The Finnish Funding Agency for technology and Innovation is one of the main sources of funding for innovative projects. This fund operates as openly and efficiently as possible, which allows for efficient spending of public funds and attracting new foreign investments. Even industrial giants such as Nokia have used the services of this agency.

Lithuania has also implemented a number of programs to support research and innovation at the state level. In particular, there is the Lithuanian Innovation Center, whose activities are aimed at increasing the international competitiveness of entrepreneurship. The Innovation Center provides services such as:

- informing about EU technological development programs;
- consulting assistance to enterprises in initiating and implementing innovative projects;
- international technology transfer (import and export of technologies, study of technological needs of enterprises, and search for partners abroad who can meet these needs).

As indicated in the source [5], “each innovation system has its own characteristics, which are manifested in the role of the state and the private sector, the ratio of large and small businesses, fundamental and applied researches and developments, the sectoral structure of innovation, the dynamics of development of the innovation system, and the like. The formation of national characteristics of the system occurs under the influence of a set of factors objectively set for each country, i.e. its size, availability of natural resources, geographical location, climate, features of the historical development of state institutions, and forms of entrepreneurship.”

As indicated in the source [10], “the rapid development of digital technologies in all spheres of society, the robotization of production, the computerization of jobs pose challenges for the successful functioning of most markets, one of which is the labor market. The functioning of the modern labor market is also characterized by an increase in the share of innovative methods of finding and attracting employees”.

Summing up, we make the main conclusion about the feasibility of innovation. Undoubtedly, innovation is one of the main driving factors in the development of both economic and social spheres of the national economy[15-17,21-23]. Innovative

activity requires constant improvement and search for new methods of its analysis.

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SOCIO-ECONOMIC ASPECTS OF GREEN ENERGY DEVELOPMENT: THE EXPERIENCE OF THE EU AND UKRAINE

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The problems with the energy sector are one of the most urgent today [1-10]. Traditional sources such as oil, gas and other minerals are gradually losing their relevance, becoming more expensive and, of course, causing great harm to the environment [11]. Sources such as solar energy, water or geothermal heat are used to generate energy and they are becoming so popular today. Renewable energy sources provide about 19 % of the world's final energy consumption, including biomass – 9 %, and other renewable energy sources – more than 10 % (used in different industries, including heat and electricity production, transport sector, etc.).

The main advantage of all alternative energy sources is their environmental friendliness. In other words, during the operation of such stations, no harmful emissions into the surrounding atmosphere occur. Even an accident at wind, solar or any other alternative power plant will only lead to material losses for its owners, but will not cause a global environmental disaster, as it can happen, for example, with a nuclear power plant. Renewables have a special advantage over conventional sources to minimize reliance on limited fossil fuels and to shorten the emissions of greenhouse gas content [12]. Most studies have found that a reduction of greenhouse gases (GHGs) emissions can be achievable by replacing conventional sources of energy with alternative ones [36-42,46,53-64].

Many countries already have the strategy to expand the usage of alternative sources of energy and to decline the level of application of conventional resources. The role of the European Union in providing solutions for various global challenges is invaluable. Today, the European Union is seen as a powerful organization capable of determining the course of international economic affairs, sustainable development, migration, environmental policies and foreign and security policies. The EU is a key world organization, which aims to provide social, economic, environmental and energetic stability and prosperity. Many scientists consider the EU as the only organization capable to minimize the negative effects of humans' activity in different spheres and industries.

The integration of Ukraine to the European Union is a strategic direction of our foreign policy. According to the Association Agreement of Ukraine with the European Union, signed in 2014, energy and environmental issues are key points when evaluating the progress of reforming the state [13]. It states, «the fast transition of Ukraine's energy sector to the usage of renewable resources is a strong and

significant step to energetic independence, ecological friendliness and economic prosperity [14]. The wide usage of alternative sources of energy are undeniable conditions for providing sustainable development».

The fact that alternative energy has long since passed from plans existing on paper into reality is convincingly evidenced by numerous figures and facts.

The ways of sustainization of the energy sector are associated with three main areas of energy use: 1) electricity generation; 2) heating and cooling of premises; 3) driving vehicles. The increase in the share of renewable energy in each of these areas is associated with the solution of complex technical problems that are of a systemic nature. In particular, the first direction is associated with the development of technical means for generating electricity and systems for long-term storage (accumulation) of energy. The second direction requires the solution of a complex of engineering, architectural, and urban planning problems. The third direction determines the development of engineering solutions for electrification and hydrogenization of transport.

The EU has achieved significant success, setting itself the ambitious goal of increasing the share of generation. In fact, only wind and solar-generated 21 % of electricity generation in 2020[15]. In total, in the EU, taking into account hydropower, the share of renewable energy sources increased to 40 % in 2020, exceeding the share of electricity generation based on fossil fuels (coal, gas, oil), which in 2020 was only 34 % (King, 2020). In some countries (Austria, Germany, Great Britain, Norway, Portugal, Switzerland, Sweden) the results are even more impressive. In the European Union, the state of development of renewable energy, in general, is close to world indicators. Sweden is an absolute leader in the list of the EU member states. Moreover, Sweden demonstrates the high pace of growing of the share of energy from renewable sources. Finland, Latvia, Austria, Portugal, Estonia are countries with high efficiency of the green energy sector. Most EU countries demonstrate good and stable development of the green energy. The Netherlands takes the last place in this rate. In our opinion, this fact can be explained by the wide usage and trade of the conventional sources of energy.

The major part among all renewable sources in Ukraine plays the sunshine 64 %. Thermal energy (15%) and HPS (28 %) are also important for Ukraine's energy sector. In the European Union thermal energy (3%) are not so widely used as in Ukraine. Unfortunately, such popular in Europe energy sources as wind and biomass energy are still not enough developed in Ukraine.

Policy-making measures need to be adopted to provide the stable development of green energy in both the EU and Ukraine[16]. They include:

- ✓ Revision of existing government's medium and long term plans and adapting them to current circumstances.
- ✓ The gradual reduction of subsidies and reform of energy pricing.
- ✓ Regulatory focus on energy efficiency.

- ✓ Development of local renewable energy sources.
- ✓ Attraction of private investments with domestic and donor ones.
- ✓ The encouragement of scientific institutions to research the possibilities to accumulate green energy effectively.

Conclusions. Socio-economic aspects of green energy development were evaluated both in the EU and Ukraine [43-45,49-52]. The research reveals the theoretical and practical aspects of the green energy sector. The article compares the level of development of the green energy sector in the European Union and Ukraine. The article discussed the role of financial and non-financial tools for the development of the green energy sector in the EU countries. The article suggests policy-making changes for the stable development of green energy in both the EU and Ukraine. Revision of existing government's medium and long term plans and adapting them to current circumstances, the gradual reduction of subsidies and reform of energy pricing, the regulatory focus on energy efficiency, the attraction of private investments through the use of domestic and donor investments are determined as important actions for stable development of green energy sector.

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ECONOMIC SECURITY AND THE FIGHT AGAINST CORRUPTION

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Each of us wants a good life. This desire has led to the emergence of such a concept as a "consumer society" [1], which often ignores environmental issues [2-17,21-60]. But one of the main problems plaguing the world is corruption. One way to achieve a better life is to fight corruption. Countries are taking many steps, but without a good legal framework it is impossible to tackle this problem.

It is believed that the biggest corruption area is public procurement. Statistics show that even in developed regions such as the United States, Western Europe, Japan and Asia, public procurement accounts for about 40 percent of all corruption.

Corruption in the public procurement system causes great losses in any country. Losses of the state and society can be divided into the following categories: financial, qualitative, quantitative, and political losses. Financial losses are the conclusion of agreements on financial terms unfavorable for the state and society. An example is overpricing. Qualitative losses are the conclusion of contracts in violation of technical conditions, such as: supply of goods, performance of works or provision of services of inadequate quality, insufficient requirements for quality control of work performed or services provided, etc. Quantitative losses are defined as the overstatement or understatement of the volume of supplies of materials or provision of services in comparison with the required quantity, purchase of goods and services for personal purposes of responsible officials, and not to meet government needs, and so on. Political losses lead to a deterioration of the investment climate in the country, the loss of public confidence in government agencies and the state as a whole, a weakening of the economic and financial systems of the country and violation of the principles of free competition.

I believe that in order to fight corruption in the field of public procurement, countries need to fulfill the following tasks:

- analyze current laws;
- investigate the current problems of corruption in the field of public procurement, their subjects;
- perform analysis and draw up a plan to combat corruption.

If we talk about Ukraine, we have a high level of corruption. In 2019, our country ranked 126th out of 180 countries in the Corruption Perceptions Index [18, p. 15], compiled by Transparency International.

One of the main steps to combat corruption in Ukraine was the creation of a single electronic system called "PROZORRO". On August 1, 2016, the Law of Ukraine №922-VIII "On Public Procurement" of December 25, 2015 came into force - this system has become mandatory for any procurement. [19]

In 2019, I worked as an intern at the enterprise. My main task was to prepare

documents for participation in the tender. Therefore, I can say that this system has disadvantages: Tenders often specify requirements for a specific supplier, as the preparation of documents and product characteristics are prepared by the person. I can give an example: a tender for the purchase of public transport in Kyiv. The President of Ukraine Volodymyr Zelenskyi arrived at the Pivdenmash enterprise, and an employee of the enterprise told him that the tender for the purchase of trams was written for a foreign manufacturer, so he could not participate. The customer can also write about the mandatory delivery certificate within two hours. This becomes impossible for participants who are in other cities. Conspiracy between participants cannot be ruled out.

To eliminate such illegal actions by bidders in the legislation of developed western countries, precautionary measures are established. The most explicit prohibition of collusion between bidders is in Canadian law. Section 47 of the Competition Act of Canada [20, p. 34] explicitly prohibits bidding fraud, which is defined as pre-arranged bidding or refusal of some potential bidders to bid. Fraud with applications is punishable by up to 5 years in prison or a fine. Similarly, the problem of collusion between bidders is solved in the legislation of the European Union. Rejection of bids of bidders with a better price, if the bidder does not have the necessary errors.

Undervalued price of one of the Participants. In this procedure, a participant may demand interest from other participants so that the winner waives the victory. Also other options:

- delivery of low-quality goods at reduced prices;
- understatement of the price for one position with the highest price. Then, at the end of the contracts, there is a letter about the absence of goods on the market, or a significant increase in the price of this position, which leads to the termination of contracts;
- delayed deliveries, waiting for the time when they will be able to make a legal increase prices.

Ukraine has taken a big step towards overcoming corruption in public procurement, but it is not perfect.

Therefore, the Law "On Amendments to the Law of Ukraine" On Public Procurement "and some other legislative acts of Ukraine on improving public procurement" of 29.08.2019 was adopted and entered into force on 19.04.2020. It contains cardinal positive changes:

The customer must provide reports in the PROZORRO system on all purchases worth 1 kopeck. The authorized person will be responsible for the organization and conduct of the procurement procedure.

Electronic catalogs will be created in the system, which will work as an online store. (Prozorro-market). The threshold of tender procedures has been reduced by 4 times (purchases will be made through the transparent system from 50 thousand) This will help bring a large number of purchases out of the shadows. The winning bidder will

have 24 hours to correct minor errors. ■ Rejection of the bid of the bidder with an abnormally low price (which is more than 40% different from the average bid price). Introduction of a differentiated fee for complaints to the Antimonopoly Committee. This will stop the unfounded appeal of a large number of procurements, and hence their delay. This news solves many problems. But the questions remain unresolved: Writing conditions for a specific participant. The introduction of a clause on the rejection of participants with an abnormally low price does not solve the problem if the tender is submitted to two participants: one with a market price and the other with a dependent price. After all, the system determines the anomalous price, which is based on data criteria for consideration of proposals.

To solve some problems I have the following suggestions:

1. In order to facilitate the Bidder's preparation for the tender, and the Customer to consider proposals, do the following:

When registering in the system, Bidders download all statutory documents (Statement, Charter, VAT certificate, information about the head, etc.), so as not to prepare this package for each tender. In case of changes, the Participant must update their data.

2. Introduce a system of blocking unscrupulous participants for a certain period established by law. If the bidder had a violation during the bidding, or did not fulfill the terms of delivery after signing the contract, the electronic system will block this bidder when participating in the next bidding. (The new version states that a Unified Register of Persons Who Have Committed Corruption or Corruption-Related Offenses will be created).

3. The problem of minor errors can be solved by entering a template for submitting documents to the PROZORRO system for any activity. Responding to this template, the participant will not be able to submit their proposal, because not all fields in the system will be filled (as in online stores), reducing the time required to determine the winner of the tender. After all, buying vital drugs for 24 years is a long time. I can state the following: in 2014, the Ministry of Health did not purchase drugs for vital programs: oncology, hemophilia, cystic fibrosis, viral hepatitis, tuberculosis, HIV / AIDS and others. People with hundreds of children's pairs of shoes came to the Cabinet of Ministers demanding immediate tenders for the purchase of drugs for government programs. They came to show that tomorrow, young people and adults can die without receiving state-guaranteed drugs for budget treatment programs.

If we talk about more developed countries, the United States and the EU use electronic bidding and electronic reporting on public procurement. For example, in the United States, all federal agencies must send procurement information worth more than \$ 25,000 to the central federal procurement information system. This information has been made publicly available for the last five financial years, which promotes transparency in the bidding process, simplifies the detection of abuses and

provides an opportunity to challenge the results of the bidding. In the EU today, two models of e-procurement are used: 1) Centralized procurement - carried out by a single public procurement body to meet general needs, i.e. customers entrust public procurement on their behalf to a centralized body; 2) Decentralized procurement - provides for independent procurement by customers, i.e. allows each customer to purchase goods and services.

Thus, the authorities use various mechanisms to ensure the efficiency and organization of the public procurement system in different countries. In international practice, in order to avoid corruption risks in public procurement, various approaches are used: psychological methods, technical methods, regulation of processes, repressive means.

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81.

DEVELOPMENT OF METHODOLOGY FOR ASSESSING THE RISKS OF SOCIO-ECONOMIC AND POLITICAL GROWTH OF UKRAINE

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The current socio-economic and political situation of Ukraine in the world arena is in a state of political risk. The loss of territorial control in the ATO regions led to a decline in the country's economy [1, p. 134] and the formation of a negative socio-political and international image. Accordingly, government policy interacts with different areas, for example, an instrument of effective government activity. In addition, it can also be one of the vectors of the formation of fiscal decentralization [2 p. 99]; development of a strategy to combat the influence of terrorism on the economic development of Ukraine [3, p. 104]; creation of social entrepreneurship and improvement of life quality [4, p. 68]; control over the activities of MFOs, on which the effectiveness of business training depends [5, p. 47]; public finance management through the prism of inhibitors and factors of budget (fiscal) transparency and its consistency with other concepts [6, p. 118]; control of the relationship between independence and transparency of central banks [7, p. 111]; analysis of the reasons for the ineffective functioning of the business sector in the economy due to the relationship between destructive innovations and creative destruction [8, p. 102]; consideration of the feedback between the increasing role of the state in the economy, measured by the ratio of government spending to gross domestic product, and economic growth [9, p. 73]; building an effective financial strategy of a bank aimed at finding a balance between the need to minimize risks and maximize profits [10, p. 111]; building a system of control over the financial flows of economic agents in order to reduce risks [11, p. 1-26]; development of modern automation tools of control [12, p. 89] and audit [13].

The development of an effective image strategy, integration vectors of favorable dynamics of the country's development, avoiding risks involves determining the degree of influence of socio-economic and political risks on the country's stability, which became the purpose of this study. The research proposes a scientific and methodological approach based on the method of analysis of hierarchies. This methodology includes an assessment of the strength of the impact of systemic risks on national stability and develops three components: social sphere, political and economic development of Ukraine.

The approach provides for the implementation of the following stages of assessing economic and socio-political risks based on the hierarchy method.

1st stage. Let's decompose the factors according to the level of hierarchies.

Level 1. We assess the impact of socio-economic and political systemic risks and determine the relevant risk.

Level 2. We consider the factors that affect the socio-economic and political systemic risks [14, p. 152-153].

Level 3. We offer socio-economic and political systemic risks [14, p. 152-153].

We obtain the value of the risk weights with the help of pairwise comparisons. To present the results of estimates in quantities, a scale of the relative weight of the factors' influence on the socio-political and economic risks of Ukraine is introduced. This scale determines the weight assessment of one value over another. The method is based on making pairwise risk comparisons with each other about the considered factors.

2nd stage. Based on expert assessments, we construct a matrix of pairwise comparisons of the relative factors' importance influencing Ukraine's socio-political (economic) risks (formula 1).

$$\Phi = \begin{bmatrix} 1 & \phi_{12} & \phi_{13} & \phi_{14} & \dots & \phi_{1m} \\ \frac{1}{\phi_{12}} & 1 & \phi_{23} & \phi_{24} & \dots & \phi_{2m} \\ \frac{1}{\phi_{13}} & \frac{1}{\phi_{23}} & 1 & \phi_{34} & \dots & \phi_{3m} \\ \frac{1}{\phi_{14}} & \frac{1}{\phi_{24}} & \frac{1}{\phi_{34}} & 1 & \dots & \phi_{4m} \\ \dots & \dots & \dots & \dots & \dots & \dots \\ \frac{1}{\phi_{1m}} & \frac{1}{\phi_{2m}} & \frac{1}{\phi_{3m}} & \frac{1}{\phi_{4m}} & \dots & 1 \end{bmatrix}, \quad (1)$$

where, Φ - matrix of the relative weight comparisons of factors' influence on risks of Ukraine; ϕ_{ij} ($i, j=1 \rightarrow m$) – expert assessments of the importance of one factor's influence in comparison with others; m – number of factors.

Calculate the vector of priorities - the relative importance of the impact of socio-political (economic) factors on the relevant risks (formula 2):

$$X_i = \frac{\sum_{j=1}^m \frac{\Phi_{ij}}{\sum_{i=1}^n \Phi_{ij}}}{m}, \quad (2)$$

where X_i ($i=1 \rightarrow n$) – is a dimensionless quantity from 0 to 1; n – the number of rows of the priority matrix; m – number of columns.

We obtain the vector values of the socio-political component ($X_1 \approx 0,106535$; $X_2 \approx 0,029576$; $X_3 \approx 0,438412$; $X_4 \approx 0,086992$; $X_5 \approx 0,308757$; $X_6 \approx 0,029728$) and economic

($Y_1 \approx 0,056601$; $Y_2 \approx 0,211259$; $Y_3 \approx 0,022763$; $Y_4 \approx 0,017872$; $Y_5 \approx 0,089268$; $Y_6 \approx 0,262376$; $Y_7 \approx 0,032413$; $Y_8 \approx 0,216471$; $Y_9 \approx 0,090977$).

3rd stage. We construct a matrix of pairwise comparisons of socio-political and economic risks for each influencing factor (formula 1). Let's define a vector of priorities of factors' influence on each of risks (formula 2), where $X_i (i=1 \rightarrow n) = U_{ij (i=1 \rightarrow n; j=1 \rightarrow m)}$; $\phi_{ij} = u_{ij}$, where u_{ij} – assessment of pairwise comparisons of risks depending on the factor of influence.

4th stage. The total value of the risk priority vectors is calculated by formula 3:

$$Z_i = \sum_{i=1}^n X_i \cdot U_{ij}, \quad (3)$$

where, $Z_i (i=1 \rightarrow n)$ – the value of the vector of risk priorities; $X_i (i=1 \rightarrow n)$ – the value of the priority vector of the relative importance of the factors; $U_{ij (i=1 \rightarrow n; j=1 \rightarrow m)}$ – the value of the vectors of priorities of the factors' influence on each of the risks.

The considered scientific-methodical approach determines the number of relevant risks of influence on Ukraine's socio-political and economic situation, further reform, and vectors of liquidation of negative factors. In this case, the following risks stop the significant influence, namely: political instability, risks of war ($Z_6 \approx 0,330763$); international risks ($Z_5 \approx 0,225305$); government risks ($Z_4 \approx 0,137528$); growth of labor migration (migration processes) ($Z_3 \approx 0,136750$); uncontrolled dynamics of foreign and domestic market conditions ($N_8 \approx 0,172541$); the unstable social atmosphere in Ukraine (military actions in the Middle East) ($N_6 \approx 0,136644$); the number of fixed assets and capital ($N_9 \approx 0,136263$).

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ENVIRONMENTAL ASPECTS OF INTERNATIONAL TRADE RELATIONS

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In today's globalized world trade market in terms of rapidly growing population, increasing disparities in socio-economic development and resource security between rich and poor countries, increasing anthropogenic pressure on the environment that leads to exacerbation of contradictions in the system "man-nature", environmental problems are gradually becoming a source of complication of international trade relations. This is due to a number of factors, including the growth of resource and environmental interdependence of countries, lack of harmonized international environmental criteria and standards, significant differences in approaches to solving existing environmental problems and opportunities for national environmental programs, the tendency for implementation of protectionism methods [1-9]. Developed countries, in particular most EU's member states, on the basis of European Environmental Law, introduce special technical standards and environmental labeling for goods, confirming their environmental friendliness, but for developing countries such non-tariff barriers create a real obstacle to the exports development. Adherence to high standards of production conditions and the need to use ecological raw materials leads to high costs of export products. The European Economic Community, beginning with the adoption of the Declarations on the Environmental Action Program (1972) and the following six action programs (1973-2002), have formulated the basic principles of European policy in the trade and environmental field [10-13]. Emphasizing the importance and need to support the concept of sustainable development, it should be noted that the set of non-tariff barriers at the domestic and international levels has led experts to believe that environmental policy of developed countries, which focuses on environmental standards, Kyoto Protocol, "green" energy, and other, undoubtedly important purposes, creates opportunities for the use of environmental norms and standards for protectionism. Thus, in modern international trade relations, it is necessary to take into account the environmental factor for effective development in the long run. The rational interaction of environmental and trade policy undoubtedly requires active coordination at the macroeconomic level, provided that the relevant provisions of international treaties are taken into account. The ban on environmentally hazardous products only in certain countries (production, sales, consumption and imports) leads to a redistribution of international trade in such products to countries that have not introduced environmental restrictions [14,15].

In particular, the concept of *ecologization of international trade relations*" we mean the process of steady and consistent dissemination of environmental ideas,

approaches and principles to all types and forms of international trade relations to protect the environment and rational natural resources use, guarantee international trade and environmental security and transition to qualitatively new socio-ecological-economic model of the world trade space development. It should be noted that the correctly chosen strategy of greening of world commodity markets should highlight the relationship with general trends, dynamics, specifics of environmental awareness of the implementation of economic decisions in all areas and at all levels of their operation [16]. At the same time, it should be mentioned that the strategy of ecologization of world commodity markets is an important component of the global strategy of greening of the world economy, its derivative and is subject to the same tools of formation, influence, control and regulation. The main directions of implementation of the global strategy of greening of the world trade economy are, first of all, coordination of joint measures to reduce the negative impact on the environment; identification of priority areas for environmental optimization; development of an action plan for the gradual mutual combination of economic and environmental interests of the world [17]. The implementation of the global strategy of greening world trade is associated with certain problematic components of its implementation, the essence of which is, above all, that increased competition can cause environmental dumping. At the same time, there are some difficulties in the implementation of environmentally friendly trade cooperation, which are as follows. First, the leading countries take advantage of environmental requirements to restrict imports to their countries and violate the regime of facilitation of international trade. Second, the formation of the world economic space under the influence of environmental factors is accompanied by the manifestation of external effects of a positive and negative nature in the form of various forms of environmental expansion. These external effects are the result of the interaction of commodity-technological, structural-large-scale, political-institutional, socio-cultural determinants on the environment [18-20].

Thus, one of the important issues that need to be addressed immediately in this regard is the implementation of a well-thought-out effective structural policy aimed at environmental restructuring of the world trade economy. We should talk about the redistribution of labor, material, financial resources of the global trade space in favor of high-tech, waste-free, and resource-saving economic and trade activities. The transition of the global trade system to the innovation and technological path of development should take place on the basis of certain priorities in order to form a common innovation system and a holistic structure of scientific and technical complex, able to function in conditions of exacerbation of environmental problems.

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STAKEHOLDER APPROACH TO PROJECT MANAGEMENT

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Project management is a key point for aligning projects with strategic goals of organizations. Strategically, the concept of stakeholder management encourages firms to consider the impact on stakeholders through their actions and influence on decision-making.

Such researches as Aarseth, Rolstadas and Andersen [1]; de Bakker, Boonstra and Wortmann [8]; McLeod, Doolin and MacDonel [16]; Morris and Hough [18]; Sallinen, Ahola and Ruuska [20]; Turner and Zollin [24]; Vrhovec, Hovelja, Vavpotič and Krisper [26] stated that project stakeholders are to be identified and taken into account in project management so that the project would be successful as stakeholders will be affected by the project (in a positive or negative way), they may bring necessary financial and non-financial resources to the project, they can establish criteria for assessing project success, and stakeholders' resistance may cause reputational risks to the project. Therefore, taking project stakeholders into consideration can help project representatives understand the interests and concerns of the project stakeholders, and benefit out of that [10].

Different aspects of project management as well as stakeholder analysis are outlined in such scientific papers as [2-7, 9, 11-15, 17, 19, 21-23, 25, 27-28].

The authors of the research [24] indicate investors, customers and suppliers, users and neighbors, authorities and media as typical project stakeholders.

To group potential project stakeholders several approaches can be used.

1. Stakeholders' role and importance for organization. Stakeholders can be divided into primary and secondary. Primary stakeholders are vital for existence of the organization. If they decide to stop cooperation with the organization, business can stop.

2. Stakeholders' position towards organization. Stakeholders can be classified as internal and external. Shareholders, owners, employees, top managers are internal parties as they are mostly interested in financial aspects of business (they are influenced by company profits and efficiency).

External stakeholders are mostly interested in quality of products and services, in satisfactory long-term relationships, ethical actions of the organization. These are such stakeholders as customers and suppliers, business partners, competitors, government, special interest groups, retailers, trade associations etc.

3. Regulatory vs functional stakeholders. Regulatory stakeholders trade

associations, informal networks and competitors. Consumers, suppliers, employees and shareholders form the group of functional stakeholders.

4. Stakeholders' distribution according to their power and interest level. Freeman R. developed a strategic stakeholder matrix based on the distribution of stakeholders into the groups according to influence of their power and interest levels. The position of stakeholders in the matrix allows organization to choose the most appropriate strategy for cooperation with stakeholders.

5. Shadow stakeholder group. This group of stakeholders is associated with political influence on the organization, nevertheless it operates illegally and is not directly related to the organization.

Looking at different approaches to stakeholder classifications, one can conclude that the main four leading stakeholder groups are as following: shareholders, employees, customers and suppliers.

Collaboration with stakeholders allows the organization to reduce its reputational risk, to attract resources, to facilitate certain business processes and improve the quality of products and services, and to achieve strategic goals.

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MODERN ENTREPRENEURSHIP ON THE PROJECT MANAGEMENT PRINCIPLES

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Experience shows that even in the presence of favorable conditions, not all entrepreneurs achieve the desired result. This is influenced by shortcomings and miscalculations in the activity, as the business environment has a dual impact. The external environment, as a rule, does not depend on the entrepreneurs themselves, and the internal environment is formed directly by the entrepreneurs themselves. Therefore, the factors that make the environment favorable or unfavorable are of great importance [1]. In particular, the dynamism of the external environment, diversification and the interrelation of its factors prevent the accurate and simultaneous consideration of all possible consequences of the constant impact on various business processes. Entrepreneur needs a methodology and even tools to limit the influence of external factors, to determine the priority of those that most significantly affect the results, and if possible – to influence the formation of the environment. Achieving this goal is largely due to the application of project management principles in the formation and implementation of entrepreneurial initiative.

Today, project management is an integral part of modern business. Analogies of characteristic activity or its features are manifested in various business processes – whether advertising or price campaigns, development and marketing of a new product or service, preparation of a business plan or implementation of a new organizational management structure. It is with the help of project management methodology that a number of problems that arise in the process of entrepreneurial activity can be solved. Any business is a set of purposeful and interdependent functional processes, to ensure which the necessary resources are allocated, the results are substantiated, and appropriate deadlines are set. Effective entrepreneurship requires taking into account and optimizing psychological, economic, financial, technological, environmental, organizational, legal and other factors. In the modern business environment, project and program management is identified as a key mechanism for the formation of competitiveness, so an important task is to implement the principles of project management in business, for its significant activation.

According to experts on the state of affairs in the national business environment, project activities are present in almost every business unit. However, most domestic companies are not aware of this – project management is associated mainly with the construction, IT or the practice of implementing corporate information systems [2].

The reason for this lag is in follows:

- relatively young age of Ukrainian business;
- lack of qualified personnel in the labor market;
- not always a sufficient level of education of managers;
- general inefficiency of organizational and management structures;
- high profit margins received by companies in the pre-crisis years, which

did not contribute to the search for effective management tools.

Project management practitioners testify that the level of development of project management in Ukraine is at the level of the United States in the 1970s. At the same time, the accumulated world experience of project management fully meets the needs of entrepreneurship. Thus, the systematized experience and tools of project management are fully reflected in the generally accepted standards, in particular in the “Bible” of project management PMBoK – Project Management Body of Knowledge [3]. The structured information on project management processes and tools presented in the PMBoK fully covers all aspects of business activity and related functions (Fig. 1).

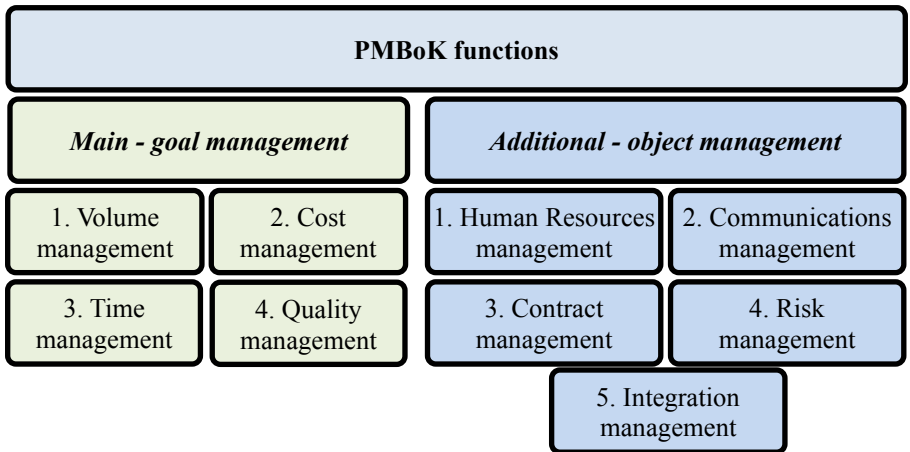


Fig. 1 – PMBoK’s main and additional functions [3]

As evidenced by the practice of management, the concept of “successful entrepreneur” is largely identified with the concept of “successful project manager”, because the achievement of the goal depends on two conditional types of factors – “people” and “circumstances”. Therefore, the key quality of a successful entrepreneur is proactivity, i.e. the desire to influence the “circumstances” and not to adapt to them [4]. This is what combines the essence of entrepreneurship with project management, as well as the characteristics of the entrepreneur and project

manager (Table 1).

Table 1 - Qualitative characteristics of the project manager / entrepreneur [4]

№	“Traditional” project manager / entrepreneur	“Proactive” project manager / entrepreneur
1	Trying to do the whole amount of work on time in the most perfect way. When he doesn't keep up with the deadlines, he starts building decisions “on crutches”.	Does not do extra work. For each “function” of the created system knows its value, cost, risks. Knows what a Minimum Viable Product is.
2	Tries to staff the team with the best available specialists.	Knows the pros and cons of each, not only the qualifications but also the cost of the specialist. Develops members of his team.
3	Considers himself quite qualified. Makes mistakes rarely and only insignificantly. Heroically “extinguishes fires”. Many works overtime.	Considers himself insufficiently qualified. Constantly “pumps” himself – learns, adopts the experience of colleagues. Looks for the reasons for his mistakes in himself, draws conclusions and does not repeat mistakes.
4	Uses traditional methods and tools to build a business.	Uses the methods and tools needed to succeed, promotes the implementation of more effective.

Thus, the application of world experience and project management standards in the modern conditions of Ukraine will allow to achieve a significant increase in business efficiency and growth of the national economy.

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GLOBAL TENDENCIES FOR THE IT USE IN MANAGEMENT INFORMATION SYSTEMS

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IT drives tremendous changes and evolution in business processes. The global tech industry extends rapidly, and almost every industry is engaged. Tech expenses rise from year to year [1]. It must be said that the structure of tech expenses varies not only over different industries but also among global regions. US tech market is the biggest in the world and has the longest history [2]. IT infrastructure of the US market is potent over the whole economy, which gives the ability to relocate investments into more effective and prospective IT business services. On the other hand, most of the other countries with less developed IT infrastructure still compelled to spend more on hardware and telecom services, which slows down the way to IT-driven business progress. Along with that tendency, the Covid-19 pandemic has really changed business perspective on IT use in management information systems [3, 4]. For many businesses, an urgent transition towards IT systems and online based business management was the only way to survive in the conditions of the quarantine restrictions. The need for telecommunications technologies has risen a lot over the whole pandemic period, along with that all the management systems that allow organizing remote interaction between employees effectively are in demand. Business managers are concerned about remaining the level of productivity of their workers [5]. Employee management in distance requires more effort and other approaches to its leading and organization. All the solutions that enable work or study from home like task and time trackers, project management tools, data sharing services, conferencing services, and various messengers became more widely used. Such an upturn may reinforce all the ICT development including 5G.

Despite the decrease in entrepreneurial activity regarding Covid 19 such already known promising technologies like the Internet of Things [3, 6], Artificial Intelligence [3], blockchain technologies [7], Big Data [8], virtual and augmented reality are developing stably [3]. These technologies became more widely used in real business solutions. But not all the emerging technologies are supposed to reach critical mass in the following years. The adoption period for most of the IT trends turned out to be running long according to the CompTIA's data. Such tendency results from several factors. Firstly, it is often pretty difficult to evaluate the worth of certain emerging technology implementation in the early stages. Secondly, the implementation and maintenance of emerging technologies come with huge costs

regarding its unexplored and unpredictable nature and rare development expertise. Moreover, emerging technologies implementation often requires significant changes to the IT infrastructure, system architecture, and even to the business workflow [7, 9]. Besides that, it should be noticed that all smaller firms lack the resources of larger organizations to invest in innovation to grow their business [10, 11]. Emerging technologies implementation is too risky for small and medium-size companies [12, 13].

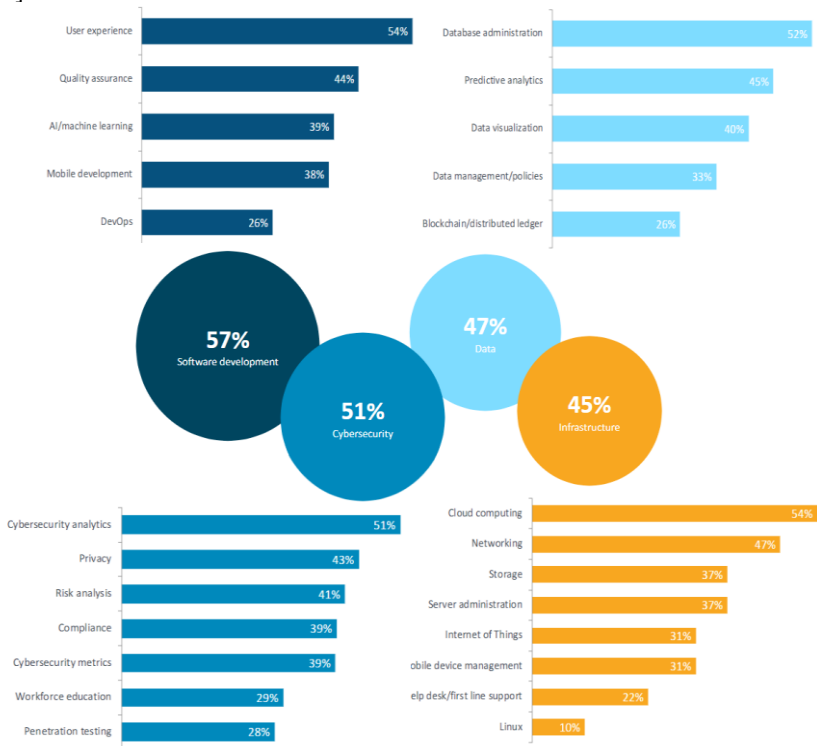


Fig. 1. Main IT pillars and critical areas within each one
Source: built by the authors on the basis of analysis [2]

Along with a whole spectrum of opportunities offered by various technologies a lot of side effects, new vulnerabilities, and challenges come. Building management systems with cutting edge technologies we should not ignore safety, trust, and privacy issues that have been worsened.

IT issues became more extensive. Such channels like software development, data management and processing, cybersecurity, and IT infrastructure

must be treated individually in a more comprehensive way. Computing Technology Industry Association has defined these four areas as main IT pillars for companies to focus on during the following few years [2] (figure 1). Each pillar has its critical issues to come across. These critical issues are being shaped by various specific technological aspects, the current situation in the global economy, new possibilities, and various socio-political factors. Ideally, all these 4 pillars must be covered by business management information systems accurately taking into consideration critical areas.

Cybersecurity has diverged from other IT pillars relatively recently. It became less abstract but more operational. Gravely accentuated safety and privacy issues and a high number of vulnerabilities of the new emerging technologies enhanced the need for strong comprehensive and sophisticated Cybersecurity policies. A much more proactive approach to cybersecurity should be established [14]. Cybersecurity analytics is stated as the most critical area within all cybersecurity activities. As the result, importance of cybersecurity metrics rise as well. Talking about infrastructure we cannot ignore the upcoming tendency for the use of cloud computing. It hasn't yet gained mass popularity. But developers starting use it more often in the development of the new management information systems.

In the conclusion, we must confess that IT technologies become more complex from year to year. IT technology's adoption periods become longer. Therefore we can not suggest that the most promising IT technologies will reach wide usage quickly. But emerging technologies do inflame tremendous evolution in business management systems and business processes.

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DIGITAL MARKETING AND INTERNATIONALIZATION OF UKRAINIAN BUSINESSES

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E-commerce and Internet marketing have recently attracted more and more attention from both scientists and practitioners. Both Ukrainian and foreign scientists discussed the importance and peculiarities of digital channels for marketing communications in their papers, for example, Andrenska, S., & Dicke, P., (2012), Yudina, NV (2017), Cosmulese, CG, Grosu, V, Hlaciuc, E., Zhavoronok, A. (2019), Semenova, KD, & Tarasova, KI (2017), Hammou, I., Aboudou, S., & Makloul, Y. (2020), Ahmmed, Md.M., Salim, ZR (2019), Bardy, R., Rubens, A. (2019), Hossain, A., Rahman, Md. L., Hasan, Md. M. (2018), Conzelmann, J. D. (2020), Trifu, A. (2020), Al. K. Chakrawal, P. Goyal. (2018), Mohamadi, B. A., Bohma, S. (2017), Ar. Banners. (2018), Desta, Al. Z., Belete, TH (2019), Nemmiche, K., NassourAb., Bouchetara, M. (2019), Khan, MYH, Hossain, A. (2018), Hammerström, L., Giebe, C., Zwerenz, D. (2019), Arora, S. (2019), Kandel, BK, Acharya, J. (2018), AlHalbusi, H., Tehseen, S. (2018), etc. [1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 15; 16; 17; 18; 19; 20].

Both global trends in the development of the business environment and some specific factors caused the field's increasing popularity. In particular, in 2020, COVID 19 contributed to the rapid growth of online commerce and communications.

Since the signing of the Association Agreement with the EU, the Ukrainian business community has been accelerating its movement towards business internationalization. It is supported by many governmental and non-governmental institutions that promote business development in the country, such as the CCI of Ukraine, the Export Support Office, etc.

On the way to foreign markets, companies face a large number of problems. According to a survey of Sumy CCI among exporting companies conducted in 2019, the top challenges were: ineffective government policy of business supporting and protecting the rights of the business community (30% of respondents included in the list and gave this group of problems the 1st place), lack of government programs of business supporting (70% of respondents had this group in the list), in particular, inefficient tax policy (80%), simplification of licensing, certification (50%). All respondents expressed a willingness to collaborate and cooperate with competitors to attract foreign customers [21].

According to another survey conducted at the initiative of the CCI of Ukraine, we can add to the list the following factors: lack of qualified personnel, working capital, political instability. Businesses cannot solve a number of these

problems without the participation of government agencies.

Digital communication channels, particularly Internet advertising, can help significantly increase the company's chances of success. This fact does not eliminate the need for careful preparation for internationalization but can substantially reduce possible marketing expenditures, test the market without physically entering it, build the necessary business network, and much more.

The web development market in Ukraine shows a steady upward trend. According to the Digital Developments Committee research, 89% of players provide corporate website development services, 81% of companies deal with online stores, 73% with promotional sites, 36% with mobile applications, and 32% with CRM systems [22]. However, in most companies (58%), only 15% of the total number of customers are foreign. In general, experts estimated the volume of the web development market in Ukraine in 2019 at UAH 500 million. And it will continue to grow in 2020. The same trends are in the Internet Advertising market. The critical factor will be the dominant turnover of global players: Facebook for banner advertising, Google (Youtube) for online video and search, and projected further growth of mobile traffic, due to the positive dynamics of mobile Internet consumption in Ukraine [23].

Developers (46%) determined the need for both customers and developers' training as the domestic market's immediate need. They also note the existence of price dumping and the lack of best practices in pricing.

However, the growing interest in digitalization services indicates a gradual transition of businesses to new models. The increased number of vacancies in the field (Robota.ua website) and raising the average level of remuneration offered to digital marketing specialists confirm the tendency.

At the state level, the importance of this performance aspect is insufficiently emphasized, especially in the service sector. However, many global giants have made digital channels the only international competitive advantage (Uber, Airbnb, etc.).

Thus, digital marketing tools simultaneously can solve the following problems: economy and efficient use of financial resources, significantly reducing the risks associated with entering new markets, facilitating customer base, brand management, increasing its visibility, and, most importantly, providing competitive advantages. The Ukrainian market of web development and Internet advertising is continually growing. Its participants can offer both the services in creating a digital communication policy and software.

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THE FIGHT AGAINST CORRUPTION AS ONE OF THE TOOLS OF THE NATIONAL ECONOMY DE-SHADOWING

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Today Ukraine is at the stage of building market relations, which involves the existence of various forms of ownership. Therefore, under such conditions, the role of motivation and effective public administration in the process of de-shadowing the national economy significantly increases [1, p. 257]. In the work [2, p. 15-16] it is noted that the shadow economic activity does not need to be "overcome", but it is necessary to create conditions for a legitimate economy to become profitable. The difficulty of openly combating shadow economic activity is explained by the fact that the illegal economy helps people to survive in economic crises and therefore it is extremely difficult to combat this phenomenon in both economic and social terms. The shadow economy in Ukraine has spread the most in the form of crimes in the field of economy, corruption, shadow politics. That is why among the main prerequisites for de-shadowing of the national economy are the following: inhibition of socio-economic reforms, the connection of the shadow sector of the economy with public authorities, growing corruption, criminalization of society, reducing investment attractiveness. For example, the slowdown in socio-economic reforms and the imperfection of the institutional environment create favorable conditions for shadow economic activity and corruption. The longer important socio-economic decisions to counteract the shadow economic activity are postponed, the more firmly the latter penetrates into all spheres of the national economy and the more efforts will be needed in the future to counteract the manifestations and consequences of the shadow economic sector. The result of shadow economic activity undermines the confidence of foreign investors in the stability of the national economy and the possibility of doing business in such a country. As the shadow economy is closely linked to the corruption component, a foreign investor has no guarantee of a return on investment legally.

In the work [3, p. 245] it is noted that in the conditions of deepening European integration processes the need to increase the level of economic security in Ukraine by counteracting external and internal threats is growing. Among the main factors that reduce the level of economic security, the corruption factor is named, the latter is directly related to the shadow economic activity. Corruption is often the primary factor in the shadow economy, as the legal system is often not interested in eradicating the shadow economy. When it comes to the corruption factor and European integration processes, the growth of the shadow sector of the

economy hinders the inflow of foreign direct investment flows into the national economic system.

That is why it is necessary to use specific approaches to combat corruption, which must be overcome, in particular, measures to create unfavorable conditions for its functioning in the national economy. One of the directions of counteraction to the shadow economy is counteraction to the shadow introduction of capital [4]. One of the steps to solve the problem of shadowing the national economy is to fight against corruption by stimulating an independent judiciary and enhancing the efficiency of a variety of government agencies created specifically to combat this phenomenon [5, p. 148].

In the work [6, p. 58-59] to combat corruption, it is proposed to take the following measures:

- to implement reforms in law enforcement and the judiciary to ensure the fairness of trials and the enforcement of judgments, develop measures to combat economic crime, reduce the dependence of the judiciary on public authorities, and transparency of trials. As a result of these measures, we can expect an increase in the investment attractiveness of our state, the establishment of social stability, improvement of the system of protection of property rights;
- to prohibit deputies and persons connected with the civil service from engaging in entrepreneurial activity, to establish partnerships between business and the state. This will reduce the motivation of officials to commit business offenses and increase the investment attractiveness of the state;
- to conduct open and transparent tender procedures for procurement in state and municipal organizations, which will reduce prices for goods and services, increase the profitability of suppliers, reduce social disparities in income distribution and improve investment attractiveness;
- to stimulate non-cash payments, which will strengthen control over the sources of income and excess costs over the income of entrepreneurs;
- to introduce openness and transparency of the National Bank of Ukraine, which will create additional incentives for the honest activities of bankers and strengthen public confidence in banks; to develop measures to return to the state funds received as a result of illegal activities by laundering them, this will allow the population to better understand the significance of their payments and encourage them to participate in the system. Other means of counteracting the shadow economy have been studied in the works [7-10].

The Ukrainian Chamber of Commerce is a full member of the International Chamber of Commerce and has ratified related anti-corruption documents accordingly. It should be noted that the International Chamber of Commerce has about seven million full members (enterprises, associations and chambers of commerce and industry of national countries), who regularly receive information on anti-corruption and honest business.

The International Chamber of Commerce (ICC) has developed a Code of Conduct for Combating Corruption, which provides for a number of measures to combat this phenomenon in enterprises. The main provisions of this document are the following [11]:

- the ethics of the organization and the personal example of management, in particular, each employee, taking into account management, should build their own behavior in such a way as not to be obliged to someone or depend on someone; introduction of similar competencies will guarantee the quality of execution of concluded contracts without provoking a shadow or corruption component;
- giving preference to employees, distinguishing between business and personal gifts, correct behavior with authorities and partners, avoiding conflicts of interest, etc.;
- organizational measures of an internal nature, which provides for the correctness of documentation, rotation of personnel in risky (potentially corrupt departments), the availability of an effective information system;
- control and sanctions, which include constant verification, control of standards and a system of sanctions.

Thus, taking into account the domestic specifics of management, the most important measures of the national economy de-shadowing is a set of anti-corruption measures and reforms. In particular, the introduction of anti-corruption measures and strengthening market regulation of the economy. It is necessary to move from outdated methods of regulating economic processes to new principles. The changes must concern the authorities and be aimed at combating excessive bureaucracy. Improving the provision of entrepreneurs will significantly reduce the incentive to go "into the shadows" and increase the effectiveness of state control over shadow operations.

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CHALLENGES FOR THE HEALTH COMPONENTS OF A REGION IN THE CONTEXT OF GLOBALIZATION

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The current globalization changes differ in their intensity and scale of change. Spatial changes lead to the active migration of people around the world. In high-income countries, there is an ongoing debate about globalization and health, namely the spread of dangerous diseases: tuberculosis, plague, SARS, Ebola and the most discussed virus of today, which caused the global pandemic, COVID-19). The development of transport systems today means that dangerous infections can potentially travel around the world in a matter of hours. On the other hand, modern technology allows the medical community to respond more quickly to any emergency. Such spreads of dangerous infections have negative consequences for the economies of entire regions as a whole. Experience has shown that such industries as tourism, transport, and retail trade are stagnating. At one time, due to the H1N1 virus epidemic, the European Union suspended the dialogue on the establishment of a Free Trade Area with Latin America [1]. We see that today, due to the coronavirus epidemic, countries, trying to protect their population and economy, are becoming less interested in international cooperation. In addition to infectious diseases, cognitive globalization changes caused by the advertising and marketing of consumer goods contribute to the global spread of lifestyle diseases (e.g., obesity or lung disease in smokers). By 2030, almost 70% of tobacco-related deaths (7 million annually) will occur in developing countries [2]. Any reforms in the health systems of countries and individual regions must be done considering the adaptation of recommendations to the local context.

Important positive aspects of globalization are the diffusion of medical innovations from highly developed countries, where under the influence of competition, there is a continuous renewal of medical technologies, medicines, and management. Intensive export and import of capital into research, internationalization of science contribute to the spread of scientific achievements in other countries. In Ukraine, the demand for magnetic resonance and positron emission tomography, new dentistry and ophthalmology, molecular viral diagnostic tests has grown significantly. According to the index of the level of globalization of the world, which allows assessing the scale of integration of the country in the global dimension, in 2019, Ukraine's position was high – 45th place among 197 countries with 74.83 points [3]. The well-being of countries and regions can be determined by the calculated indicators developed for this purpose. An example of such an indicator is the Prosperity Index of the World's Countries, introduced in 2006 by the British analytical center The Legatum Institute. This indicator makes it possible to

determine social well-being and its development on a global scale. This parameter must consider various aspects of society in a particular country (economy, entrepreneurship, governance, health care, security, environment, etc.). As of 2019, according to the Legatum Prosperity Index, Ukraine ranked 96th out of 167 countries evaluated at that time. Moreover, if Ukraine received 54.50 points, the leader of the rating Denmark 83.96 points [4].

For a preliminary assessment of regional components that determine the healthy environment, the author considers such an indicator of Ukraine as the International Healthy Life Expectancy Index, which is assessed every 3-5 years. Hence, the most current rating is for the 2018 year. This index accurately describes the overall health and quality of life and the level of efficiency of national health care systems and social policy. The very concept of "average life expectancy" for people means how many years they will live a healthy life on average, i.e., without serious health problems that can limit daily life. D. Sullivan built the scheme for calculating a healthy life expectancy. His ideas were later developed in many publications by scientists and practitioners on the integrated health measurement methodology. It is noteworthy that compared to the traditional indicator of life expectancy, this figure in many regions of the world is lower by an average of 12%. In Ukraine, the Indicator of Healthy Life Expectancy differs by gender (men – 60.3 years, women – 67.6 years) [5]. Human life expectancy depends on many factors: climatic conditions, the state of the environment, socio-economic conditions, food security and quality, the state of the health care system, the way of life of a person. In 2019, Ukraine ranked 93rd out of 169 countries in the Global Health Index. This indicator takes into account life expectancy, access of the population to clean water and air, the number of smokers, drug addicts, people suffering from obesity, the possibilities of local medicine [6]. According to self-assessment of their health, obtained from field research among 10,000 respondents in Ukraine, almost half of respondents in the country assess their health at an acceptable level (43.1%) or a perfect level (5.3%). Another 40.8% of respondents consider their health mediocre, 9.2% and 1.6% of the adult population define their health at a low and inferior level, respectively [7, p. 11].

Where a person is born and lives determine his or her provision of sources of satisfaction of needs (availability of sufficient resources for human nutrition; good climate for everyday life; an ecological situation in the region). At the regional level as a breadwinner, it is determined to what extent a person can meet additional needs beyond the primary (home equipment, more expensive clothes, buying real estate, etc.), which becomes possible when a person receives a decent wage, has confidence in the stability of employment, has additional sources of income. If a person's needs are not met, then there is a desire that can grow into an urgent need to change the region for a job or even change a permanent place of residence. Very often, gaps at this level can be leveled by the benefits of living in the region at the third level, "the

region as a defender". At this level, a person is provided with social communication with family and friends. Besides, it is in the region of residence that a person has better access to educational services, the services of health care institutions, which is crucial for a person to rethink the feasibility of changing the region of actual residence [8].

Globalization and regionalization objectively create competition between the regions of a particular country to create favorable conditions for living and doing business. Improving a healthy environment in the region (be it financial, environmental, quality of life, or other) is an essential task because, in current conditions, it is becoming a decisive factor in economic development and one of the main goals of regional development strategy. The tool of the struggle of regional authorities should be constant work to strengthen existing, identify, and ensure new competitive components of the regions. It is necessary to apply the competitive advantages of a particular region in building its interaction with crucial entities that generate national income [9-19]. For example, Ukrainian medical institutions have many years of successful experience in the effective treatment and rehabilitation of patients with diseases of the musculoskeletal system, gynecology, digestive organs, pulmonological diagnoses. Moreover, this must be taken into account in the marketing promotion of medical and health services on a national scale, which can be one of the practical tools for integrating the health care system of Ukraine into globalization processes in the health care system [20-28].

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MARKETING ACTIVITIES FEATURES FOR DIFFERENT CLASSIFICATION TYPES OF BUSINESS STRUCTURES

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The organization of effective economic activity in the Ukrainian market as well as its further long-term development requires innovative economic thinking and introduction of new approaches to its management, which should focus on the needs and demands of would-be customers.

The activity of different business structures in the conditions of modern complex economic development, aggravation of crisis phenomena and growth of competition in the market requires stable recognition and demand for goods of these structures, regardless of the classification type they belong to. Among the variety of those types we distinguish the most common ones, namely: Sole Proprietorship (the easiest and most basic type of business), Partnership (a single business where two or more people share owner) and Corporation (an independent legal entity owned by shareholders, which is more complex than other business structures because they tend to have costly administrative fees and complex tax and legal requirements) [1, 5-8]. A more recent development to these forms of business is the Limited Liability Company (LLC) – a hybrid type of legal structure that provides the limited liability features of a corporation and the tax efficiencies and operational flexibility of a partnership and the Limited Liability Partnership (LLP) – a partnership in which some or all partners (depending on the jurisdiction) have limited liabilities [5]. However, all these quite different structures equally need to promote products / services and bring them to the appropriate level of competitiveness. The question remains relevant: «How to push the consumer to purchase these products, or use these services?». And therefore an important role is given to the effective organization of marketing activities, in particular, its communication policy. The introduction of marketing activities in the practice of existence of different types of enterprises allows forming rational strategies that help to navigate in the changing conditions of market competition, as well as force majeure, in particular, the global pandemic. An important task of marketing services is to obtain a positive result from the actions of consumers. After all, the main purpose of product promotion is to stimulate demand among potential customers, as well as to arouse interest in an uninterested or unaware of this product audience. Before proceeding to special aspects of marketing communications, which are the most important component of mass communications, let's consider a number of their features [7]:

1) the targeted nature of communication - in contrast to the dispersal of mass communication in general, marketing communication is precisely aimed at the target audience, and this accuracy is calculated and achieved on the basis of a complex of media planning;

2) the repeating nature of messages - an advertising message, as a rule, is duplicated many times in order to achieve a certain frequency of communication; the frequency of exposure, as it were, «accumulates» among representatives of the target audience and provides a certain level of memorability of the message;

3) marketing communications are complex in their effect on the target audience - advertising messages in the media are supplemented by direct marketing methods, personal sales, sales promotion methods, participation in exhibitions, packaging design and points of sale, etc. Thus, non-verbal forms of communication can often complement verbal communication;

4) marketing communications are mainly persuasion-advertising, direct sales, etc. convince the consumer to buy the goods of the manufacturer. At the same time, the process of persuasion can be built both on serious argumentation and on purely emotional impact [2,17-22].

The role of marketing communications in the current conditions of the economic development of any country is highly important, and it involves finding the most effective methods for their implementation, impact on the potential consumer and maximizing the advancement of goods or services in the market/ One of the priority prerequisites is the need to know the market itself and its functioning. The ability to forecast the needs and opportunities of the market, gaining positions, gaining competitive advantages, effective strategies for further development, flexible response to changes in the market conditions and proper solutions to various problems is the very marketing activity of the enterprise. In highly economically developed countries, marketing is considered the fundamental basis of modern enterprises. In the current conditions of crisis, instability of the market and increasing the level of competitiveness, marketing is the so called «engine» that helps companies survive and develop further, as well as realize new opportunities. After all, marketing is the function that determines the policy, style and nature of a business structure [3-4, 6, 8-12]. Unfortunately, in many especially small business structures marketing services are not endowed with the appropriate powers, but are aimed only at market analysis, collection of statistical information, search for competing companies etc. In the context of entrepreneurial activity marketing can be considered as a system of five activities: 1. the company must determine which type of product best meets customer demand; 2. a price is set that would be acceptable to buyers and at the same time profitable; 3. effective methods and means of advertising should be used to inform customers about the product; 4. you can sell the product on your own or through intermediaries; 5. ensuring the subsequent supply / sale of goods.

Classical methods of conducting communication activities in enterprises gradually lose their relevance [13-15]. A single element of the marketing policy is not competitive and forced combine with other components, forming a single (integrated) unique system, because in the conditions today only a combined complex is capable perform the planned tasks and ensure effective positioning of a product or service as on domestic and international markets. Integrated Communication Policy (ICP) is significant enhances the impact on the potential consumer and product promotion subject to agreement approach, consistent implementation in the production process, market research, favourable impact external market environment, etc. In today's market globalization and competition should be more active to adapt such methods of communication policy as relationships and cooperation. Emphasis is placed on developing relationships with individual consumers that will promote mutually beneficial cooperation during long-term activity. Quite a common method of proceedings communication policy is actively involved social networking communities. Application modern crowd technologies and basic psychological approaches optimally affect perception planned context by the target audience. Regular research and communication should help a business to assess its competitors' sales, marketing and development activities. Nowadays the best wat out for the most of business structures is to apply the modern marketing strategy, i.e., to establish, build and strengthen the relationships between the enterprise and its audience. Modern marketing is able to offer the right touch points with the customers, it incorporates a deep understanding of customers' needs, challenges and inspirations[9, 12,16].

On the basis of the material, we can conclude that at present the use of individual communication policy tools is inadequate. The main emphasis should be done on integration and complexity; on formation of effective cooperation and interactions «producer – consumer»; on the efficiency and relevance of communication activities; on multichannel influences by attracting social networks and conducting virtual exhibition activities, etc. Thus, the evident truth for business structures should become a comprehensive assistance in the effective operation of marketing services and their use of special aspects of communication policy, including: exchange of ideas, proposals, information, decisions, etc. in a single manner, which in turn will improve staff skills, motivation to expand the consumer audience and etc.

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MANAGEMENT OF ENVIRONMENTAL RISKS AT THE COMPANY: THE MARKETING DETERMINANTS

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The issues on climate changes have been actualizing from year to year. In this case, the environmental risks were continuously increasing, which led to the enormous economic and social losses [1, 2, 3]. Thus, the companies should improve the system of risk management and increase the efficiency of it. Such a system allows companies to receive direct and indirect benefits for companies as for regions and countries. The results of the analysis of the approach to developing the risk management system confirmed that companies should consider the external and internal factors which influenced the companies' activities. The external factors could be classified as parameters which depend on the company's activity and not [4, 5, 6, 7, 8]. At the same time, the internal determinants could be controlled by the companies [9, 10, 11, 12]. The external and internal determinants have to consider by the companies due to the development of the company's strategy. Moreover, the efficiency of the risk management system depends on linking and collaboration among stakeholders of the companies. The linking between main stakeholders showed in Fig 1.

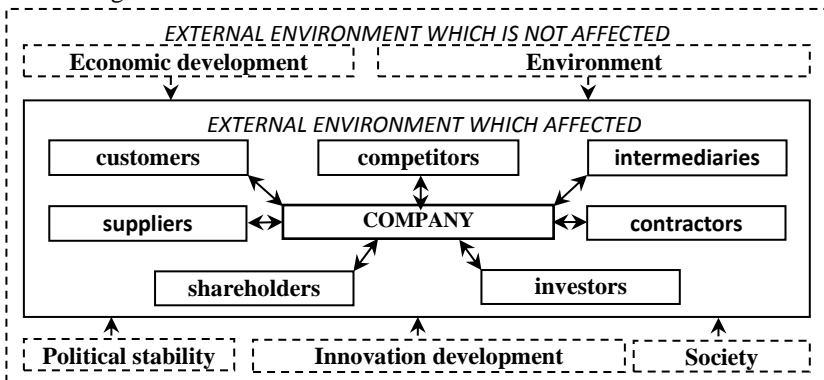


Figure 1 – Linking between main stakeholders of the company

Source: developed by the authors based on [8, 11, 13, 14, 15]

The results of the summarizing of the scientific background on the risk management system allow allocating the core principals as follows as: prevention

(prevention of emergencies); eco-friendliness (focus on long-term goals; ensuring environmental safety of production; optimal use of all types of resources); quality (compliance with quality standards of production and technological processes and their control); systematization (consideration of the environmental risk management system as a subsystem of the public company's management); screening (timely collection and provision of information; ensuring trust in information sources and methods of obtaining it); convergence (gaining additional competitive advantages; developing a positive image). The scheme of linking between the company's risk management system and core determinants of the company's risk management system presented in Figure 2.

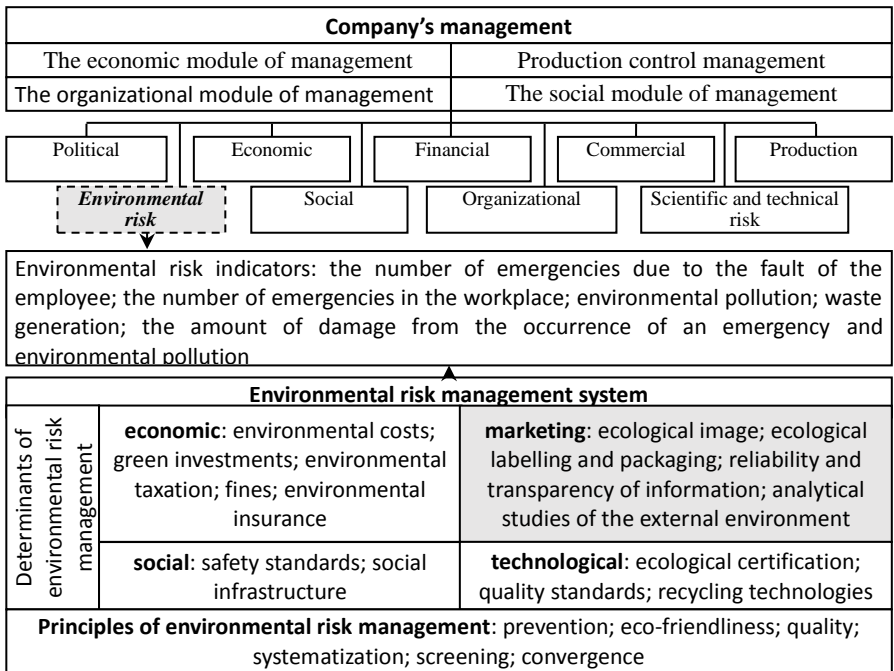


Figure 2 – Scheme of linking between the company's risk management system and core determinants

Source: developed by the authors based on [21, 22, 23, 24,25, 26, 27]

The current trends of economic development justified that company's management should consider not only the traditional (economic, social, technological) but also marketing determinants [28, 29, 30, 31, 32-38]. Traditional determinants of risk management orient to the adjusting actions to prevent emergencies within the company – increase capitalization, increase productivity and

labour. At the same time, marketers study the state of the environment and are a tool to increase the confidence of stakeholders in the external environment.

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THE GREEN-FEMININE STEREOTYPES AS A BARRIER ON THE WAY OF GREEN BRAND DEVELOPMENT

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Reducing the adverse impact caused by industrial activity in the environment is a crucial factor in greening the economy. Moreover, improving environmental performance leads to the development of new business streams. The green transformation is the ambitious commercial opportunity for the business sector. Thus, the green business operations provide profit growth, potential cost reduction, green customer loyalty, entrance on the new market, increasing the competitive advantages, etc. The analysis of statistical data allowed to notice that the in European Union the average level of employment in high- and medium-high technology manufacturing and knowledge-intensive services increased by more than 8%, while in Slovakia – by 15.58%, in Czechia – 12.79%, in Poland – 11.28%, in Hungary – more than 6% (Fig. 1).

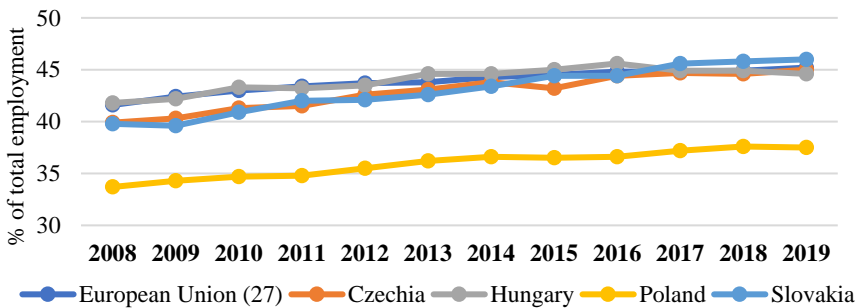


Figure 1 – The share of employment in high- and medium-high technology manufacturing sectors and in knowledge-intensive service sectors

*Source: developed by the authors based on [6]

However, the business capabilities in greening face with the limited resource potential, staff shortage, poor green professional knowledge and skills, society antagonism caused by low green awareness, the existence of eco-gender barriers, etc. Moreover, the scientific review indicated that the common held

prejudges concerning the role of men and women in a particular social group influence their eco-friendliness [9, 10, 16, 20, 25].

Thus, the gender equity aspects are considered to be a driving factor in gaining sustainable development entails the synergistic benefits from achieving economic, social and ecological goals. Herewith, gender stereotypes ascribe the specific features, roles, qualities to men and women based on their gender.

The researchers widely agreed that men are convinced that green focus relates to femininity. Moreover, the analysis of science findings indicated that 71% of women prefer a more ethical lifestyle, while the share of men is 59% [5]. Moreover, it is suggested that greenness and femininity are cognitively linked. Herewith, it should note that women tend to support green initiatives in society because of womanhood. Thus, women manage to run the household, recycle more, consume less, waste sort, reducing water and electricity consumption, refusal of plastic bags and dishes, prefer the eco-products, etc. [3, 19, 22]. While men associate pro-green behaviour with femininity, the women role are more flexible. Due to the mentioned above, men are eager to protect their masculine identity, which results in a bigger carbon footprint. Therefore, green-feminine stereotypes are considered to be barriers to the substantial progress of green economic development.

It worth noting that one of the most perspective strategies to overcome the negative impact of the eco-gender gap is increasing the level of awareness on green issues and smart technologies [7, 27, 29, 30, 31]. Thus, men and women should understand the relationship between the green model of consumption and its benefits for the environment. Moreover, the green knowledge and Internet of things are considered to have a decisive role in the optimizing the resources consumption and environmental protection [2, 4,8, 12, 15, 24, 26, 28].

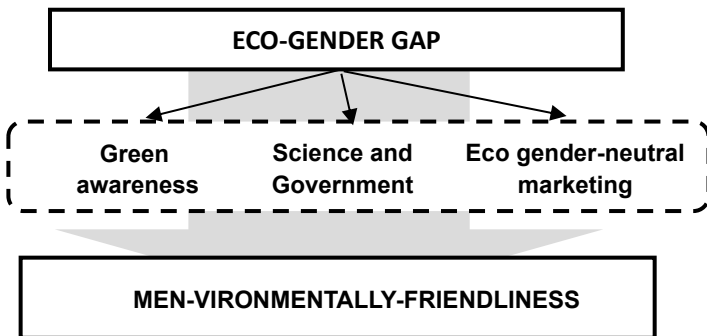


Figure 2 – The steps towards overcoming the eco-gender gap
*Source: complied by the authors based on [1, 11, 13, 14, 21]

The statistical data showed that the number of EU enterprises provided training to develop or upgrade the skills of their personnel in information and communications technologies have a rush tendency. In particular, in 2019, the share of the mentioned above enterprises in the Euro Area was 25%. Besides, the biggest share of enterprises was in the Nordic countries viz Norway – 44%, Finland – 37%, Sweden – 32% as well as Belgium – 36% [6]. It worth emphasizing that the implementing of the green projects has to consider the different experience of men and woman in their interactions with the environment and analyze the consequences of implementing the mentioned above projects for both sexes.

It should note that the green marketing campaigns focus on the pro-green consumption highlighting the ethical features, recycling, caring, cleaning, etc. Thus, these campaigns are largely devoted to the female audience. In turn, it creates the eco-gender gap [17, 18]. Herewith, for overcoming the eco-gender gap, the marketing activity should consider the women and men interests highlight the eco gender-neutral or even masculine features of pro-environmental behavior (Fig. 2).

Therefore, it is necessary to persuade men that development of eco-friendliness is accompanied with the confidence, high status, wealth, power, success, etc. Additionally, pro-green marketers need to rebrand the green products against masculine. In the green marketing campaign, it is essential to use ‘men-vironmental’ messages designed with the strong masculine fonts, in dark colors, words and images associating with masculinity.

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NEW TRENDS IN MARKETING FOR SMALL AND MEDIUM ENTERPRISES

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Current worldwide marketing trends open new windows for small and medium enterprises (SMEs). Thus, the new options of social media, digital instruments for custom relationships management and web-analytics allowed analysing the data of customer behaviour. Besides, digital tools don't contribute the huge financial recourses as the traditional marketing instruments [1, 3; 21]. Thus, the digital transformation provokes the changes in the communications channels with customers. Thus, the spreading of mobile phones among society and using them for online shopping led to penetrating of mobile marketing in all sectors. The digital marketing instruments allow analyse the customer funnel and choose the correct set of tools for increasing the numbers of customers [15;18; 22; 33].

It should be noted that COVID-19 contribute the reorientation and quick adaptation of SMEs to the new market conditions. The findings proved that experts identify five corer waves of digital marketing. Thus, the first is social media marketing. Social networks have the set of advantages compare with other digital (search engine optimisation, contextual and banner advertising, etc.) and traditional instruments (TV and outdoor advertising, BTL, product placement, etc.) [4;23]. Considering the statistical data, users spend 135 minutes on social networks. Besides, the customers use social networks not only for communications but also for searching for information on products and services, analyses of brands, reading feedbacks on products [2; 25]. The SMM allows achieving the goals as follows: - attracting traffic to the web site; - increasing sales; - raising brand awareness; - creating the image; - improving the quality of communication and interaction with target audiences [6; 30]. The second trend – Voice Strategy. It is a set of tactics and strategies for attracting customers using voice devices. Considering the official statistic data, the number of voice users have been increasing from year to year [7; 16]. Thus, half of the customers have already used the voice help, and 81% of customers among them use it with mobile phones. In this case, the SMEs should adapt their marketing strategy considering the popularity of voice helping [5; 8].

The third strategy – Live video. The Live stream has already become the traditional instruments for marketers. However, for SMEs Live video is a new option to promote the business among new customers. It should be highlighted that Live

video allows changing the channel communication with the customers. Besides, Live stream attract new viewers to the direct and authentic process that other social media formats could not provide [9]. The practice confirms that the customers follow the Live video and wait for the new stream. Besides, the worldwide brands (Vimeo, LinkedIn Live, Facebook Live i Periscope) have [17; 32].

The fourth wave – Content-marketing. It is one of the instruments of digital marketing which used the content for attracting and retaining clients. The quality content should be integrated among all online platforms of the company [10; 22; 27]. The word marketer’s community has proved that content-marketing allows increasing of customers loyalty to the brand, developing the long-term communication channels with the target group [11; 29]. One of the types of Live video is stories which disappeared during the time. It leads to the rising interest in the company’s content [34; 19; 31]. The fifth tendency – Internet of Things (IoT). IoT penetrates to all sectors from common using of things to using smart technologies in everyday life (Smart car, Smart home, etc.) [31; 24]. IoT allows collecting the data on the costumers’ behaviour and analyses if the digital footprint which is the base for the developing of the effective marketing strategy considering the clients’ habits and behaviour [14;26]. Considering the current economic issues, which increased due to the pandemic, the SMEs should quick react to the new trends and tendencies in digital marketing.

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EFFICIENCY OF UKRAINIAN ENERGY POLICY IN THE FRAMEWORK OF CIRCULAR AND CARBON-FREE ECONOMY

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The new global world changes on the modernization of energy policy and provokes the transformation of Ukrainian economy into a carbon-free economy. Accordingly, it puts the country to economic, environmental, social, technical and technological challenges in all spheres.

According to experts, the most promising vector in improving the Ukrainian energy sector is the concept of energy efficiency, energy-saving and sustainable development. In recent years, the number of scientific publications in the studied field by overseas and domestic scholars has been increasing from year to year.

In the papers [15; 18; 19; 22] the authors propose to consider a comprehensive multi-model dual-energy efficiency in the field (the field of industrial and household) given the behavioural characteristics of consumers (about efficiency, loyalty, income, etc.) and the strategy of sustainable development.

It is crucial to consider situational factors and their impact on the model of energy consumption by households as a tool for developing the sustainability of energy consumption, increasing energy efficiency and energy conservation [5; 8; 10; 23].

Prospects for the introduction of renewable energy and the search for alternative fuels in the process of restructuring the energy sector to reduce greenhouse gas emissions, as the implementation of effective energy policy were studied in the papers [1; 3; 20; 21; 24; 27] by the national scientists.

One of the main areas of research [2; 4; 6; 7; 12; 14] is an assessment of investment attractiveness in the field of green economy and energy, the search for innovative financial mechanisms in the process of introducing renewable energy sources in industry and households.

Scientific researches [11; 16; 17; 26] highlighted the necessity of developing the new marketing tools to attract investment and promote environmental awareness and thinking in society.

The results of the analysis confirm that no universal plan for the implementation of an effective energy policy in Ukraine has been adopted so far. It is expedient to consider some strategic development plans, such as Energy Strategy of Ukraine until 2035 «Security, Energy Efficiency, Competitiveness» [9]; Sustainable Development Strategy of Ukraine till 2030 (Project 2017) [13]; State Targeted Economic

Program for Energy Efficiency and Development of Energy Production from Renewable Energy Sources and Alternative Fuels for 2010-2021 [25].

One of the areas of development of the strategies mentioned above and programs is the task of establishing a carbon-free economy in Ukraine in the concept of improving energy efficiency and achieving sustainable development goals. The key indicator of the level of effectual energy policy is the energy intensity indicators, which are shown in Fig. 1.

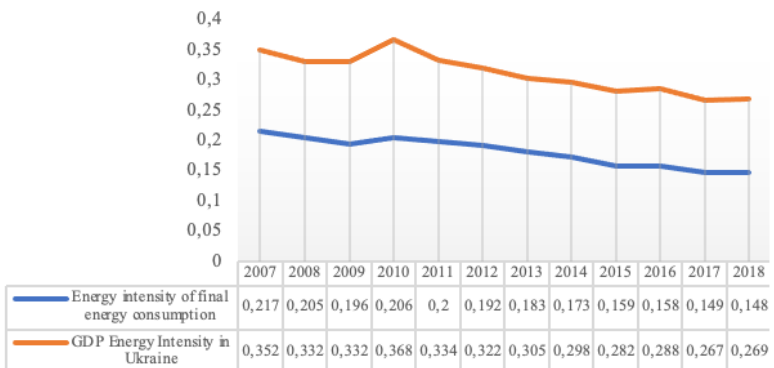


Figure 1 - Indicators of energy intensity in Ukraine, tons of oil equivalent./thousand dollars USA, 2007 – 2018

Starting from 2011 (Fig. 1), the energy intensity of GDP and final energy consumption in Ukraine decreased by 2.9% and 9.2%, respectively, compared to the previous year. In 2014 the country ranked 8th compared to other countries in terms of energy intensity of GDP. In general, there is a positive trend towards a decline in energy intensity of GDP, in 2018 it decreased by 23.58% compared to 2007 and final energy consumption, which is 31.8% less than in 2007. Although the indicators tend to fall every year, in comparison with the EU countries, the values of these indicators are high and do not meet European standards.

The turning point in the presented trend is the identified and adopted development strategies and programs focused on EU standards and requirements. But it is not only the reason for the decline, but it is also necessary to note changes in the demographic situation and methodology for calculating GDP. To consolidate the success and development of Ukraine's energy policy, taking into account the powerful natural potential, it is necessary to:

- disseminate energy-saving power-efficient technologies in the industrial sector;
- upgrade energy infrastructure in the country according to the standards of the

European Union;

- introduce the best world practices on restoration and preservation of the natural environment taking into account domestic conditions of functioning of the national economy;
- formate a favourable investment climate to attract green financial resources in innovative energy-efficient projects;
- minimize the amount of energy import through the introduction of renewable energy sources in the industry and among households;
- improve and implement the motivational mechanism for the implementation of alternative energy (green tariff, green auction, et c.).

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PROSPECTS OF TOURISM DEVELOPMENT

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Nowadays, tourism development is considered to be a critical factor in sustainable development. Herewith, tourism is a complicated concept. It could be defined as a complex system of interconnected industries, as an economic industry, type of activity, leisure, etc. In turn, it worth noting that the systematization of scientific background allowed noticing the growing tendency in publication activity in the field of research the relationship between tourism and economic growth [6,7, 14-17, 23, 24, 27, 28, 30, 31, 34]. In particular, the results of the bibliometric analysis provided with the VOSviewer tool allowed identifying 9 clusters that indicate the thematic scopes of scientific publications in the investigated field. It was found that the largest cluster (61 terms) demonstrates the investigating of the relationship between tourism and environmental issues. In turn, a slightly smaller cluster (49 terms) mainly indicated the studies on the relationship between economic growth and tourism development. The third-largest cluster (48 terms) is thematically focused on research in the field of economic development, tourism and climate change (Fig.1).

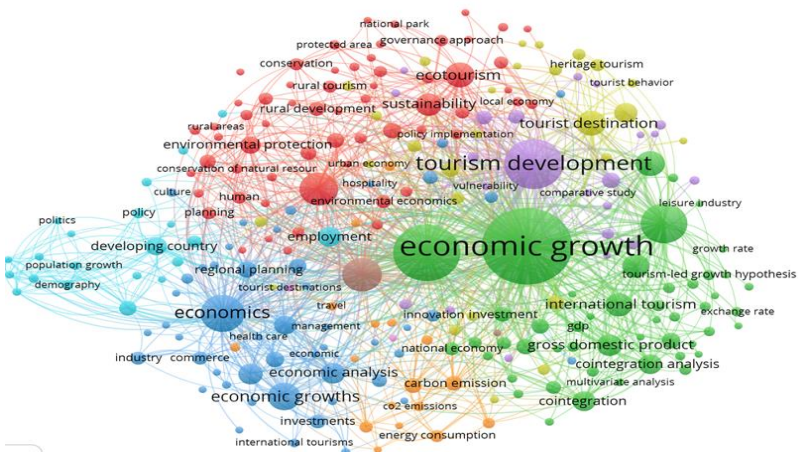


Figure 1 – The network map of the scientific thematic scope (2000-2019)

*Source: developed by the authors using the bibliometric tool VOSviewer [1-41]

Following the mentioned above, it could be assumed that the tourism industry assumes a significant role in the economic growth of any country. However, nowadays, the tourism industry suffers from sustaining losses due to COVID-19 pandemic. Indeed, the tourism market has a strong declining in supply and demand. Moreover, the measures, which are taken to struggle against COVID-19 adverse influence negatively affect economic growth. Furthermore, it has significantly curtailed population movement both domestically and abroad. It should note that the decline in tourist activity provokes a further recession in the context of economic, social and political tension [5, 10, 11, 32, 33, 36].

The obtained analysis results allowed establishing that the competitiveness of Ukrainian tourism industry is lower by 3.2% compared to the global average in 2019, while in the EU tourism capacity is higher than the average global level, particularly: in Estonia – by 9.1%, in Latvia – by 5%, in Lithuania – by 3.3%. It should note that the unchangeable leader in tourism competitiveness rating is Spain [32]. It worth noting that the main factor holding back the flow of foreign tourists into Ukraine is the imperfection of the "business infrastructure". In turn, the statistical data analysis showed that Ukrainians travelled less than people in EU countries (Table 1).

Table 1 – Competitiveness Index of countries in the field of tourism and travel (2019)

Country	Score	Absolute growth compared to 2017, (%)	Absolute growth compared to the global average rate, %
Spain	5,4	0,3	41,4
Estonia	4,2	-7	9,1
Latvia	4	1,8	5
Lithuania	4	1,5	3,3
Ukraine	3,7	6,5	-3,2

*Source: developed by the authors based on [33]

At the same time, the dynamics of Ukraine residents requests to arrange routes since January 2020 indicated that residents of Ukraine navigated by vehicle more often than paved pedestrian routes [1, 2, 8, 12, 13, 19, 22, 26, 29]. Thus, the development of domestic automobile tourism is one of the ways to recover the tourism sector. According to the mentioned above, this paper presents the possible scenarios of the tourism industry development in Ukraine during the COVID-19 pandemic based on the example of domestic automotive tourism.

The obtained forecast results indicate that the adopted quarantine measures have a significant impact on the movement of residents within Ukraine. In the first case, if the quarantine measures were not introduced from 12.03.2020 and the population continued its usual way of life, the trend of movement would have rapid

growth and did not have a significant impact on tourism. However, the second development scenario, subject to the introduction of quarantine restrictions from 09.05.2020, indicates that the dynamics of population movement will have a slightly positive trend.

The revival of tourism activity would allow employees to return to their workplaces, provide cash flow contributed to the development of both the tourism industry and the economy as a whole. Therefore, against the background of the fight against the COVID-19 pandemic, it is strategically important to form a reliable image of Ukraine and increase the tourism market competitiveness, forming new proposals, ensuring a high level of hygiene and safety, attracting innovative management methods and active use of modern information technology, affordable price of tourist services, etc.

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EFFICIENT AGRO-LAND USE IN THE CONDITIONS OF GLOBAL CLIMATE CHANGE

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Climate change in recent decades has become a global problem, and the fact of global warming is considered scientifically proven [2, 5, 9, 13]. Already there are negative consequences of climate change: rising global air temperature, rising ocean levels, abnormal weather events and other environmental impacts [6, 7, 8]. It is obvious that such changes have a cardinal impact on the change of weather, which is the most important factor for agricultural producers. Given that the climate has a significant impact on crop formation, the consequences of global warming are threatening - every year the world loses 1 million hectares of arable land [5, 10, 11]. While maintaining the current trend of climate change, in 40 years Ukraine will lose 12-14% of such lands, and EU countries - up to 30% [1, 3, 17]. For Ukrainian farmers, the weather turns from an advantage into an enemy - "spoils" a favourable temperate climate (agricultural climatic zones, over the past 30 years, shifted to the north by almost 200 km) [20, 23]. They face atypical weather phenomena for our latitudes - extreme heat in summer, severe frosts in winter with minimal or no snow cover, reduced rainfall, increased natural disasters (heavy rains, hail, floods, fires). Data on the progress of the harvesting campaign in 2020, according to the analysis of the Ukrainian Club of Agrarian Business, indicate that as a result of arid conditions and lack of soil moisture in almost all of Ukraine there is a reduction in expected crop yields (as a result of premature ripening and drying of plants, the gross harvest of corn will be less than 30 million tons, sunflower - only 12.2 million tons, and soybeans only 2.6 million tons) [12, 18, 19]. The largest reduction in the expected harvest occurred in the southern regions of Ukraine, as well as in Vinnytsia, Kirovohrad, Poltava and Cherkasy regions [14, 15, 16].

How can agrarian business survive under these circumstances? It is necessary to change the conditions for efficient use of land resources and organization of agricultural enterprises [21, 22]. Farmers must adapt crops to new weather conditions - choose more heat-loving and drought-resistant varieties of crops; take into account the reduction of the growing season of their cultivation to prevent crop losses due to premature ripening of plants; use such types of plowing that help retain moisture in the soil, irrigation and mulching; to retain moisture in the soil also use only liquid fertilizers; timely conduct pest control measures, etc. In order to effectively use the favourable aspects of climate change, farmers need to introduce new technologies and environmentally friendly approaches in the process of crop production.

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QUALITY OF EDUCATION AND SDGS: SOCIO-ECONOMIC ASPECT

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The quality of education is estimated by the prestige of the graduate's workplace [1-3], student-centered learning is at the forefront. Improving the quality of education in Ukraine is achievable; it's just needed to get away from the model of education used in the Soviet Union [4,5].

It should be mentioned that the problem to follow the quality of education at universities has a complex nature and is peculiar for SDG 4, e.g., "Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship," SDG 9, e.g., "Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries," SDG 17, e.g., "Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South, and triangular cooperation."

Creating a gap of social and economic development and welfare between the developed countries of the West and the countries of the so-called "Third World" ("North-South" divide) can be an accusation for each of the parties. There are the main reasons for this gap:

- The South cannot break the vicious circle of poverty. This circle is rather "mental." It is more difficult for Ukraine to get out of this circle because there has always been excess material and human resources in the Soviet Union. The consequence of this excess (after Ukraine had obtained its independence) was the unpreparedness for the rational use of resources, including educational, and the transition from extensive growth to an intensive one;

- The North made the modern economic system, and it is in a better position. In this case, Ukraine has become a raw material appendage of developed countries and the basis for hazardous industries' functioning. It should also be noted that Ukraine is also a supplier of highly qualified personnel, which characterizes the national educational system and the processes of ensuring the quality of education as rather progressive.

As can be seen, both reasons are associated with material resources and raw materials base for Ukraine. The irrational use of resources and the absence of a legislative base for the transition to intensive growth methods are the main reasons for the "lagging behind" Ukraine development. This "lag" makes a difference in understanding the key issues between Ukraine and the North and the pace of social and economic development.

Analysis of the data [6-11] as applied to different regions and their "predisposition" to innovations and sustainable development goals indicates a constant interest in improving the educational environment's socio-economic aspects [12-16].

The new version of the Law of Ukraine "On Higher Education" opened opportunities to build real autonomy of higher education institutions in Ukraine, creating an effective mechanism for ensuring academic integrity and quality of the activity, narrowing the field of potential corruption and involving stakeholders in the public and state regulation of higher education sphere.

NAQA Annual Report [17] informs that "According to Article 78 of the Law of Ukraine "On Education"65, the state provides allocations for education in the amount of at least 7% of the gross domestic product. This indicator was almost reached in 2013 (6.9 % of GDP); this figure was the lowest in 2016 (5.4 % of GDP). In 2019, allocations for education in Ukraine amounted to 6.25 % of GDP. However, given the rapid fluctuations of the national currency relative to the US dollar, the actual allocations for education totaled very different amounts in different years".

This work proposes a methodology for achieving sustainable development goals as applied to the quality of education and socio-economic aspects of this process (fig. 1). This methodology is based on some conclusions from the analysis of sources [18-21].

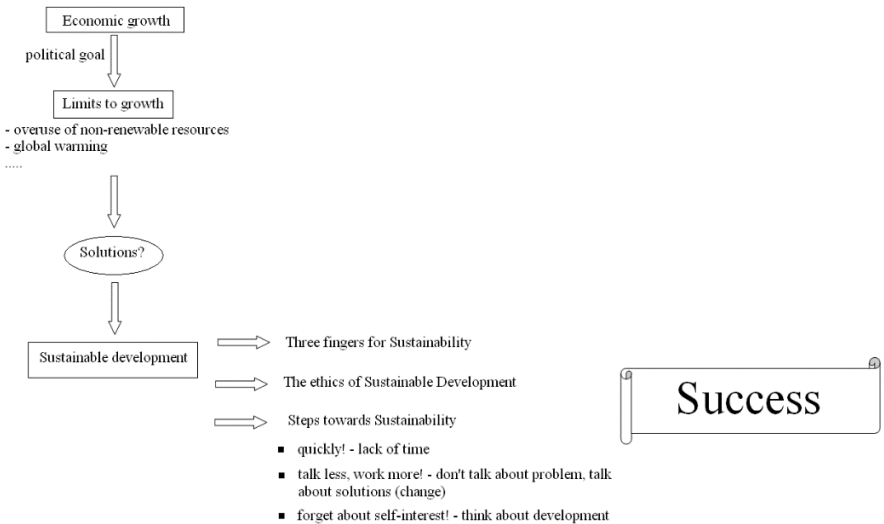


Fig. 1 A methodology for achieving sustainable development goals as applied to the quality of education

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KNOWLEDGE MARKETING AS A TOOL FOR SOCIO-ECONOMIC GROWTH: THEORETICAL AND APPLIED BASE

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Modern understanding of the relationship between knowledge marketing and successful innovation projects is quite broad depending on the industry of innovation implementation [1-4]. An important factor in successful knowledge marketing is the environment where knowledge sharing takes place [6-9].

This work proposes a model for the transfer of knowledge and technology from universities to industry and within the industrial sector, which is based on the study of data [1,2,5,7] and is presented in fig. 1.

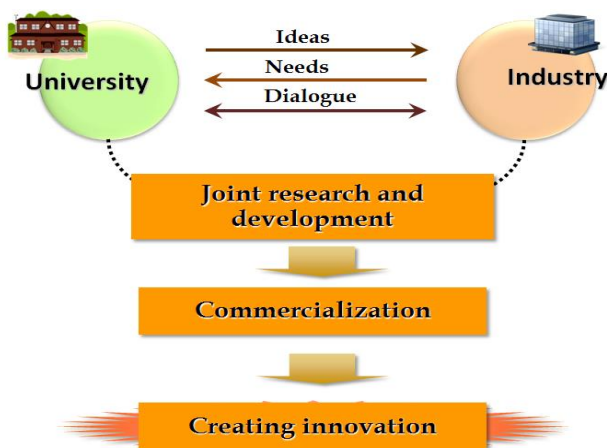


Fig. 1. A model for the transfer of knowledge and technology from universities to industry and within the industrial sector (success)

Analysis of different countries' experiences [10-17] showed that there are systemic problems in the organization of knowledge and technology transfer at the following levels: the state level, scientists and their relationship with business, information on research and development, business interest, banking system stability etc.

The main elements which are in the center of close attention of specialists in knowledge marketing and technology transfer:

- insufficient number of elements of the innovation network of technology transfer departments;

- the uneven distribution of innovation infrastructure in the regions and the lack of large scientific associations that would centrally carry out research and commercial transfer could best meet domestic enterprises' needs in quality production technologies.

- the problem of creating a bank of current developments of the university;
- information collected in databases contains inaccurate data;
- insufficient activity of technology transfer networks;
- insufficient activity in promoting developments in European technology transfer networks;
- lack of a single form of presentation of scientific developments for business.

All these problems give rise to ineffective knowledge marketing and, as a consequence, unsuccessful transfer of knowledge and technology

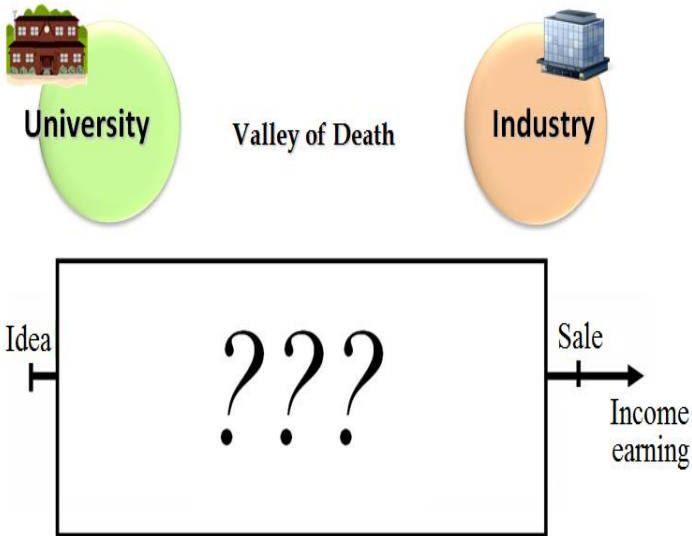


Fig. 2. A model for the transfer of knowledge and technology from universities to industry and within the industrial sector (fail)

Based on the 2030 Agenda for Sustainable Development and data [18-20], a relationship between knowledge marketing and some SDGs is proposed (fig. 3).



Fig. 3. A relationship between knowledge marketing and SDGs

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SOME ELEMENTS OF MARKETING ACTIVITIES IN BLOOD SERVICE COMPANIES: CONTENT STRATEGY OF THE SITE

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Content strategy is a component of PR activities. It directly affects the formation of a company's positive image in the consumer's eyes. Successful content allows company to form the company's image as an expert in its field, to increase the target audience's trust, loyalty to the company, increase sales.

Before developing a content plan, it is necessary to determine the format, type, topics, frequency of publications and communication channels.

One of the main indicators of blood service companies, which shows the effectiveness of the marketing activities is the number of donations per thousand population. In the Sumy Regional Blood Service Centre (SRBSC) it is 60.75 [1] and in the Blood Service German - 62.15 [1], they are almost twice as much as recommended by the WHO. It shows the high efficiency of marketing activities of these companies.

Therefore it was analyzed the content posted on the websites of SRBSC [2] and the German blood service [3], and the print media about SRBSC [4].

The following content formats are used in blood service companies [2; 3; 5]: videos, articles, comments, screenshots, stories, images and photos, advertising materials (press-wall), programs, reviews, interviews, posts and tweets, news, quotes, banners, lists, links, advertising layouts, newspapers, magazines, electronic publications, announcements and invitations, questionnaires, contests, quizzes, lotteries, maps, stories, presentations, panoramic photos, video tours, photos of sculptures, paintings, coins (with a pelican), thematic films (with celebrities or bloggers who donate blood), mobile applications in the service of blood, podcasts, webinars, gif-animations, cases, coupons and certificates, maps, biographies of people (who have made a great contribution to the development of the institution), instructions (for example, about traveling abroad for donors, high hemoglobin and blood donation, low hemoglobin and blood donation), infographics, etc.

The following types of content are used in blood service companies 2; 3; 5]: involvement (photos from the donor hall), entertaining (quizzes, contests, flash mob), custom (reposts with photos near the press-wall, photos during donations), introductory (benefits from donation, articles about honorary donors and company's employees), educational (how to prepare for donation), advertising (promotional materials), congratulations (for the holiday, important events), news (about events, achievements), guest (reviews, comments), viral and stimulant content, («Mut-Spende» campaign), expert (transfusiologist advice), problematic (quarantine donation, bruising: donor advice), etc.

It is important to note all topics for content. It was analyzed the topics of publications in the print [4] and online mass-media about SRBSC [2] from 2016 to May 2020. It was determined the topics that help to form the positive image for blood service (Table 1).

Table 1 - Topics of publications on the site of the Sumy regional centre of the blood service during 2016 – May 2020 [2; 4]

Topics	Number of publications
Cooperation with the organizations of the city, which give blood by collectives: lawyers, doctors, journalists, rescuers, military, representatives of the local government, workers of the regional plants, educational institutions	18
Actions at the blood centre, held together with public organizations and medical institutions: Association of Young Donors, Department of Culture and Tourism of Sumy City Council, Sumy Regional Clinical Hospital, Avdiivka City Hospital; drawing contests, poetry, flash mob, etc.	15
Company's experience and achievements (high performance in the industry, experienced employees, investment in the centre, certification, opening of branches in district centres), exchange of experience with colleagues	14
Interaction with the Red Cross to provide a blood bank	7
Explanation about donation: who can be a donor, how the blood donation process takes place, description of centre's activities	5
Examples of help to those who urgently need blood (participants of anti-terrorist operation, sick children, enterprise's employee of the city)	5
Call to donate blood (especially during quarantine)	5
Benefits for the donor, the benefits of donation	4
Articles about honorary donors	4
Meet the donors and the people they helped	4
Problems of the institution, conflicts of the institution with the public	4
Articles about centre's employees and their great contribution to the work of the institution	3
Excursions to the institution (students, newspaper staff, partners)	2

Also can be published content on such topics [3; 5; 6]: samples of branded

products (logo, advertising models, branded cars, samples of staff clothing), books, articles, video presentations of employees in scientific journals, the history of centre's creation and development, the story of each employee, corporate culture, social responsibility, donor reviews and recommendations (video reviews, photos with the doctor, photos of handwritten reviews), innovations and unique usefulness, how is achieved donor's safety, past mistakes and blunders and how they were eliminated, certificates of specialists, answers to frequently asked questions, creativity of employees, educational work, myths and their dissipation, how centre looks from the outside (monuments, murals, etc.), a healthy lifestyle and disease prevention, experts who share experience, etc.

The frequency of publications can be as follows: daily - short simple posts (quotes, tips, lists, checklists), weekly - useful publications (reviews, interviews, lessons, articles), monthly - long useful materials (webinar, white papers, etc.), once or twice in year - a major project or event (master class, seminar, celebration, etc.).

Communication channels for content publishing can be used: website, own pages in social networks (Facebook, Instagram, Tik-Tok), groups and partner pages, YouTube channel, Google services, blogs, etc.

As the loyalty of the audience and the level of trust to centre is not calculated by specific figures, the effectiveness of such activities can be assessed using indirect indicators: involvement of people in social networks (activity level, growth of comments), questions asked by donors, number of repeat visits, increase the time spent on the site.

Thus, it is very important to have well-prepared content strategy for all enterprises [7-26]. Especially it is important for blood service company: well-prepared content strategy allows blood service company to gradually form the necessary positive image of the centre and promotes the idea of donation among the population.

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SCALING ECO-INNOVATIONS BASED ON SOCIO-ECONOMIC EFFECTS IN THE "BUSINESS-SECTOR-REGION-STATE" SYSTEM*

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The process of environmental modernization is acquiring a more practical character today than at the time of the beginning of this theory, and does not remain at the level of programs and projects of individual organizations and institutions. In our opinion, the process of environmental modernization is gaining scale, rapid spread today and, accordingly, requires scientific substantiation to stimulate in society the desirability of renewing systemic economic relationships.

Today in Ukraine there is no systematic view of solving the problems of environmental modernization of the national economy, since it is considered separately from economic growth and should be based on innovation.

It is necessary to focus on the use of modern knowledge and world achievements, the borrowing of advanced technologies for the implementation of timely environmental modernization of socio-economic development. The dominant trend of the world economy is the process of ecological modernization of social development, and a new scientific problem from the point of view of such an important factor in the development of the national economy as eco-modernization changes, trends have been identified for increasing the role of the state in regulating the economy, as well as clarifying the role of the state in the formation of the state process, respectively. regulation of these changes. Global trends in the formation of a recycling economy, a low-carbon economy and "green" economic growth are very relevant for Ukraine, therefore, the ecological modernization of socio-economic development should be innovatively directed. This requires the development of a comprehensive mechanism for the implementation of sectoral reforms, considering eco-modernization changes, which is called the ecological modernization of the economy.

When assessing the adequacy of "scaling" eco-innovations and its impact on the national economy, it is proposed to use a comprehensive method of assessment based on the theory of desirability of Harrington. The use of such a generalized indicator allows to determine the adequacy indicators for various indicators of "green" economic growth. To assess the complex indicator of the adequacy of "green" economic growth (Re), it was proposed to calculate the generalized desirability as follows:

$$R_e = \sqrt[n]{D} = \sqrt[n]{e^{-e^{-C1}} \cdot e^{-e^{-C2}} \cdot e^{-e^{-C3}} \cdot e^{-e^{-C4}} \cdot e^{-e^{-C5}} \cdot e^{-e^{-C6}} \cdot e^{-e^{-C7}} \cdot e^{-e^{-C8}} \cdot e^{-e^{-C9}} \cdot e^{-e^{-C10}} \cdot e^{-e^{-C11}}}, \quad (1)$$

where: C1 - indicator of carbon dioxide emissions in energy, thousand tons; C2 - indicator of carbon productivity of GDP, UAH / t; C3 - indicator of emissions (CO2) per person, t; C4 - primary energy supply indicator, thousand tons n. is.; C5 - energy consumption indicator, thousand tons of oil equivalent; C6 - indicator of energy consumption per person, kg of oil equivalent; C7 - GDP indicator per unit of energy consumption, UAH / t of oil equivalent; C8 - waste generation indicator, thousand tons; C9 - indicator of household and similar waste generation, thousand tons; C10 - GDP indicator per unit of generated waste, UAH / kg; C11 - GDP indicator per unit of generated household and similar waste, UAH / kg.

Table 1 - Integral EM indices of the national economy

	2016	2017	2018	2019	2020*
R_f	0,0145	0,0321	0,0143	0,0176	-0,0110
R_r	0,0123	0,0079	0,0255	0,1023	0,3028
R_e	0,342	0,3056	0,2447	0,1432	0,2587

*forecast. Authors research

The obtained results allow to analyze the probability of the effectiveness of changes in the system of the national economy from the adequacy of the conducted EM, which is proposed to be carried out based on the model. The result is the following dependence:

$$\begin{cases} P(R_f = 1) = \Phi(-6.553 - 6.891 \cdot 10^{-10} \cdot R_r + 1.382 \cdot 10^{-9} \cdot R_e); \\ R_f = \begin{cases} 1, R_f > 0; \\ 0, R_f \leq 0. \end{cases} \end{cases} \quad (2)$$

where F is the integral function of the normal distribution.

Wald's test showed that the coefficients of the model are statistically significant. Analysis of model (3) shows that the probability that the implemented set of measures will be effective is very small (values less than 0.0001). The coefficients at R_r and R_e do not significantly affect the situation, because their values are very small. Thus, the probit model indicates that modernization changes in the national economy are not effective. This requires the development of additional regulatory tools.

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SOCIAL AND ECOLOGICAL RESPONSIBILITY AS A SYSTEMIC ELEMENT FOR AGRICULTURAL SUSTAINABILITY

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Social and ecological responsibility plays an important role in the national food security, as the problem of providing quality food is critical to the population. From time to time, scandals with newly discovered dangerous substances occur in the world, and the emergence of new forms of viral infections prompts the question of the possibility for sustainable socio-economic development of society. This situation may lead to the fact that increasing consumption of agricultural products can reduce the life quality in general. This decline in life quality is primarily defined as a decrease in the level of public health, which leads to the loss of human capital [1-11]. From these perspectives, we believe that an important idea of the economic paradigm of greening agriculture as a whole is the socio-ecological and economic responsibility for the food quality and the environment in all chains of agribusiness [12-17].

Therefore, the creation of an effective mechanism of socio-ecological and economic responsibility is a logical development of the market agricultural sector, which requires effective ecological and economic regulation. The need to increase the level of responsibility for the eco-destructive effects of agricultural management is largely determined by its complex impact on the agricultural sustainability, eco-balanced production results. That is why the formation and further development of organizational, economic and legal mechanisms of social and environmental responsibility should become an integral part of the agrarian economy.

Socially and environmentally oriented responsibility in the field of agriculture acts as a responsibility for the consequences of the irrational use of agrarian natural resources that affect the environmental, economic and social interests of society, economic entities and individuals. Social responsibility directly has a complex socio-ecological and economic character and implies management responsibility that goes beyond the specific (real) mechanisms for generating profit. Also it should be taken into account protecting and enhancing social well-being under various parameters of sustainable development. Therefore, it should be emphasized that the most important structural elements concerning the social responsibility are social commitment and responsiveness in the long-term socially beneficial goals of agribusiness [18-24]. Of course, the processes of social responsibility implementation require the formation of appropriate mechanisms of environmental management. At the same time, the social activity of the enterprise is a set of measures for the effective realization of the entrepreneurial social responsibility, which should have both internal and external orientation.

Analysis of theoretical and methodological foundations of the development of social responsibility in environmental management indicates certain versatility concerning essential and meaningful basis of social and ecological responsibility [25-28]. The structural components of social responsibility are also ambiguously identified. In particular, the social and ecological responsibility is conscious and motivated business participation in various preventive measures concerning environmental damage and irrational nature management; also in providing social and ecological benefits, measures for labor protection, environmental quality improvement and sustainable nature management [29].

Social and ecological responsibility of agricultural enterprises of different forms of ownership and organizational forms of agribusiness must be determined by their responsible attitude to the rational use and reproduction of natural resources, workers, society in general and individual citizens, as well as negative changes in the ecological and economic parameters of land and resource potential (capital).

The social and ecological responsibility in agribusiness is determined by the certain factors as follows:

1) Voluntary and initiative ecological and economic measures of enterprises go, especially at the initial stage, beyond the limits of profit, the legislative regulation of environmental agriculture.

2) Ecological and economic measures to improve agrarian nature and resource potential are of social importance for the local population to contribute its employment.

3) “Greening” of the agricultural production has undoubtedly social effects, both in terms of improving the level of labour safety and increasing incomes for workers, as well as improving the level of environmental food security.

4) The relations of enterprises with the public are social in the system of environmentally responsible agricultural management.

We define *social and ecological responsibility of enterprises* as an initiative-voluntary internal and external activity aimed at responding and forming commitments concerning ecological, economic and social issues of sustainable, environmentally balanced rural development within the established system of environmentally oriented regional agricultural management.

The peculiarity of this definition is that it reflects the basic signs of social responsibility - *responsiveness and commitment*, as well as its external and internal orientation.

Socially responsible enterprise management on an ecological and economic basis is defined as a process of implementation and integration of social and environmental measures into agro-economic activities that go beyond the formation of profit and the legally established principles, rules, norms, standards of rational use and reproduction of agricultural natural resources for ensuring sustainable agricultural development.

Social and ecological responsibility in nature management within the framework of the enterprise's activity is formed and determined by the main factors as follows: social and environmental initiative; ecological and economic knowledge management system; ecological culture; ecological and economic technologies of socially responsible agricultural management.

Generally, it is necessary and appropriate to talk about a comprehensive organizational and management mechanism of socio-ecological and economic responsibility for the greening of agricultural land use and environmentally safe nature economy in the context of food security. Such a mechanism should be defined as a set of forms and instruments in the system of social, ecological and economic regulation of agricultural development on the basis of simultaneous application of administrative, economic and social management methods.

Forms and methods of economic and at the same time legal responsibility should also be optimally combined with instruments not only of purely economic stimulation, but also motives for realization of environmental, social interests of society and individual economic entities (legal entities and individuals), as well as with other functional links of the mechanism of agricultural management.

Agricultural economic, social and ecological responsibility should be based on the following principles: ensuring the economic parity, environmental and social values of the agro-economic activity results; achieving the optimal combination of vertical and horizontal responsibilities; the most complete compensation for socio-economic and environmental damage; inevitability of economic and legal sanctions; ensuring a balance between economic sanctions and economic incentives (socially and environmentally responsible behaviour of agribusiness entities should be encouraged through subsidies, tax breaks, preferential lending).

Economic responsibility, administrative and legal sanctions for irrational agro-production, violations of environmental legislation fulfil the main functions as follows [30, 31]:

1. *Incentive function.* This function of responsibility is fundamental, since it is expedient to prevent the negative impact of irrational agricultural land use, eco-destructive production on the level of quality (ecological) of products, and then eliminate them. The implementation of the incentive function requires a wide variety of motivational tools for the greening of agricultural production, rational land use. This function acts as counterparty to the compensation function.

2. *Compensation function.* Full compensation for the loss is a prerequisite and, at the same time, a demand for the development of market relations, one of the factors for ensuring socio-economic sustainable development.

3. *The preventive function* of social, ecological and economic responsibility requires the awareness of agribusiness entities of the extent of material liability for violations of environmental quality, in particular, land and capital. It can be reflected, for example, in the system of contractual relations. The implementation of

the preventive function is ensured by the inevitability of economic sanctions, assessment of their impact on the final financial and economic results, which causes the conduct of socio-environmental analysis.

4. *The control-information (communication) function* also precedes the compensation function, facilitates the detection of environmental violations in the agricultural sector, and provides the information base of natural indicators of loss for their further transformation into cost indicators.

5. *The evaluation function* creates opportunities for measuring the level of socio-ecological security of the economic behaviour of agricultural entities and forming relevant conclusions.

6. *The regulatory function* ensures the application of organizational, economic and social instruments to the environmental behaviour of business entities, which largely depends on the application of sanctions and the threat of their use.

Thus, it should be noted that the basis of providing environmentally oriented food security is the formation of complex socio-ecological and economic mechanisms that would contribute to the sustainable development of agriculture and society as a whole, as well as individual citizens from both economic and socio-environmental aspects.

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ORGANIZATIONAL AND ECONOMIC MECHANISMS FOR ENVIRONMENTALLY SAFE AGRICULTURAL LAND USE

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The growing needs for productive and sustainable environmentally safe and balanced agriculture is leading to the need for a new vision for the development of agrarian nature management and, in particular, for resource-saving land-use [1-4]. This position requires understanding of the ecological principles of agriculture, as well as the formation of organizational and economic mechanisms of agrarian ecosystem management.

We define the *organizational and economic mechanism of ensuring the environmentally safe and balanced agricultural land use* as a complex system of forms, methods and tools of organizational, economic and social influence on the environmental behaviour of agricultural entities in the direction of increasing socio-ecological and economic efficiency of use, reproduction, protection and conservation of land-resource potential, as well as the effectiveness of the functioning of agro-natural and land capital.

The general purpose of the organizational and economic mechanism is the effective organization of reproductive processes in the use, reproduction, protection and conservation of land-resource potential and the functioning of land capital based on the ecosystem approach to the regulation of agricultural management.

An integrated function of the organizational and economic mechanism of ensuring environmentally safe and balanced land use is the harmonization of socio-ecological and economic needs and interests of economic entities, society as a whole in the process of practical implementation of the principles of environmentally safe and balanced organization of sustainable land and resource potential use, the functioning of land capital, as well as the resolution of contradictions and certain ecological-economic conflicts [5-22].

The formation of an organizational and economic mechanism for ensuring environmentally safe and balanced agriculture involves the interaction of the regulatory subsystems of the external organizational and institutional mechanism and the internal mechanism of agricultural enterprise management, using the principles and tools of ecosystem management that provides motivation for environmental behaviour [23, 24].

The determining component of the organizational and economic mechanism for ensuring environmentally safe and balanced agricultural land use is *the result-oriented subsystem*, which can be an integral result of the interaction of

the external mechanism with the internal one and determines the economic, environmental and social results of management.

External organizational and institutional mechanism of environmentally safe and balanced agricultural land use includes providing institutional and resource subsystem (sub-mechanism), subsystem (sub-mechanism) of organization and regulation of environmentally safe and balanced agricultural land use, controlling subsystem.

Supporting institutional-resource subsystem (sub-mechanism) includes regulatory, resource (financial, information, human resources), infrastructure (in particular, it concerns the activity of credit institutions, innovation-investment funds, environmental insurance companies and consulting agencies) security.

The subsystem (sub-mechanism) of the organization and regulation of *environmentally safe and balanced agricultural land use* is aimed at the implementation of mechanisms of state regulation of land relations, as well as programming and planning of protection and conservation of lands at national and regional levels.

The subsystem of control within the external organizational and institutional mechanism of regulation of environmentally safe and balanced *agricultural land use* should have a *program-oriented focus* on ecological and economic indicators of agrarian land management on an ecosystem basis. For example, it requires monitoring the eco-destructive state of the land-resource potential, control over the ecological quality of agricultural products on a logistical basis, etc.

It is important to emphasize that the practical reproduction of the prerequisites for environmentally safe and balanced *agricultural land use* is ensured by creating a favourable economic environment for the organization of ecosystem-based agricultural management. Harmonization of economic interests of agricultural business structures with ecological and economic interests of the state and regions requires the development of not only administrative and regulatory mechanisms, but also the formation of effective motivational and incentive systems. The administrative and regulatory subsystem is aimed mainly at creating a system of restriction of eco-destructive economic activity in the process of land management, in particular, through the application of ecological expertise, external eco-audit, as well as environmental certification of agricultural enterprises, etc.

Available conceptual and methodological approaches [25-27] to the creation of incentive factors, mechanisms, and levers of ecological and economic regulation of rational nature management are divided into the following types of instrumental support [28]:

1. Focused on compliance with rules, requirements, norms of rational nature management and the implementation of the obligatory system of environment protection measures (in particular, normative regulation, penalties, payments for the environmentally destructive state of natural objects).

2. Promoting the implementation of environmental activities (in particular, the environmental tax system and payment system for the use of natural resources, and financial incentives).

3. Incentive, aimed at supporting economic entities to implement environment protective (environmental) measures (subsidies, preferential crediting and taxation, special funding).

In this context, particular attention should be paid to the compensation mechanism for the afforestation of agricultural lands, which includes economic incentive tools important for encouraging environmentally balanced use and protection of agricultural lands based on the creation of protective forest plantings. These tools relate to the measures of economic impact aimed at changing the financial and property status of entities of agrarian land use in order to equalize the imbalance between ecologically balanced, environmentally safe agribusiness within a certain agricultural landscape.

Compensatory and stimulating mechanism of agrarian natural management with an emphasis on the issues of agroforestry production may include the following components [29-34]:

1. Partial reimbursement of the lost revenue, in particular, in the form of rent payments in the case of conservation of land, depending on their intended purpose and degree of degradation.

2. Payments for the increase of soil fertility and reduction of their pollution due to agroforestry improvement of agricultural lands.

3. Subventions (grants) for the production of environment-friendly agricultural products under the conditions of the land arrangement on the agricultural forest reclamation basis.

4. Some compensation (reimbursement) of expenses for carrying out works on the conversion of the intended use of land within the limits of expansion of the agroforestry reclamation complex.

5. Compensation (reimbursement) of capital and current expenses for the implementation of investment agroforestry projects.

It is important to focus on the environmental taxation systems and environmental policies and payments for nature conservation from the perspectives of agroforestry spatial development [35, 36].

Thus, the development of an organizational and economic mechanism for ensuring environmentally safe and balanced agrarian farming should be carried out on the basis of enhancing the environmental behaviour of business-entrepreneurial structures under the influence of an external organizational and institutional mechanism, which should exert a dynamic regulatory influence on the internal mechanism of the entity [37, 38]. The theoretical and methodological orientations for the construction of organizational and economic mechanism of agrarian nature

of the economy allow to form the systematic management processes for the greening land use at different spatial levels of management.

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EVALUATION ON THE BASIS OF MODERN INDICATORS

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Among the modern approaches to companies' effectiveness evaluation, to our opinion, it is worth to highlight a number of indicators that characterize the growth of the company, its efficiency, assessment of its condition and debt burden. In particular, among modern indicators a special and important place has recently been focused by next [1-25].

EBITDA margin – profitability ratio that measures how much in earnings a company is generating before interest, taxes, depreciation, and amortization, as a percentage of revenue. This index is best assessed in the dynamics: growth - a positive phenomenon, decline – may be a negative phenomenon, or additional analysis is needed. When calculating EBITDA, such concepts as “depreciation” and “interest” are generally used. Both indicators in accounting is sometimes quite ambiguously calculated. Different experts, even using the same formula, will get different results. This can be manipulative in presenting information that can mislead, for example, a potential investor [26-37].

FCF (free cash flow) and FCF Yield. FCF reflects the amount of money a company earns from operating activities. In contrast to profit, the FCF shows how well a company is able to generate cash flows (excluding “paper” income) that can be used for different purposes: payment of dividends, shares buyback, debt repayment, M&A agreements, purchase of non-core assets, saving money. FCF Yield indicates how much cash can be distributed to shareholders earns the business, compared to the value of the company (including: the cost of equity and the cost of debt or just equity). The higher the ratio, the more payments shareholders can expect [38-56].

EV/EBITDA – enterprise value to earnings before interest, taxes, depreciation, and amortization ratio. The EV/EBITDA multiplier belongs to the group of income multipliers and indicates for what period of time unspent on depreciation and payment of interest and income taxes the company will recoup the cost of acquisition of the company. It provides an opportunity to compare the company with other companies from the same industry, to understand its underestimation, as well as to find the terminal value of the company (its value in the post-forecast period). The multiplier allows you to compare companies with different debt and tax burdens, ie to abstract from the capital structure and features of taxation [57-67].

Net Debt-to-EBITDA Ratio. It is assumed that the value of the net Net Debt/EBITDA ratio should not exceed 3. This means that the company has no excessive debt and is able to service its debt obligations. If simpler, the lower the

value of the coefficient, the better. You also need to remember the numerator and denominator of the indicator. If the multiplier is negative, if the EBITDA value is negative, the company is unprofitable. If the net debt is negative, then the company either has no loans and borrowings, or a large amount of cash, which is positive [68-81].

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INTEREST RATE AND ECONOMIC GROWTH IN UKRAINE

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The COVID-19 pandemic has a significant impact on the current state of the world and Ukrainian economics. Different countries are developing their own programs to combat the economic crisis (1, p106-107; 2, p.84-100). Most countries resort to such programs using monetary policy instruments. At the same time, more central banks have a policy of changing the discount rate to a level that should help support the economics. In some cases, only the mechanism of a negative discount rate is used [3, p. 15; 4, p. 51-78].

It is difficult to overestimate the importance of the correct organization of the financial system, because the principle of organization of cash flows and credit, in particular, has a significant impact on the stability, productivity and fairness of the economics.

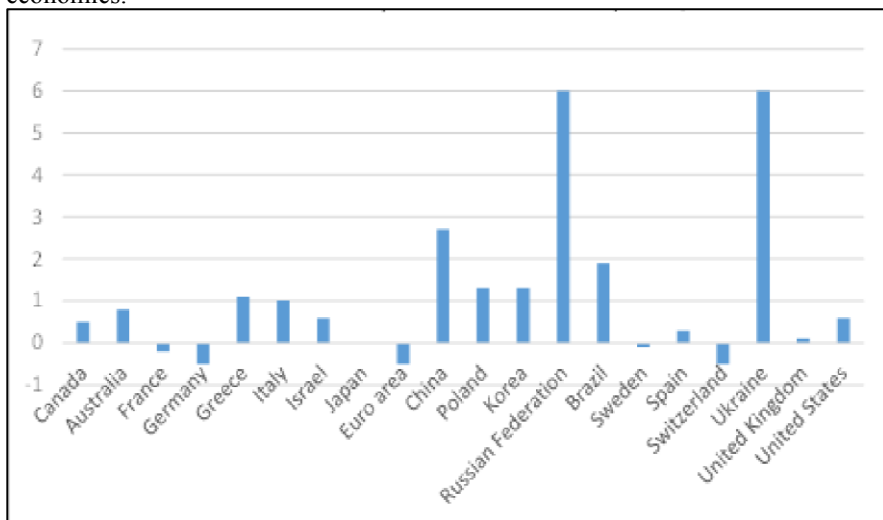


Figure 1 - Comparative values of rates on 10-year bonds of different countries, as of 01.07.20 (data source: www.economist.com).

Analyzing monetary policy, we can state that after the global financial crisis, the central banks of most countries aggressively reduced nominal interest rates, in many cases to zero or almost zero (Fig. 1).

In recent years, more and more central banks have resorted to low interest rates [5, p. 72-79; 6, p. 5-12; 7, p.69-78; 8, p. 22-30]. Some of them, such as the European Central Bank and the central banks of Denmark, Switzerland, Sweden and Japan, began experimenting with negative interest rates, essentially forcing banks to pay for the storage of their excess funds in the central bank. The purpose of such scenarios is to encourage banks to lend such funds to help overcome the weakness of economic growth after the global financial crisis.

However, everything is not so simple. Negative interest rates pose a threat to the financial market. Interest is the cost of a loan or the value of money. This is the amount that the borrower agrees to pay for the right to use the lender's money, taking into account the associated risks. The concepts of economic theory that underlie the formation of interest rates differ in basic postulates. Some point to the interaction between the supply of savings and the demand for investment, others - to the interaction of money supply and demand for them. But there is no concept of the possibility of a negative interest rate.

In this aspect, regarding the situation in Ukraine and the actions of the National Bank of Ukraine, under the new government, its nationalization did not take place; oligarchic structures still have a significant influence on the actions of the NBU. Currently in Ukraine there is an increase in lending to wholesale and retail trade. High interest rates do not contribute to the development of production (Fig. 2).

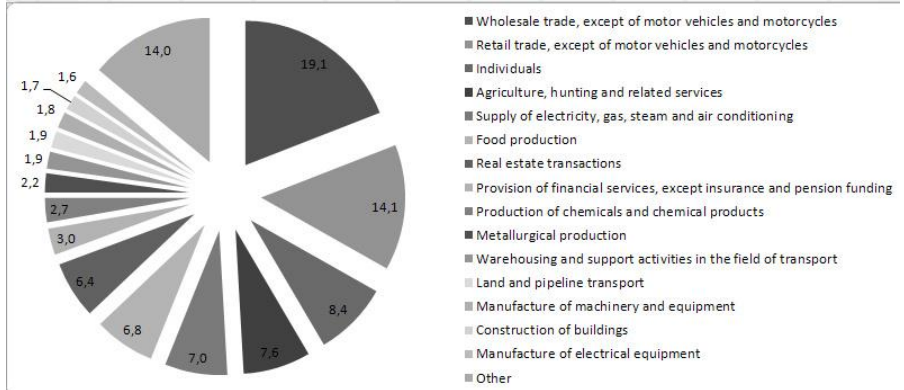


Figure 2 - Distribution of loans of Ukrainian banks as of 01.07.20 (own calculations, data source: <https://bank.gov.ua>).

Table 1 - Dependence of GDP dynamics (GDPR) on the dynamics of the

discount rate (obl_stavka) in Ukraine (correlation on time series 1991-2019, own calculations obtained in the SPSS package, data source: <https://bank.gov.ua>).

Correlations

		obl_stavka	GDPR
obl_stavka	Pearson Correlation	1	-.688**
	Sig. (2-tailed)		.000
	N	28	28
GDPR	Pearson Correlation	-.688**	1
	Sig. (2-tailed)	.000	
	N	28	28

According to the results of the study presented in Table 1, today we have a negative impact of the dynamics of the discount rate on the dynamics of GDP in Ukraine. This indicates that monetary policy in Ukraine remains erroneous.

As a result of the analysis, the authors offer the following recommendations for the government and the NBU:

- ensuring the stabilization of the banking system of Ukraine, which will help resume production;
- establishing the optimal level of the discount rate, which will help restore economic growth in Ukraine;
- conducting a more independent monetary policy to prevent hyperinflation;
- strengthening the regulation of banks in Ukraine, in particular, reviewing the importance of economic standards of regulation;
- introduction of strict control over the circulation of funds between market participants in order to use funds for the needs of the economics and inventory of property rights of economic entities.

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COMPARATIVE ANALYSIS OF THE CONCEPTS OF VALUE ORIENTED ENTERPRISE MANAGEMENT

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The effective development of the enterprise primarily depends on the quality of management decisions and reasonable planning of its activities [17-19]. In the conditions of transformation of world markets towards their openness and transparency due to intensification of competition and change of behaviour of market participants there is a demand for reconsidering the value of the enterprise as a generator of economic and social benefits for the population and the state [4, 6, 10, 23, 24]. In today's world, the value of business is the focus of many scholars and a fundamental factor influencing the success of the business entity [8, 11, 25].

One of the first theorists in this area Rappoport A. identified seven value factors that took into account the movement of operating, investment and financial cash flows in the forecast and post-forecast periods [22]. A similar approach was followed by another researcher - Arnold G. [2], although in his work he presented the value factors in a more general way, combining them into four main (invested capital, actual and required rates of return, forecast period). The increase or decrease in value, according to the approach of Arnold G., depends on the ratio of actual and required rates of return: the creation of value occurs when the actual rate exceeds the required, the reduction in value - in the opposite situation. According to Govorushko T. A., Obushna N. I. and Rovny Ya. A. the value of the enterprise is created on the basis of a set and interrelations of factors: the company's market share, the dynamics of financial indicators, the value of shares, etc. [9]. According to value-oriented concepts the value of a firm is determined not by the book value of assets, but by the quality of its securities and position in the capital market, product market, labour and control market [3, 5, 31]. Pilipenko S. M. notes that management of the enterprise on the basis of maximization of its value is a mutually beneficial solution for both owners and shareholders, because the interests of both parties are taken into account and eliminate possible conflicts that may arise between them [21, p. 585].

It is worth noting that one of the most common indicators of valuation of the enterprise is the indicator of economic value added (EVA), which is calculated as follows:

$$EVA = NOPAT - KW * C \quad (1)$$

where: NOPAT – Net Operating Profits After Taxes;
WACC – weighted average cost of capital (WACC);
IC – investing capital.

Among the most common concepts of enterprise management, which are focused on its value, are Value Based Management (VBM), Business Performance Management (BPM) and Balanced Scorecard (BSC). The use of such systems provides quality information collection, analysis and processing for decision making [16, 20, 3, 5, 31].

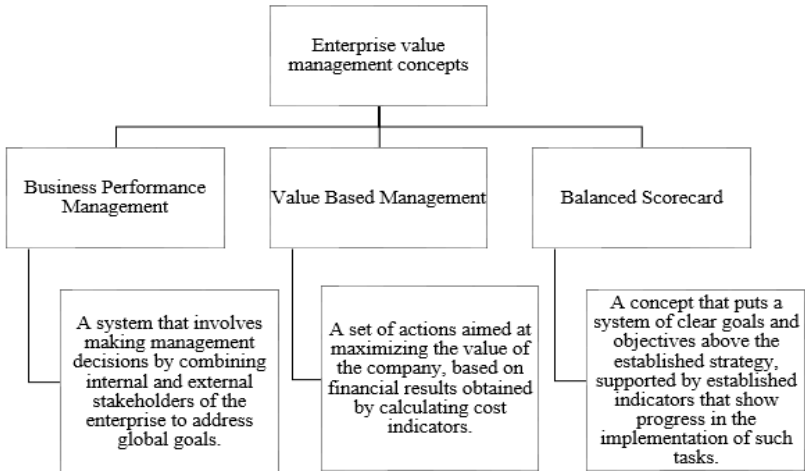


Figure 1. Concepts of enterprise value management (compiled by the authors on the basis of [14, p. 133; 20, 13-15])

The VBM system should be used during the period of stagnation and economic recovery, it will be useful for enterprises in crisis, young enterprises and those who use functional and value management [1, 15]. If we talk about the concept of Balanced Scorecard, it is effective in fast-growing markets, where companies compete with each other for new proposals and ideas, in particular within new financial instruments, models and management technologies created on the market. The BPM concept is more suitable for solving the problem of non-implementation projects for the implementation of collaborative management systems, by detailing the relationships between different business units [12, p. 351; 20].

Among the problems of value oriented management is the limited and difficult application of Ukrainian enterprises precisely because of the lack of study by national scientists. [13, 26, 27] Kreidych I. M. and Gagarin A. A. believe that by studying the advantages and disadvantages of indicators of determining the value of the enterprise, the concept of cost-oriented management in Ukraine will be implemented more actively [14, p. 209].

Thus, the studied concepts in different ways affect the quality of solving problems in the enterprise, but their application can raise to a new level the process

of its management and valuation. For further research, it is proposed to find ways to combine such concepts to develop a unified model of enterprise value management.

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INTERNET OF THINGS IN LOGISTICS

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Today, we live in the era of the digital revolution, when technology appears in almost every aspect of our lives - from our work to everyday life. The topic of the Internet of things is now becoming increasingly popular, which has opened a new digital era with the ability to connect any device to the network. This process became a kind of foundation for the development of the Industrial Internet of things and also allowed us to move forward in modern realities, when COVID - 19 destabilized the work of all industries. Today IoT technologies are being implemented in all business areas, from agricultural equipment to biosensors in the medical field. The Internet of Things (IoT) is a network of devices connected to each other using sensors or software to jointly process data over the Internet. Currently, the structure of the Internet of things mostly consists of loosely coupled devices in the network, each of which performs a specific task assigned to it. But with the development of technology and the Internet they will be able to unite in networks to solve a wider range of tasks, and operate with more information in management, analytics, and security support. As a result, the development of the Internet of things will open up more perspectives for users and increase the potential for production development, which will reduce total costs. Logistics and cargo transportation have always been risky areas as there are risks of resource loss due to weather conditions, commercial risks and risks associated with inventory theft. Regardless of the company's activities direction, there are always a number of problems: cargo is often improperly sent or stored, which can lead to damage to the goods. In addition, working with a large amount of goods can lead to disorganization in the production warehouse. According to the World Shipping Council, about 50 billion dollars lost each year due to cargo theft or damage to logistics chains. The introduction of Internet of things technology opens up new perspectives for logistics companies, such as:

- optimization of the allocation of resources and labor assets and reduce delivery costs. Automated order processing will help companies to reduce the number of employees responsible for delivery, reducing overall operating costs. The usage of IoT sensors in manufacturing in its turn can help to analyze information about the state of stocks, their possible surplus or shortage, which can serve to predict market trends and future needs.
- monitoring of the workflow and movement of goods/vehicles. The usage of modern IoT devices will allow to monitor and evaluate the performance of employees, it will help to conduct more effective management, ensure timely deliveries, improve quality control, minimize thefts and prevent car breakdowns by

analyzing their characteristics. This will help customers to track products more effectively, monitor their integrity and storage conditions.

- ability to respond to events in real time and make appropriate decisions. Companies can track their products in real time, monitor their condition and optimize their transportation to improve efficiency. It is also in their best interest to protect their entire supply chain by actively responding to threats to its integrity in order to protect their products, consumers, and their company's reputation.

- simplify the warehouse management and inventory process. Even now, some logistics companies use Internet of Things technologies, mainly RFID (Radio Frequency Identification), a method of automatic identification of objects, in which data is stored in RFID tags and is read or written using radio signals. The signal of a single RFID sensor can cover an area of up to 30 m² and read up to 600 tags every second. Thus, such a system will always display items status to which RFID sensors are attached, which in its turn increases the compliance of existing stocks with internal accounting data.

On the opposite side, connecting more and more devices to the internet will lead to increased security concerns, opening up more and more opportunities for cybercriminals. Therefore, participants and developers of the IT market need to learn how to protect their systems from interference. The technology will also accelerate the automation of production, which will inevitably lead to a sharp reduction both in servicing personnel and due to its analytical capabilities also in managing personnel. In addition, at the moment, the legal aspects for regulating the Internet of things are rather inaccurate. As the Internet of things evolves, technology will be able to process more and more complex operations, ensuring that operations become safer and more efficient, allowing companies to minimize their financial costs. It is clear that today there is no work without people, but the higher the level of tasks that we set, the more things (including traditional servers and applications on them) are automatically included in the solution of this tasks without human instructions, the more this internet becomes an internet not of people, but of things.

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THE USE OF INDICATORS OF FINANCIAL CONDITION TO DETERMINE THE ENTERPRISE'S INVESTMENT ATTRACTIVENESS

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Financial condition is one of the most important internal factors that affect the enterprise's investment attractiveness. Properly determined financial condition of the investment object gives the investor enough information to draw general conclusions about the activities of the enterprise. Financial analysis, which includes a number of tools and methods for assessing the financial condition, is used to assess the financial condition of the organization. In order to determine the investment attractiveness of PJSC "Technologia" we will analyze the dynamics of a set of ratios based on the financial statements of the enterprise [1]. Let's calculate some key indicators that characterize the financial condition and investment attractiveness of the enterprise. The condition of fixed assets is characterized by their initial cost and depreciation rate. Figure 1 shows the dynamics of change in these characteristics of the enterprise in recent years. The figure shows that the depreciation rate is quite stable, which positively characterizes the investment attractiveness of the enterprise on this ratio.

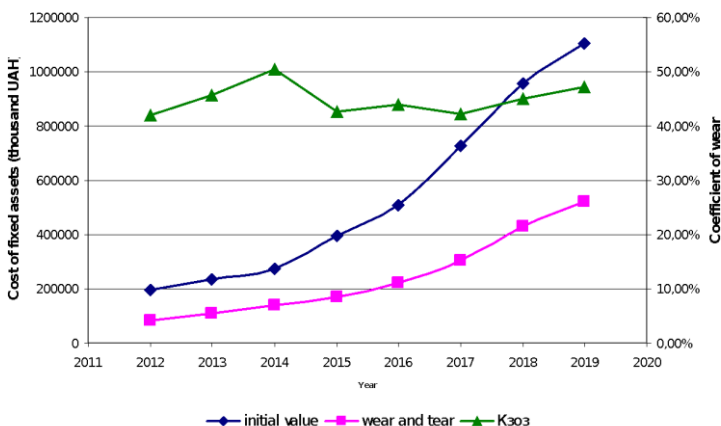


Figure 1 – Ratios of efficiency of fixed assets' use
(Source: compiled by authors)

Considering the characteristics of business activity, the turnover of assets and receivables can be calculated. The asset turnover ratio is calculated as the ratio of sales revenue to the value of working capital (Fig. 2). The figure shows that the indicators of business activity are somewhat reduced, which slightly negatively characterizes the investment attractiveness of the enterprise.

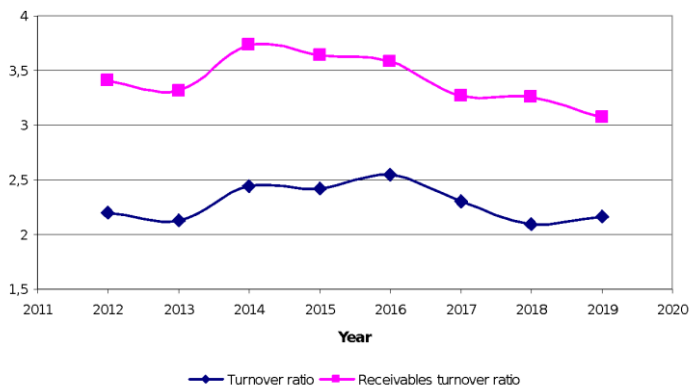


Figure 2 – Indicator of business activity
(Source: compiled by authors)

The group of profitability ratios is quite informative. Figure 3 shows the dynamics of return on assets, return on equity and return on sales. In general, the dynamics of the coefficient is unstable. After a sharp increase, there is a sharp decline, which negatively affects the investment attractiveness of the enterprise.

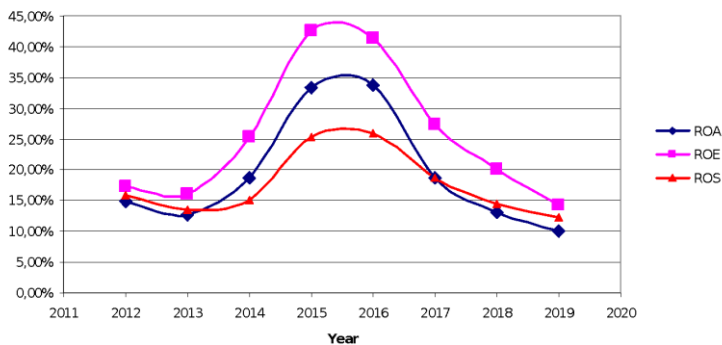


Figure 3 – Profitability ratios (Source: compiled by authors)

The following group are financial stability ratios, including the indicator of financial leverage. One of the important components of financial leverage is the impact on the financial stability of the company. The larger the amount of financial leverage is, the less stable the company will be. However, borrowed capital allows the organization to accelerate to increase its profits and improve the company's performance. The normative value is on the interval from 0,5 to 0,88. If during the calculation the amount of financial leverage falls in the range from 0,5 to 0,88, the company is advantageous to raise borrowed funds. Negative financial leverage indicates that the company's assets can't be pay off, and the company's income is low and does not cover borrowed funds and interest.

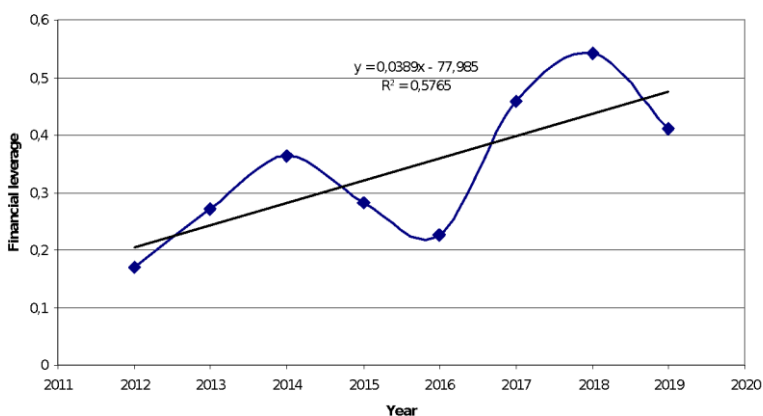


Figure 4 – Indicator of financial leverage
(Source: compiled by authors)

The concept of the model of financial leverage is that with its help the return on equity can be improved, and also makes stocks the most profitable. Borrowed capital does not prevent this fact, so it is one of the financial burden for the company.

Financial liquidity ratios, which characterize the ability of the enterprise to pay current liabilities (Fig. 5) significantly affect the investment attractiveness of the enterprise. The calculation of these ratios shows the possibility of available assets (usually short-term) to cover liabilities, the maturity of which will come sooner than all others. As a rule, these are the most urgent accounts payable, short-term loans and borrowings. In this case, the calculation excludes long-term borrowings (loans and credits received by the organization for more than one year), although debts on long-term liabilities, as well as short-term, the organization repays, as a rule, monthly according to the schedule. The interest that needs to be paid to the bank in the near

future together with the amount of the principal debt is not taken into account, because the balance sheet does not reflect interest, but only the amount of the organization's principal debt.

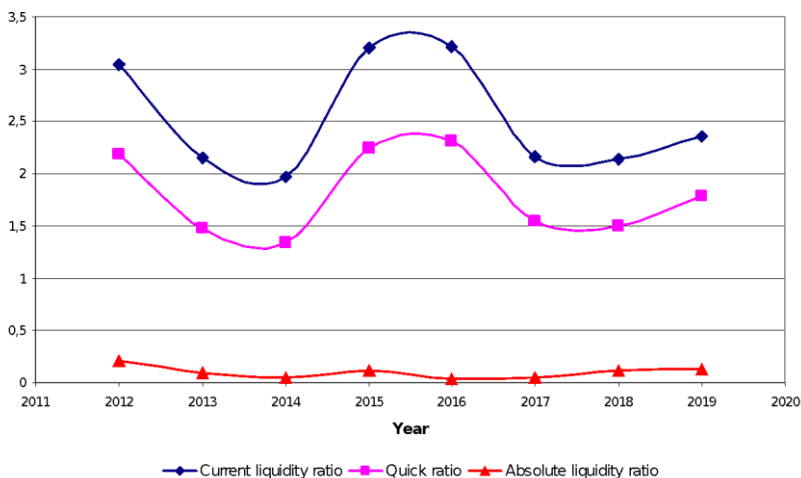


Figure 5 – Liquidity ratios
(Source: compiled by authors)

The main criterion of liquidity is the excess of the value of current assets over current liabilities. And the larger it is, the better the financial condition of the organization in terms of its liquidity in relation to liquidity. Accordingly, after analyzing all the ratios, we can conclude that the investment investment of PJSC “Technologia” is quite good.

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FACTORS AND INSTRUMENTS OF MANAGING THE EFFICIENCY OF ENTREPRENEURIAL ACTIVITY IN MODERN TRANSFORMING CONDITIONS*

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In modern economic conditions, the most relevant issue is strategic management in entrepreneurship, in particular in matters of value creation and new competitive advantages to identify and implement the needs of the enterprise. The analysis shows that mature companies (such as Zappos) believe that employee satisfaction is at the heart of an effective business management strategy, which is central to a successful business model. Choosing happiness for employee happiness - profit has made this and many other companies extremely successful in developing a strong organizational culture [1]. This approach is consistent with the argument that Gross Domestic Happiness is a better tool for measuring the well-being of a country's population than gross domestic product [2]. The category of "happiness" is such an important value in modern reality, countries such as Bhutan and the United Arab Emirates actively support the idea of measuring socio-economic development using the GDH indicator. So, in the UAE, a separate profile ministry is founded, which deals with these issues [4, 5].

The concept of happiness (including company employees) has been covered for many years by the Scottish philosopher Bentham. He stated that the highest principle of morality is to maximize human happiness. Happiness refers to the degree to which a person evaluates the overall quality of his life favorably. In other words: how well a person loves the life he / she leads" [5]. The governments of many developed countries use research on happiness to form domestic policies in order to improve the general welfare of society [1].

The analysis of the number of studies of employee satisfaction at enterprises and organizations in recent years tends to increase both at the national and international levels. The management of many companies is increasingly realizing the importance of monitoring and enhancing the happiness of their employees. It is becoming generally accepted that managers should regularly pay attention to the factors that influence employee happiness and implement management strategies to improve employee satisfaction. Factors such as workspace, social relations in the team, optimism, job satisfaction and personal significance demonstrate statistical and practical significance when analyzing such a business component as employee happiness. The statistical results of the study indicate that successful modern companies view employee happiness as a core element of their business and drive their development based on a new employee satisfaction management strategy, rather than in a bureaucratic manner. This, in turn, reduces the outflow of specialists

from the company. Analysis of the literature shows that the company's management also needs to pay attention to the attitude of employees towards the company's goals, which is a determining factor and ranges from neutral to positive. In 2020, the common goal will become the main driver of the business, as experts predict. The integrity of the management approach and well-formulated goals significantly affect people's happiness. Thus, in our opinion, the management strategy should be based on the following main components:

- forming in employees a sense of the common goal of enterprise development, and not just mechanical performance of duties;
- formation of a conscious fulfillment of duties, which goes beyond the concept of official salaries;
- developing an understanding that non-monetary aspects of employment in the modern environment are key factors in employee happiness;
- forming a holistic view and attracting the attention of employees to the reasons for the existence of the company and its mission;
- helping to ensure that the personal goals of the employee meet the goals of the company.

These instruments help a company to create a competitive advantage by engaging their employees. The key components of effective employee participation are an appropriate leadership style within the company and effective two-way communication with employees. This creates an open and honest environment where employees feel that their ideas are heard and that they can contribute to decision making. Involved employees are more likely to be proud to work for their organization and therefore believe in and live the organization's values. Thus, employee engagement is the most important aspect for a company. Satisfied employee engagement is a combination of factors related to the company, the relationship with management, and their attitude to work. Supporting growth and attracting talent, as a long-term strategy, can also be achieved by a company through greater commitment to the company's goals from the employees as well as the senior management of the team. The result of employee engagement activities practiced in companies that firmly hold leading positions in their industry is precisely that positive example, since within these companies the level of employee involvement is much higher than the level of involvement in companies that do not pay attention to this component of the modern economic environment. This direction of development of economic relations is very promising, in particular, it deserves further study of the impact of the effectiveness of employees involved in leading companies and companies using traditional methods of human capital management.

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THE INNOVATIVE FINANCIAL TECHNOLOGIES AND ITS IMPACT ON SHADOW TRANSACTIONS

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One of the modern phenomena of the national economy is shadowing, some aspects of which are thoroughly investigated by scientists from around the world. Thus, the works of [11, 19-21] and others explore the essence, preconditions, and consequences of the shadow economy. Bublyk et al. [5], Fomina and Vynnychenko [6], Kendiukhov and Tvaronaviciene [8], Tiutiunyk et al. [17], Vasylieva et al. [18] in their research analyzed the mechanisms of de-shadowing of the economy and identified key vectors of development of the national economy aimed at reducing the volume of shadow financial transactions. Some researchers consider the introduction of innovative financial technologies aimed at increasing the transparency of financial transactions and withdrawing cash flows from the shadows as an instrument for de-shadowing the national economy. At the same time, today the role of innovative financial technologies in the policy of the national economy's de-shadowing has not been precisely defined either at national or international levels. In scientific literature there are a wide variety of innovative financial technologies interpretations and kinds. According to the results of the study, it can be concluded that the diffusion of innovative financial technologies into public administration policy in general, and the de-shadowing of the economy in particular, has several manifestations. One group of scientists argues about the stimulating effect of innovative financial technologies on the volume of shadow transactions. Digitization of forms and methods of doing business, the growing share of Internet business is an additional catalyst for the shadow cash flow, informal employment, and so on. These issues become especially relevant in the context of the growing share of electronic financial transactions. This leads to the emergence of cybercrimes,

tax evasion, concealment of official income, and so on. In this context, digital shadow operations are becoming widespread, as a part of the shadow economy, which involves the implementation of illegal or shadow online trade or service provision. According to the second approach, technological innovations in the financial sector, on the contrary, contribute to the reduction of shadow transactions as the preconditions for control and cash flow in the accounts of economic entities are formed. According to [11], innovative financial technologies are the most important tool for economic progress and bringing subjects out of the shadows. The authors conclude that countries that actively implement innovative technologies in the financial sector can implement tools aimed at withdrawing funds from the shadows and preventing the implementation of shadow operations. Despite the important role of these technologies in economic development, today, the level of financial innovation of the majority of countries is much lower than in most countries [1]. Thus, according to the World Bank, the share of research and development expenditures on GDP is on average 1.5%. Slovenia and the Czech Republic are the highest, with the lowest Ukraine and Romania 0.48 and 0.49% respectively. Authors propose theoretical and methodological principles for the formation of the national strategy of innovative financial technologies growth, which is based on increasing the level of investment attractiveness of the country [13, 22], fighting corruption [15, 7], increase the level of transparency [3, 12], stimulating production [14, 24], scientific and technological development [10], establishing relations with international partners [1, 4, 9, 16], increasing level of financial inclusion of the population [2, 7, 23]. The implementation of these measures will contribute to the improvement of the country's innovation and investment climate, the intensification of its scientific and technical potential, the growth of its development indicators, including and by removing a significant proportion of assets from the shadows and directing them to finance economic and social programs.

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EVALUATION OF PUBLIC-PRIVATE PARTNERSHIP PROJECTS' RISKS

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The process of reforming the state's investment policy in order to intensify the interaction of business and the state is to establish their partnership in a result of cooperation between government agencies and the business sector during implementation of public-private partnership (PPP) projects. Its cooperation is aimed to provide funding, construction, as well as the management or maintenance of infrastructure or the provision of public services.

Currently, the market environment, which is the place of PPP projects' realization, can be characterized by the presence of uncertainty and various risks. In general, PPP provides for a fair distribution of risks between project participants. But guided by one of the principles of the PPP on the existence of an effective distribution of risks between the parties, we can emphasize that the risk should be transferred to the partner that can manage it more effectively. The degree of responsibility of the parties and the scale of tolerable risks vary significantly depending on the type of PPP project - from almost zero to virtually full liability.

An important issue in PPP project planning is the understanding of the nature of PPP risk by the project partners. No less important is the awareness of the partners that the risk management process in a PPP project is much more complex than in a conventional investment project. This is due to the difficulties that arise in agreeing on the goals of the state and the private partner, as well as in the distribution of responsibilities and risks between PPP partners [7;10;12].

The system of risks' controlling of PPP projects can help to avoid in situations of uncertainty. It consists of several stages: risk identification, assessment and accounting of risks of PPP projects, control and audit of risks and the final creation of information and analytical base for management decisions to minimize the risks of PPP projects. To our mind, the stage of risks' analysis, which includes risks identification and evaluation, is the most important one [2;5;9;11].

During risks' identifying, all risks affecting the PPP project are defined. There are many approaches to the classification and systematization of the risks of PPP projects.

Classification in accordance with the resolution of the Cabinet of Ministers of Ukraine based on approval of the "Methodology for identifying risks associated with public-private partnership, their assessment and determination of the form of their management" identify the following type of risks: risks associated with the influence of external circumstances that do not depend on the will of the partners; political; related to non-fulfillment by the partners of the terms of the agreement;

commercial; financial; ecological.

To our mind above mentioned classification doesn't reveals the variety of risks to the full extend. Consider some of the more detailed and available classifications of such risks in the Table 1.

Table 1 – Classification of PPP project's risks

Feature	Types of risks
According to the source of origin	External, political and economic, social, natural, managerial, organizational, technical, resource, financial
According to the consequences (directions of influence):	project implementation costs; risks of income shortfall due to inflation, lower prices, demand for products / services, deterioration of the quality characteristics of the final product; risks of negative impact on the environment during project implementation; risks with other consequences
According to the probability of occurrence	risks with a low probability of occurrence (up to 19%); risks with a low probability of occurrence (from 20 to 39%); risks with an average probability of occurrence (from 40 to 59%); risks with a significant probability of occurrence (from 60 to 79%); risks with a high probability of occurrence (over 80%).
According to the degree of possible damage	insignificant risk, admissible risk, significant risk, critical risk, catastrophic risk

Based on [1].

After the risk identification stage, the probability of risk occurrence and the amount of possible losses are determined. In addition, a set of scenarios for the development of adverse events is being formed. In the assessment process, the development of a system of risk assessment indicators plays a key role.

Methods of risk analysis and assessment can be divided into three groups:

- Qualitative (allow to conduct a logical analysis of possible events and their consequences): the method of analogies, causal analysis (decision tree, event tree), the method of “event-consequences” (HAZOR - Hazard and Operability Research);
- Quantitative (give not point, but interval and probabilistic estimates of project parameters, in particular, its effectiveness): sensitivity analysis and analysis of deviations, scenario analysis, simulation (Monte Carlo method);
- Quantitative and qualitative (based on the use of expert assessments expressed in points or categories): expert additive models (neural network technology), risk profile, risk diagram, risk map, etc [1;6;13].

The main advantage of qualitative methods is the possibility of application in the early stages of project development, starting from the moment of concept creation, and the main disadvantage is the impossibility to rank risks on the basis of some methodology.

In its turn the absolute indicator (standard deviation) which exists during quantitative methods characterizes the price of project risk, ie the magnitude of the most probable losses in the event of a risk event, the relative (probability factor) risk class of the project. It is with the help of quantitative methods of risk assessment that the effectiveness of the project is determined and a decision is made on the expediency of its implementation.

The advantage of quantitative-qualitative methods is the introduction of priorities in qualitative analysis. It is used for categories and objects of risk, the level of which cannot be unambiguously expressed through a certain value that reflects the possible amount of losses.

To our mind quantitative risk assessment methods make it possible to quantify the impact of risk on the main financial and economic performance indicators of the project, and this is their undoubted advantage. However, if they are not based on qualitative analysis, their application can be reduced to formal manipulation of numbers, which can mislead users of information. Therefore, at different stages of project analysis it is necessary to combine all groups of methods.

The risk assessment stage requires monitoring of project risk indicators, which will allow to rank the identified and assessed risks of PPP projects.

Risk indicators are quantitative indicators that promptly but indirectly indicate an increase in project risk. These indicators could be divided into three groups: the main parameters that characterize the investment project, identified in its development and justification; quantitative and qualitative indicators that characterize the potential of the project company, its capabilities for project implementation; indicators that reflect the state of the environment at the time of project development and the long-term period of its implementation [1;3].

Monitoring of project risks using above mentioned indicators can be organized on the principle of expert assessment of the status of each indicator according to five possible characteristics: positive (deviation from the indicator for the better); normal (corresponds to the indicator); unfavorable (deviation for the worse); anxious (significant deviation for the worse); threatening (critical deviation for the worse).

Deviation of these indicators from the calculated values for the worse indicates about the threat of inefficient project implementation. The state of indicators captures a set of signal indicators that allow to identify potential threats in the early stages and assess changes in risks compared to the established calculated values – markers [4;8].

The key to the effective implementation of PPP projects is often a mechanism for assessing, controlling and allocating various types of risks among project participants. Despite the existence of modern powerful tools for risk assessment in the practice of investing, the problem of risk identification and assessment remains particularly relevant and needs further study.

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COOPETITION MODEL OF INTERACTIONS FOR INSTITUTIONS IN A SPHERE OF EDUCATION

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Coopetition is a quite new phenomenon in strategic management, and at the same time it is a promising trend for several fields of study. Multidimensional character of this phenomenon raises the awareness in many spheres of human interactions and therefore, the aim of the research is to reveal the possible ways of applying the coopetition model to the interactions in the triad “education institutions – private sector – society”.

But first, let us discuss the definitions and interpretations of them by different scholars. Coopetition is perceived as a situation when firms cooperate and compete simultaneously [6]. The classification of the coopetitive interactions was performed by Bengtsson and Kock [7], who classified them depending on the motives, likelihood, interaction, process, and outcomes. The outstanding overview of research in sphere of coopetition was presented by Dorn and her colleagues [15], who offered to consider the recent findings within the life cycle-related criteria, such as antecedents, initiation phase, managing & shaping phase and evaluation phase.

The debates on interpretation of coopetition are in a process in academic literature, and so far, there are several flows of thoughts mentioning. The coopetition can be presented as a process, or the series of consistent actions taken by competitors to establish rules on how to compete and cooperate in order to achieve current agreements [12], [23]. Another thought of coopetition is that it's a phenomenon or event which appear in the society or economy beyond established rules and norms [11], [25]. The coopetition may be assumed as a behavioural pattern formed in response to global hypercompetition according to D'Aveni [10]. And of course, coopetition is a paradox, or a set of interrelations that has logical contradiction [17], [28] by its nature.

The number of publications on coopetition is large and growing, and this type of interactions became visible in many spheres of the human life, including research in a safety in security [30], education [13] and many others. The studies in the sphere of education are closely related to the problems of economic growth [3], entrepreneurship development [2], poverty dynamics [4], [5], [16], global competitiveness index dynamics [29], good governance and economic performance in industry [33], security at different levels [36], [37], behavioural research [18],[19] and so on.

The paradox of the interaction in a sphere of education is that institutions do compete in the market of educational services, and yet cooperates as a network

in international activities [8],[13]. International cooperation is a quite new tendency too that has bright and dark sides. The academic mobility of students brings new funding to the HEIs, upgrades the educational services via exchange and knowledge sharing, influences the standards of service providing, and on the other hand – creates the antecedents for the brain drain. The students who gained the opportunity to level up usually try to be hired abroad. This side of the internalization is the challenge for the further changes in the community standards. And now we see the future as a teamwork and cooperation between industrials, SMEs and education towards sustainability of the economic growth of the communities and countries. The competition for the best candidates and professionals in the labour market should take place to attract the students to the best service providers in a sphere of education, and education providers should compete for the best attendees, and then to cooperate on the higher level. After natural selection via competition, the best players in market should unite their effort to create a network, where industrials and society may enter the educational process as reviewers and supporters, and student may reach the employers starting from the first internships. The programs of such kind of interactions should be elaborated and functioned as a system of two-side commitments and transactions between parties. To compete for the best students and cooperate at higher level to create innovative products – this is a big challenge for the institutions in developing countries, such as Ukraine. Nevertheless, the economic and social cohesion is the answer and consequences of competition at local and regional level.

The positive outcomes of competition are obvious, we may name brand strength and awareness [1], upgrades in ranking [21], digitalization of education [9], involvement students in the decision-making process as stakeholders [14], quality increase [24],[34], transparency and academic integrity [31].

The outcomes of the cooperation between institutions will be the development of social entrepreneurship among minority groups [2], community-based approach to develop policies [20], innovations boost [22], participatory budging of the joint projects [26], social and economic cohesion and welfare increase [35], potential for the further investments at regional level [38].

The collaboration with employers and labour market institutions will pay offs in terms of dual education implementation [27], sustainability [39], growth of economy [41] and energy efficiency [40] due to knowledge sharing in a sphere the best practices of governance and management.

There are many questions left behind and could be discussed further. For instance, there are many issues with the regulation of the relationships between parties in the triad “education institutions – private sector – society”. There is another challenges to make the country corrupt-free because weak players (including institutions) may enter in conspiracy to overcome the market challenges. The coepetition is the game with the set of rules that changeable and flexible, but the

equality of the parties is one of the principles. This is another issue to solve in the future research.

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MERITS AND CHALLENGES OF DIGITAL ECONOMY IN DEVELOPING COUNTRIES

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Digital economy (DE) provides countries with a lot of opportunities as well as a number of new challenges and great changes both for the economic and social growth of the country and for daily life of individual in particular [1; 2; 3; 4; 5; 6; 7]. The world is undergoing a digital revolution nowadays and the level of competitiveness of the country is strongly dependent on its ability to adjust to these new conditions.

The aim of this work is to carry out which challenges developing countries will face trying to establish a digital economy and which pros they will have out of this revolution.

Developing countries have not only opportunity but also a need to digitalize its economy and to make a contribution into the development of DE around the world [8; 9; 10; 11; 12;].

Digital economy might bring developing countries such benefits as:

- better level of medicine in the country due to development of an artificial intelligence that would provide doctors with assistance while detecting and curing disease;
- more comfortable and safe domestic life, workplaces and transportation systems due to Internet of things;
- decreasing the transaction expenses and improving the supply chains;
- providing companies with information and communication technologies, in particular within emerging market economies;
- stimulating investment input in the country;
- participating in international value chains, expanding the volumes of trade market [13; 14; 15; 16; 17; 18; 19].

Different electronic platforms are created to change and simplify the way people communicate, work, shop, travel, and so on [20; 21]. These platforms also contribute in creating new businesses and markets. E-commerce greatly boosts the productivity of not only capital, but also labor and provides with ability to take part in global financial chains.

However, a part of developing countries is not able to adequately respond on demands of digitalization because of the fact that the rise of DE is not without challenges [22; 23; 24; 25; 26; 27; 28; 29]. While creating new jobs (entrepreneurs) digitalization destroys or changes existing one (workforce), greatly increasing need

of professional labor, resulting in many people becoming jobless and leading to inequality in wages. Moreover, the more governments and businesses rely on digital technologies the more they become vulnerable to attack, what brings up a threat of cyber terrorism. Furthermore, low indicators of economic development of developing countries and the lack of financial resources form the preconditions for determining the latest raw material bases for the leading countries. Digital processes and transformation within economic and financial sectors provide the intensive increasing of the shadow transactions. Everything mentioned above are just some challenges developing countries will have to face during their attempts of digitalization.

Having mentioned possible pros and cons of digitalization in developing countries, with a clear policy and specific plans and objectives it is possible for them to effectively respond to demands of the global market. Countries which would fail to do so may fall behind in comparison to so-called Rival countries and find it difficult to improve the wellbeing of their populations.

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OBSTACLES TO START-UP IMPLEMENTATION IN THE MODERN CONDITIONS OF ECONOMIC DEVELOPMENT

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In the current conditions of economic development and against the background of deepening crisis processes in the socio-economic environment, entrepreneurs are increasingly required to improve the search for innovative and unique opportunities and apply the latest approaches to doing business in various sectors of the economy. The implementation of startups around the world is the key to the development of innovation [1; 2; 3; 4; 5; 6].

The starting movement is like a reset of the human spirit. Victor W. Hwang, a venture capitalist and Silicon Valley entrepreneur, said in an interview with Forbes that "we are in the process of moving from an economic model that sees people as variable cogs in a multifaceted but efficient system to one that recognizes man as the only one who can make the system better through his innovations, inventions and creations "[7].

Paying attention to the etymology of the term "start-up", it should be noted that it can be interpreted as - "start, commissioning" or any new business project whose purpose is to make a profit. Analyzing the state of development of startups in Ukraine, we can say that today our country ranks 42nd among 192 countries in the World Startup Ranking of Startup Ranking [8] with 272 successful registered startups. For more details, see Table 1.

Ukraine in comparison with other countries is represented at a fairly good level, which indicates a sufficient investment attractiveness of startups in Ukraine and possible further entry into the foreign market in a very competitive light. The direction of development of startups has long been in the process of formation and moved to the stage of priority.

The main sources of resources for launches in Ukraine: own funds, loans, crowdfunding, competitions, funds investors, venture finance, business incubators, acceleration programs.

The most common mistake made by startups is to focus on the search and investor search for funds. At the same time, the most common risks encountered during the launch of the startup are: incorrectly selected team; inadequate evaluation of business ideas; inconsistency of the business model of the startup; lack of proper funding [9; 10; 11; 12; 13; 14; 15; 16; 17; 18].

Table1. Ranking of countries according to *Startup Ranking* (ranking by number of startups)

Place in the rank	Country	Number of registered startups
1	USA	48 085
2	India	7 622
3	Great Britain	5 210
...
42	Ukraine	272
...
109	Kazakhstan	109
156	Iraq	2
192	Nigeria	1

Source [8]

One of the main obstacles to startup implementation is the lack of any government support tools [19; 20; 21] and regulatory uncertainty significantly hinder the implementation of startups in Ukraine, and the result is a high risk of doing business in general, including in the form of small forms of entrepreneurial activity.

In addition to the above facts, there are other obstacles to demand from domestic corporations at the start: lack of funds for their proper financing, lack of awareness of innovative products, high probability of future risks, lack of any incentives from the state, macroeconomic instability, lack of state development and support programs, fragmentation of innovation infrastructure development, non-fulfillment by the banking system of the main functions related to lending; ecological issues and preconditions for start-ups [22; 23; 24; 25; 26; 27; 28; 29; 30; 31; 32]. And entering and focusing on external market conditions for some Ukrainian startups is currently a dream.

Thus, despite the rather good performance of Ukraine in the global market of startups, there are still a number of unresolved issues that lead to the deterioration of the country's economic situation. It is advisable in the future to pay attention to the experience of foreign countries in the organization of startups, which will help increase the mechanism of implementation of domestic startups.

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CREATING MOTIVATION FOR EMPLOYEES THROUGH KPIS SYSTEM

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One of the features of personnel management in the context of globalization of economic activity is to increase the efficiency of its employees. According to the results of the research of the publishing «Harvard Business Review» in the average company: 5% of employees work well; 5-7% - work poorly; 88-90% - able to work effectively with the correct setting of goals and control of tasks [18]. Some issues of the importance of motivational tools were considered in the works [8], [11], [23], [31], which indicates the relevance of this issue and the need for constant review and implementation of best practices of staff incentives in modern organizations.

General trends in changing the level of motivation of the population to work effectively and its effectiveness are determined by indicators of the macroeconomic situation in the country, the spread of informal employment in the country, the processes of innovative development of enterprises and strengthening their innovative activity, state policy of employment regulation in Ukraine, as evidenced by research by scientists [30], [33], [28], [32], [16].

At the present stage, the basis of the concept of personnel management consists of the growing role of the employee's personality, knowledge of factors his motivation [17], the ability to form and guide it in accordance with the tasks facing the company [20], as well as the need to take into account the talents of staff [29], and job satisfaction [21]. The basis of an effective system of staff motivation should be based on the goals of strategic management of human resources. Among such goals are: the ability to form a sense of self-importance in the functioning of the enterprise and adequately assess their abilities; understanding what he is working for, as the motivation system is usually long-term; the ability to achieve all goals [3], [12], [13], it is especially important to study the impact of motivation on work efficiency for both employers and employees during the COVID-19 pandemic [27], [4].

In terms of project management, the remuneration of employees of the organization should be directly related to the effectiveness of projects and readiness for their implementation [24]. In addition, motivation depends not only on material incentives, but also on other factors: the attitude of managers to subordinates, the level of their trust in them, the level of employee loyalty to the company [34].

It is possible to form an effective staff motivation strategy and its high business culture through the introduction of an effective system of key performance indicators (KPI), as confirmed by research [2], [22]. However, a significant number of domestic companies in Ukraine do not use the KPI system, in particular for the following reasons: insufficient level of knowledge of professional training of managers, lack of established procedure for adapting foreign methods of building KPI in national companies, resistance to organizational change on the part of staff.

To motivate employees to achieve the goals of the organization, expressed in the desired key performance indicators, it is necessary to identify the motivational needs of employees and measure the degree of satisfaction of these needs using the motivational profile [26] or by the criterion of quality of working life [25].

The system of motivation in a modern organization must take into account the potential of the motivational potential of its staff. Motivational potential characterizes the readiness of the employee to the maximum return on work, the implementation of the acquired knowledge, abilities, skills, abilities, development of competitiveness and reflects the level of satisfaction of the motivational needs of the employee. The higher the value of motivational potential, the greater the satisfaction of motivational needs of employees, and, accordingly, the more effective for the company can be the work of such employees. The motivational potential of the enterprise, calculated as the sum of the values of the motivational potential of employees, divided by their number, indicates the effectiveness of management in personnel management [3].

The system of motivation based on KPI, orients staff to high individual and team results, achieving certain goals of the company. A number of studies by scientists and practitioners in various fields of activity confirm [5], [10], [9], [6], [7], [14], [15], [19]. the existence of a relationship between motivational aspects and the desired results of organizations.

The process of implementing the Key Performance Indicators system consists of the following stages: development of company strategy, definition of financial indicators, decomposition of goals at the department level, creation of KPI matrix, KPI definition matrix for employees, determination of KPI quantitative indicators, determination of bonus fund, monitoring, KPI review, feedback [1].

Given the prevalence of practices of using team forms of work organization in the project activities of modern organizations, we consider it appropriate to consider the formation of motivational tools that would take into account indicators of the level of team involvement in the implementation of the KPI system. The level of team involvement is an indicator of quality interaction of team members, which indicates the actual physical, emotional and intellectual state of team members, employee concentration on the task and satisfaction with their team role. The high level of team involvement indicates the motivation of members to perform their work in a team as best as possible. The level of involvement in general is a tool to

simultaneously reduce the cost of motivation. By managing team involvement, the business owner can be confident that employees share the company's values and take responsibility for achieving the company's goals.

To develop a high level of team involvement, maintaining staff motivation, it is necessary to maintain a culture of quality work. The conditions for ensuring a culture of quality work are: the competence of all employees; regular feedback on the results of work and achievements of the whole department, on the effectiveness and competencies - each personally; transparent (public) system of motivation; explanation of controversial personnel decisions to the team.

Development of KPI indicators should take into account changes in corporate culture and process organization; development of a holistic strategy for KPI development; explanation of staff preferences; KPI identification of corporate KPI; selection of crucial KPI for the whole organization; developing a reporting structure for all levels; coordination of KPI application; regular review of KPI to maintain their relevance.

The introduction of KPIs remains a clear and transparent motivation of the system by recording planned and actual values, which allows the manager to understand what and how motivates employees, and employees - to understand under what conditions and what reward he received. The advantage of creating a KPI system is to identify the expected achievements of management, while allowing for creativity and ingenuity of the team, which motivates the team to succeed and internal competition. Analysis of the methodologies of the system development KPI for the organization shows that the optimal number of indicators should be between 15 and 20. Otherwise, the team manager will be overwhelmed by planning and the company's management by monitoring KPI, which do not greatly affect the performance of both teams and companies.

The implementation of the KPI depends on the level of team involvement and is appropriate for the units working on the implementation of projects. The introduction of a staff motivation system based on KPI is an important tool for HR managers.

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THE IMPACT OF INTERGOVERNMENTAL FISCAL POLICY ON LOCAL SUSTAINABLE DEVELOPMENT

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Ukraine supports the initiative to achieve the global goals of sustainable development (SDG) approved by the UN Sustainable Development Summit on the 70th session of the UN General Assembly in New York. According to the Government Portal, every of 17 GSD was “reviewed, taking into consideration the specifics of the national context” [1], reflected in the national baseline report “Sustainable Development Goals: Ukraine” [2] and validated by the President of Ukraine Decree [3]. Unlike the central government, local authorities do not show any attempts to calibrate their development paths according to the SDG.

At the same time, many domestic and foreign scientists emphasize the urgent need to make changes in local development policies starting from establishment of various innovations [1; 2; 3; 4; 5; 6; 7; 8; 9], qualitative education [10; 11], following with promotion of modern tourism [12; 13; 14; 15; 16] and financial services [18; 19; 20], and reinforcing with local social entrepreneurship [21; 22].

The decentralization reform launched in 2014 increases the level of financial autonomy of local governments in Ukraine and allows them to pursue their own fiscal policy. As in the most developing countries, national local budget management approaches do not differ in transparency, balance, predictability and integrity [23, 24]. Moreover, the largest part of local budget revenues continues to gather from intergovernmental fiscal transfers.

Analysis of changes in the direction and completeness of funding for budget services shows that most vulnerable are spending on environmental protection. The only stable source remains environmental tax with an amount of 0.3% of the consolidated budget of Ukraine. Only a quarter of money reaches to the basic local hromadas and Local Funds of Environmental Protection. More than half of environmental funds are used by the Ministry of Environmental Protection and Natural Resources and there still are huge problems with the stability and transparency of its activity. As for rent and resource payments, which have a visibly higher level of fiscal capacity, its appointment is in no way related to environmental protection activities.

The Constitution of Ukraine declares to spend at least 3% of GDP annually on environmental measures, as in most European countries. But in fact, this size is ten times smaller. Despite the 6-year decentralization reform, unfortunately, only a third of expenditures still come from local budgets.

The most recent and prominent tool to finance public ecological services on the local level is an ecological fiscal transfer, firstly initiated in Brazil and now used, planned or proposed on almost all continents around the world. Usually, ecological fiscal transfers with compensation of revenue loss for whose subnational governments which has conservation areas and objects [25]. It was proposed to define EFT as any type of fiscal transfers which allocate public funds according to the ecological indicators [26]. Had been established in this way, EFT toolkit would have provided an opportunity for local authorities to establish local ecological fiscal preferences, give targeted “green” grants, attract “green investments”. It would have expanded the powers of local authorities in the implementation of environmental policy.

For the practical application of EFT, its integration into the existing system of intergovernmental transfers is proposed (Figure 1).

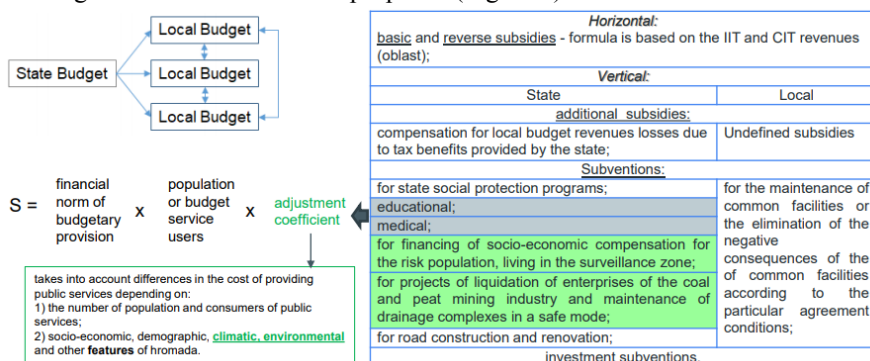


Figure 1. Intergovernmental transfers system in Ukraine and its SDG components

According to the Budget Code of Ukraine, the adjustment coefficient has to account climatic or environmental features of hromada. But analysis of existing norms and rules shows that none of them does. It is proposed to implement a working adjustment mechanism based on principles of consistency, complexity, dynamics, objectivity, comparability into formula approach of transfers calculation.

Another important indicator that will encourage local authorities to intensify environmental activity and cooperation with local businesses (for example, on the basis of PPP) may be a complementarity index, which takes into account the growth of private environmental expenditures with increasing of public ones.

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INDICATORS OF FINANCIAL SYSTEM SECURITY

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At the current stage financial security is recognized as a special status of financial, monetary, currency, banking, budget, tax systems characterized by a balance, resistance to internal and external negative influences, the ability to ensure the effective functioning of the national economic system and economic growth. It was a definition from a team of authors from the National Academy of Internal Affairs of Ukraine. Most scholars attribute the country's financial security to a greater extent (increasingly) with the internal factors of the country [1-26]. Consequently, in Ukraine, the following problems of financial security are distinguished:

- low level of stock market development;
- high extent of dollarization of the economy;
- a constant debt increase;
- a decrease in the capitalization of the country's credit and financial institutions;
- growth of the balance of payments deficit;
- imbalance of the budget system;
- uneven distribution of tax burden on business entities, which leads to tax evasion and capital outflow;
- limited access to international financial markets;
- shadowing of the economy and others.

As a result, at the current stage financial security is recognized as a special status of financial, monetary, currency, banking, budget, tax systems characterized by a balance, resistance to internal and external negative influences, the ability to ensure the effective functioning of the national economic system and economic growth. It was a definition from a team of authors from the National Academy of Internal Affairs of Ukraine. G. Pochenchuk in its turn, considered financial security as the combined definition, which consists of financial stability, monetary stability and sustainability of public finances [21, p.32]. But simultaneously this scientist emphasizes that according to the Concept of ensuring national security in the financial sphere, which was approved in 2012, Financial security is the state of national financial system where necessary financial conditions for the stable social-economic development of the country are created, its sustainability to financial

shocks and imbalances is provided, conditions for maintenance of its integrity and unity of national financial system are created [21, p.33; 22].

Characteristic features of national security in the financial sphere are the balance, resistance to internal and external threats, the ability to ensure the effective functioning of the national economy and the economic growth of the state. The problem that needs to be solved is the lack of effective application of mechanisms aimed at neutralizing, minimizing influence and eliminating factors, which leads to the creation of external and internal threats to national security in the financial sphere [22]. So, we will consider financial security as vulnerability to external financial imbalances. The impact of external shocks is manifested by rising financial imbalances and leads to higher vulnerability which caused by state financial insecurity and financial crisis occurrence. Therefore, government needs to accumulate all factors which can provoke disequilibrium in financial system, violation in financial flows movement, price and debt imbalances. Going beyond the boundaries of the functioning of the internal financial system. It is necessary to collect and analyze external factors affecting the security of the country's financial system to develop anti-crisis policies. It is necessary to provide Financial Vulnerability Index research in order to analyze the indicators influencing Ukrainian financial system stability and financial security in general. Moreover, it is very important to find what factors give a positive and negative results on state financial security respectively in order to counteract financial instability. The paper is devoted to the consideration of external factors which influence state financial security as a result of the growth of globalization processes and the role of global financial capital. The theses changes the view on the definition of financial security and presents this term as the sensitivity of the financial system of the country to the processes of financialization and changes in the global financial capital market, which creates vulnerability to internal economic instability, loss of resilience, the potential appearance of financial shock and crisis. Hence, the factors, which constitute the greatest threat to the financial security of the country in the context of globalization, are revealed. Recommendations for reducing vulnerability and increasing financial security are suggested. The perspective of the approaches and conclusions obtained is to enable them to be used for further research in financial security management studies in the context of globalization and financialization processes.

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THE INFLUENCE OF DIGITALIZATION ON TRANSFORMATION PROCESSES ON THE LABOR MARKET

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The need to study information processes in modern society is emphasized by both foreign and domestic scientists who study the impact of the information society on the labor market [4; 13-41], as the development of digital technologies, on the one hand, caused the Industrial Revolution 4.0 and create a digital economy. The key driver of economic growth is information and communication technologies (ICT), which ensure the functioning of global markets for information and knowledge, capital and labor, and on the other hand - cause certain risks [1; 20-33]. These include those that arise in the labor market, in particular the risk of job losses and polarization of the labor market, as "digital inequality" between those who fit into the digitalization of the economy and those who do not have time for it [2; 3; 35-40], as in at the state level and at the population level, leads to social stratification, which extends to new industries, regions and professional groups. Thus, based on the new opportunities offered by the digital economy and the new risks that arise in the labor market, the relevance of both theoretical and empirical research related to the digital transformation.

Despite the large number of publications on this topic, we note that there is a need for further research, taking into account the links between new technologies, employment and education to reconcile the needs of the economy and the labor market. In this context, it should be noted that there is no common view among researchers on the impact of digital technologies on employment and unemployment. Existing research on this issue indicates the destructive nature of technological change and the consequences associated with the destruction of jobs. Thus, according to experts of the World Economic Forum, the key challenge associated with the onset of the Industrial Revolution 4.0 is a change in demand for employment [4]. According to OECD estimates, in the member countries of this organization, up to 9% of jobs can be fully automated, and 25% can change significantly due to the automation of 50-70% of relevant production operations [5], which will lead to significant changes in the employment structure. In this case, as noted in [2; 4], future automation will not affect the quality of employment, but only change the types and number of tasks in most professions. Not only professions that require repetitive operations and do not require a high level of qualification (for example, a bank employee, travel agent, cashier for ticket sales, they will be replaced by modern computer technology - electronic banking, banking terminals, electronic payment

systems, ticket booking platforms, etc.), but cognitive and analytical work related to the performance of standard operations, instead there is a demand for specialists of new profiles (expert algorithms for working with "big data", database and knowledge architect, etc.). There are also new employment profiles, including self-employment - the share of individual self-employed in the total number of them in the EU is quite large and in none of them falls below 50% with an average of 70%, this trend is most evident in the services sector, to which, according to OECD labor market statistics [6], from 75 to 85% of the total labor force, namely digitalization of the services sector, contributes to the emergence of micro-enterprises [12] with the owner and the only employee in one person [7; 8], as well as in the creative industries [9; 10] as a field of global outsourcing of companies and the application of professional knowledge and skills of employees [11].

According to expert assessments, we propose professions that can be affected by digital transformations in the labor market, grouped into four segments that differ in the degree of influence of digitalization, in particular by transforming, destructive and both simultaneously with the prevalence of transforming or destructive effect (Fig. 1).

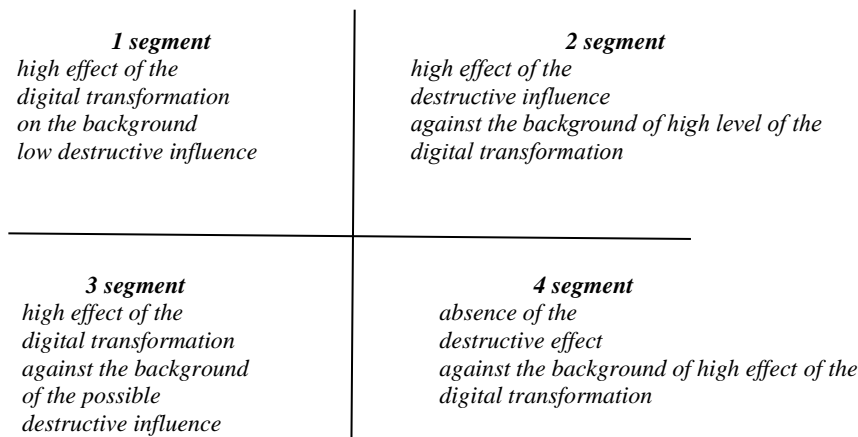


Fig. 1 - The impact of digitalization on the profession

Source: developed by the authors based on [2,3,4,5].

As a result of digitalization, the content of professions from segment 1 cannot be replaced, as they require systematic thinking. Specialists in this segment are required to be able to receive and analyze new information, including with the help of big data technology. The development of automated systems will help to displace professions in the 2nd segment. In the future, these professions may become

fully automated, even without significant content transformation. The content of professions from the 3rd segment changes significantly, however, not all tasks can be automated and employees are not threatened by "replacement". Only the division of labor between humans and machines changes. In the future, such employees will be involved in solving non-standard situations and developing a methodology. Machining data using digital technologies reduces the demand for specialists in 4th segments. In [12] we grouped accounting and financial professions according to the level of influence of digitalization on them, such grouping can be carried out by other professions specified in the Classifier of Professions [13] and will be a further study of the impact of digitalization of the economy on labor market transformation processes.

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THE MECHANISM OF FINANCIAL RECOVERY OF THE ENTERPRISE SHOULD INCLUDE THE CASH AMOUNT OF THE LOAN AS PRODUCTION COSTS

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For several years we have been dealing with the problems of the financial recovery of business entities [1, 2, 3 and 4]. If we are started studying the problems of bankruptcy of enterprises and ways of their anti-crisis reorganization and look at scientific research, then, as a rule, such scientific research can be classified into four blocks. This is our proposed classification.

The first block is research on the definition of the essence and definition of the forms of crisis situations, and, also, we include in this block and the list of necessary tasks to overcome the anti-crisis state for the enterprise. That is, this is a formulated list of measures for the financial recovery ("for financial regeneration" or for financial stabilization) of enterprises. This first block can be called theoretical for the study and understanding of the financial crisis at enterprises, and, also, this block is concretizing for the paths (tasks) that must be passed and / or performed to overcome the financial crisis [5, pp. 474-483; 6]. Naturally, this first block cannot contain any methods, mechanisms and algorithms for financial stabilization methods for enterprises.

The second block combines methods and models for diagnosing crisis symptoms of financial development of an economic entity. This block talks about the methods of financial analysis, which reveals trends and the first signs of a crisis in the development of an enterprise. Various methods of express diagnostics and methods of fundamental diagnostics of the financial crisis at the enterprise are proposed. Express diagnostics highlights the analysis of the company's net cash flow, the market value of the company, the structure of capital, the company's monetary obligations, the composition of the company's assets, current costs, and financial transactions in the high-risk area. For these purposes, the following methods are used: trend financial analysis; structural financial analysis; comparative financial analysis; analysis of financial ratios; analysis of financial risks; integral financial analysis based on the "DuPont Model". Fundamental diagnostics operates on the basis of factor analysis and forecasting methods. Fundamental diagnostics includes: full comprehensive analysis of financial ratios; correlation analysis; SWOT analysis; multivariate models for predicting bankruptcy, such as W. Beaver's model (USA, 1966), E. Altman's model or Z-score model (USA, 1968), models of R. Lis (GB, 1972), G. Taffler and G. Tisshaw (GB, 1977), G. Springate (Canada, 1978), G. Fulmer (USA, 1984) and their different adaptive models [5, pp. 500-516; 6]. Here

you can add an assessment of the reorganization capacity of the enterprise, respectively, Harrington's function [7, p. 74-75]. Please note that these are all assessments of the likelihood of bankruptcy and they do not say how to resist bankruptcy, that is, how to act in a situation when the financial insolvency of an enterprise has become an economic fact. All such mechanisms and models are completely useless when the financial crisis exists at the enterprise already.

The third block combines and explains the methods and mechanisms of anti-crisis management. This block contains about ten principles of anti-crisis financial management of an enterprise. It includes: 1) the need to be constantly prepared for a possible violation of the financial balance of the enterprise; 2) prevent the threat of a financial crisis even before it actually manifests itself (here, the methods of early diagnosis, which were described in the second block, are used); 3) it is necessary to apply anti-crisis measures as early as possible and this will give a positive effect; 4) react to those "points" that begin to "hurt"; 5) to use not one measure, but a set of measures aimed at one "pain point"; 6) build the set of measures specified in 5) from the maximum possible number of alternative projects based on an assessment of their costs and their results; 7) high volatility and variability in the use of methods of anti-crisis financial management; 8) first apply methods and measures that are done by the enterprise's own capabilities, without attracting outside help; 9) attraction of external assistance for the reorganization of the enterprise; 10) assessment of the funds spent and the results of the made recovery mechanism [5, pp. 484-500; 6]. We "showed" all ten principles of anti-crisis financial management of an enterprise in order to "see" that in these areas of activity only the management of reorganization of the enterprise is said. We draw your attention, about the methods and principles of *management (highlighted by us)* are explained, but it is not said with the help of which financial mechanisms and instruments the management will be performed. In other words, a list of rules is given on how to manage, but it does not say at all what should be managed. But what needs to be managed (recovery mechanism) and with the help of what needs to be managed (recovery tools) is the financial recovery mechanism, which we distinguish in the fourth block. Let us also briefly mention the problem of recovery tools. The article "Crisis management tools: problem application issues" [8] talks about sanitation tools, but the use of such tools is investigated only from the side of *management (highlighted by us)* tools and does not indicate which objects to direct these tools to. The conclusion of this article is very indicative, we quote it in full. "Summing up, we note that any company in today's market conditions, needs *crisis management (highlighted by us)*, which is a set of tools for external and internal influences on the company and aimed on the one hand, to anticipate and mitigate the crisis, and on the other hand - to prevent adverse phenomena for business, development and implementation of a special program at the enterprise, which will eliminate temporary difficulties, maintain and increase market position" [8, p. 263]. As you can see, everything has come down to

the general importance and importance of *crisis management* and nothing is said about the mechanisms of recovery, which should be managed. This will always be the case until a separate financial anti-crisis mechanism is built and allocated. But as long as there is no separate recovery mechanism, it will not be clear to what and how to apply and use the tools proposed in the article.

The fourth block is a description and explanation of the direct mechanisms of financial recovery. And here begins the most interesting. If the company is in crisis, it is characterized by only one main factor, namely, the company is unable to pay its obligations. For example, an enterprise cannot repay bank loans or loans borrowed from other enterprises. In accordance with the financial legislation of Ukraine, the debtor company has the right to repay bank loans and cash debts to other companies from net current cash receipts. In other words, the debtor company has the right to repay bank loans and cash debts to other companies from its net profit. But for this, the company must have a balance sheet profit. But, as a rule, the debtor companies do not have a balance sheet profit, or it is very small, and, therefore, the company does not repay the loans taken, and, therefore, the company becomes a debtor. It is the lack of sufficient profit that does not allow the debtor company to repay the loans. This means that the company can no longer operate under the existing financial mechanism. In our opinion, for enterprises that are chronically unprofitable, but have unpaid loans, another the financial mechanism is needed. This other financial mechanism is different from the traditional financial mechanism. We will understand that the traditional financial mechanism is a financial mechanism in which there is a possibility of making a profit. Another financial mechanism is a mechanism in which there is no legal possibility to make a profit. We are calling this non-profit mechanism the mechanism of financial rehabilitation. This mechanism divides all the company's income into two parts: the first part of the income is used for the costs of production, and the second part is used for the costs of paying debts. We believe that the mechanism of financial recovery for the debtor company should be different from the usual financial mechanism for the non-debtor company.

If we do not change the traditional model of recovery mechanism, i.e., the model of the finance recovery, which allegedly involves the return of the company to its previous state within the financial mechanism, which led to insolvency, and do not move to another the financial model of financial recovery, the company will be doomed do not get out of crisis. Here it is appropriate to mention the humorous statement of the physicist Albert Einstein: "It's just crazy: to do the same and to wait for other results".

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INVESTMENT MANAGEMENT FOR SMART GRID PROJECTS: A CROSS-COUNTRY ASSESSMENT

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Smart grid projects are of interest for investment because its increase efficiency of existing capacity of energy distributed system and affects system reliability and performance. Introducing the latest technology to optimize energy generation and distribution significantly reduce the negative link between economic growth and ensure SDG implementation. Withal, development and implementation of smart grid projects require significant investment with relatively long operating cycle and good management skills of the team. Furthermore, energy innovation tends to behavioural uncertainty of stakeholders and volatility of price on the market. The proliferation of the Covid-19 pandemic resulted in the limitation of company's investment resources and, therefore, many energy projects have been delayed. The interruption of supply chains, the decline in business revenues due to lower demand and energy prices, the uncertainty of the future contributes to the intensification of the investment crisis in the energy market. According to the report by the IEA, the most significant reduction in energy investments is expected in 2020, the corresponding decline in 20% in compare to 2019 (equivalent to 400 billion US dollars) [1]. According to report of Smart Grid Laboratories Inventory [2], almost 26,9% of the labs as initial investment have spent 100,000 - 500,000 EUR and only 11,5% manage large investments in amount between 4,000,000 - 5,000,000 EUR. Around 38,5% of labs perform the investments throughout 2 to 3 years. In the context of limited resources, the question arises of justifying the support of energy projects against alternative areas of investment.

The analysis of literature sources allows to state about a large number of scientific papers concerning the technological aspect of smart grids projects. At the same time, the issues of investment management were not reflected in detail in the context of smart grid innovation. Investment and financial issues for the development and implementation of smart grid technologies are considered in the literature in terms of incentives and regulation. The investment policy focuses on provided by government incentives for applying preferential tax rate or determine the accelerated rate of depreciation for companies that develop smart grids. Tariff

regulation, subsidies from national (or regional) taxes, state bank financing, are other regulatory incentives for investment. Besides, the introduction of an incentive tariff makes investment projects in energy technology not only socially directed but also financially self-sufficient.

Cambini et al. in [3] investigate the relationship between key market conditions, regulatory schemes and smart grid investments to enhance incentives for its deployment. In addition, the search for regulatory models for investment incentives is of great importance for realisation investment policy, while convincing tariff payers that are increasing costs does not imply an increase in rents for enterprises and operators in the supply chain. Keller et al. in [4] analyse different economic aspects with taking into account characteristics of market actors which operate in a smart grid environment. Some authors conclude that efficiency obligations and performance regulation are key tools to create a convenient regulatory policy for the deployment of smart grid investment and networks [5].

Recent studies show that investment in Smart grid projects is conducive to long-term economic growth and have a positive social and environmental impact. The smart grid technologies help customers to optimize consumption, promote ecology friendly infrastructure, which led to the reduction of environmental impact and increase the degree of security of energy supply. Impact of investment in smart grid projects on sustainable development is presented on Fig. 1.

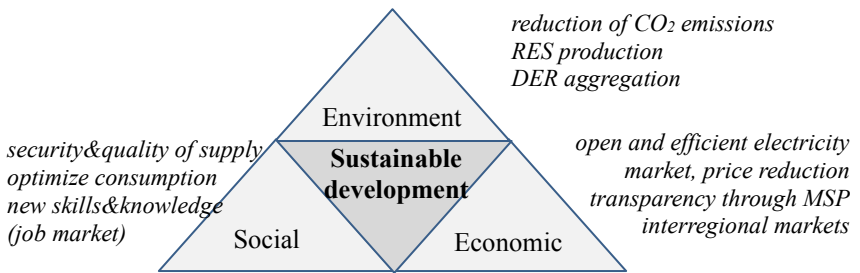


Fig. 1. Triangle of Sustainable Development and Smart Grid projects

Implementation of smart grids projects influence notably on socio-economic development: (1) enrich the value chain through integration of interregional markets; (2) shifts consumer behavior and culture with the contribution to climate change mitigation; (3) emerges is the need for new skills and knowledge, ultimately, the job market is expanded.

However, if we analyze the recent statistics on investing in smart grids, we can visually see a decline in financing their development (Fig. 2). Over the past three years, investment has decreased in all areas except for the smart meters' development. Although development budgets have declined in absolute terms over

the years, the intellectual component of development and artificial intelligence possibilities in managing smart grids have increased [6].

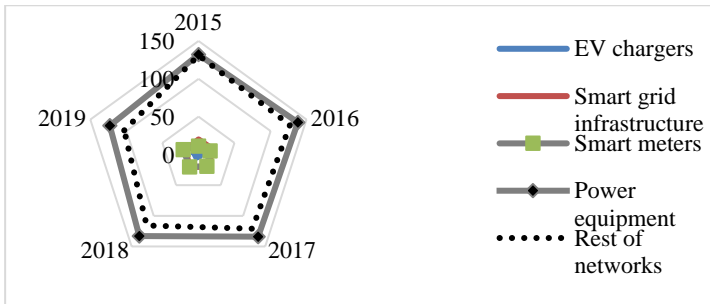


Fig. 2. Investment in smart grids, 2015-2019 (Based on IEA data from the IEA (2020), Smart Grids, <https://www.iea.org/reports/smart-grids>. All rights reserved; as modified by authors)

At the same time, the priority in financing the networks still falls on renewable capacity. Incentive packages in countries related to the transition to renewable energy sources support smart grids' development and their integration into the already existing energy system [7]. However, the spread of investment varies considerably across countries (Fig. 3).

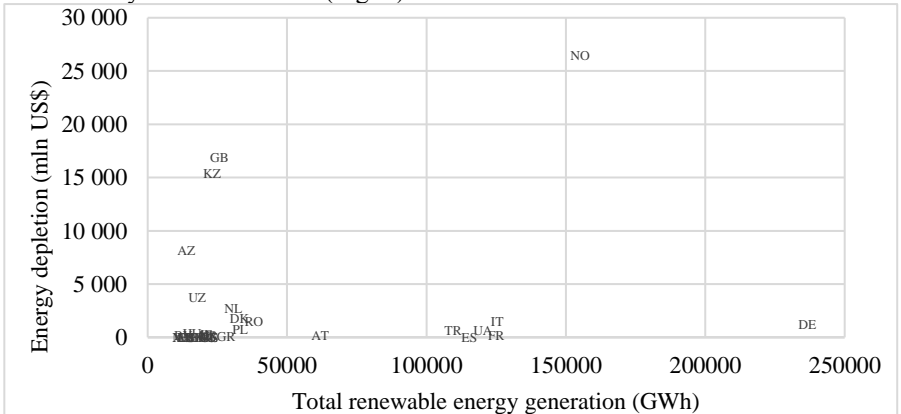


Fig. 3. Total renewable energy generation (GWh), 2019 (Based on IRENA data from the IRENA (2020), Data & Statistics, <https://www.irena.org/Statistics>. All rights reserved; as modified by authors)

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TRANSITION TO GREEN ECONOMY: BASIC PRINCIPLES AND PROBLEMS

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Humanity has made significant progress in the development and spread of globalization. The price of progress is a reduction of exhaustible natural resources. Further economic development without radical changes in the existing economic model will lead to an increase in environmental threats and make sustainable development impossible.

The concept of sustainable development was enshrined at the 1992 UN Conference on Environment and Development. The main idea of it is to ensure the socio-economic development of humanity, without harming future generations. [10, 30] It was defined that the process of finding an effective mechanism for implementing the concept of sustainable development has accelerated significantly since the last economic crisis and returned the attention of scientists to the “green economy”.

A large and growing body of literature has investigated the development of corporate social responsibility over the past ten years. It is an important area, which is associated with many factors: the effect of globalization processes; increasing the transparency of companies; improving the competitiveness of corporations, strengthening integration processes and adapting to the demands of the external environment and potential strategic investors.

Based on the exacerbation of these issues recently in the global socio-political and scientific circles, Shabranska N.I. [23] actively promoted the concept of green economy.

In 2011, the Commission on Global Sustainability of the UN Secretariat published a report entitled “Viable People, a Viable Planet: The Future is Worth Choosing”. However, the publication does not include a clear set of principles of the green economy, but it gives the following characteristics:

- It is a potential driver of sustainable development and stimulates economic growth, necessary to solve the problem of poverty in the world; can provide an integrated approach to sustainable development, developed for a specific country, territory or region depending on the needs and conditions, providing social protection and stability for all segments of the population;
- It is developed for the long term and is a sustainable growth model that can withstand external influences.
- It measures progress beyond GDP.

- It promotes employment, green business and creates green jobs.
- The main emphasis is on the development of technology and innovation, cooperation, and institutionalism. [4, 8, 29]

Despite the variety of principles and characteristics of the green economy, researchers underline some general provisions inherent in all developments. Different interpretations of the green economy are generalizing – a social focus. Table 1 lists the most common of them.

Table 1 – General principles of the green economy [20]

Direction of sustainable development	Principle
Economical	<ol style="list-style-type: none"> 1. Introduction of resource-efficient and cleaner production. 2. Stimulating innovation and more sustainable goods and services through public procurement on the principle of environmental sustainability. 3. Fostering the development of organic agriculture.
Social	<ol style="list-style-type: none"> 4. Providing employment, creating “green jobs”. 5. Improving public administration and providing legislative support. 6. Ensuring equality and justice in relations between countries, within countries and between generations.
Ecological	<ol style="list-style-type: none"> 7. Protecting biodiversity and ecosystems. 8. Achieving resource conservation and energy efficiency.
Other	<ol style="list-style-type: none"> 9. Finding means to achieve sustainable development. 10. Using an integrated approach to decision making.

Moreover, these principles are formed to solve problems to ensure sustainable development, as well as aimed at meeting and complying with institutional requirements, as well as the needs of integration and international cooperation.

We believe that in most countries of the world, the model of “brown economy” is mainly used with significant negative consequences: climate change, biodiversity loss, depletion of natural resources, environmental pollution, inequality of people and countries. In general terms, this model of economy poses a threat to both present and future generations. In this regard, UN experts emphasize the feasibility of transition to a new model of green economy, which through the use of levers of influence of the state and intergovernmental bodies in economic regulation, provided new opportunities for business development based on new green technologies and greening of industrial industries [16].

Table 2 – Definition of concepts of social development [15, 20]

Name	Essence
Brown economy	Economic growth without considering the requirements of environmental safety, the criteria of depletion of available natural resources and environmental pollution.
Sustainability	It is a development that meets the needs of today's society without compromising the ability of future generations to meet their own needs (UNEP Commission).
green economy	An economy that contributes to human well-being and social justice while significantly reducing environmental risks and environmental scarcity (UNEP definition).

According to Semenyuk I.D. [22], the transition to a green economy involves complex changes in all sectors of the economy. The primary sector, which covers agriculture, fisheries, forestry, and mining, requires the most radical changes, as it is here that products are created to meet the basic needs of humanity.

We consider that agriculture should refocus on the production of organic products (without the use of chemical additives).

The introduction of the green economy technologies will change the approach to doing business in agriculture through the introduction of “landscaping”, namely: the cultivation of organic products, energy crops and the economical use of fertile soils.

As far as we know, the secondary sector of the economy, which includes industry and construction, is also in dire need of new technologies with economical use of natural resources. In this context, the transition to a green economy for the country's industry is a priority; furthermore, it should be due to deep technological modernization. Besides, the greening of the economy involves the revitalization of the waste processing industry. [13, 29]

Bhowmik, D. [3] stated that the introduction of processing technologies, on the one hand, can be used to increase the competitiveness of production by reducing the cost of raw materials and their reuse, and on the other hand, to reduce the risk of human-made disasters.

Data from several sources have identified that improving energy efficiency is of great importance for Ukraine. “State Targeted Economic Program for Energy Efficiency and Development of Energy Production from Renewable Energy Sources and Alternative Fuels for 2015-2020” provides for a 20% reduction in energy intensity compared to 2010 and the approximation of relevant indicators to EU standards. To accomplish this task, it is necessary, first, to increase the level of security of energy supply, reduce Ukrainian dependence on unstable imports of energy and combustible minerals, reduce production costs and energy costs. It is

necessary to develop policy programs and norms for their practical implementation, to achieve energy efficiency goals. [28, 19]

Thus far, there is an urgent need for energy efficiency measures in the regions and municipalities. Ukraine has already identified the potential for energy savings and energy efficiency, as well as implemented many appropriate energy-saving measures. Overall, well-designed regulatory system can define rights and create incentives to boost the transition to a green economy, as well as remove barriers to green investment. Green investment is an essential tool for sustainable economic development in any country. After all, its absence may exacerbate the country's difficult environmental situation. Despite the gradual increase of the ecological tax for environmental pollution, the financial motivation of polluters to reduce emissions is insufficient. It is more profitable for heat generation companies to pay taxes than to invest in ecological measures. In view of all that has been mentioned so far, one may suppose that Ukraine urgently needs to implement a national system for accounting for emissions and removals of greenhouse gases. We consider that the priority areas for the development of the green investment instrument are the following:

- detailing the accounting system to the level of individual stationary sources of emissions;
- formation of an accounting system of greenhouse gas emissions in transport, based on data on the consumption of motor fuels and modes of transport and applied technologies;
- direct monitoring with the use of geographic information and satellite technologies on emissions and removals in agriculture and forestry;
- consideration of regular monitoring in the accounting system based on direct measurements of greenhouse gas concentrations and the scheme of verification findings.

Analyzing the above, we conclude that the role of the green economy in Ukrainian industries should be implemented because a developed economy is the economy of use of available resources. After all, right now, countries with developed economies are already forming neo-industrial policies. As a result of the analysis and existing trends, we found that the main problems that limit the transition to a green economy are:

- high energy and environmental intensity of the economy;
- the use of obsolete production technologies, which causes an increase in the level of environmental pollution and anthropogenic pressure on the natural economic system;
- low share of resources that are reused in the production process and disposed of production and consumption waste;
- lack of existing institutional and financial support for measures to transition to a green economy.

Table 3 – Necessary steps of managing green economy transition

Step	Description
1. Checks on environmental issues	<ol style="list-style-type: none"> 1. Implementation of ecological norms at the legislative level. 2. Identification and analysis of the environmental factor of omissions. 3. Drawing up a work plan for the greening of production.
2. Development of funds for greening	<ol style="list-style-type: none"> 1. Allocation of funds from the regional budget. 2. Financing of production in accordance with the plan formed during the audit. 3. Improving environmental saving performance.
3. Limiting pollution	<ol style="list-style-type: none"> 1. Increasing the level of environmental safety of the enterprise by introducing environmentally friendly technologies. 2. Directions of funds for nature conservation activities.

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ADVANCED DEVELOPMENT AND INTELLECTUAL CAPITAL: AN INFLUENTIAL ASSESSMENT⁶

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The countries' success is determined by the production drivers that are explained as the key factors to take advantages of the fourth industrial revolution for accelerating the transformation of national production systems [1]. The main factors that position the enterprise for using new technologies and opportunities in the future are technologies and innovations, human capital, global trade and investments, institutional frameworks, stable resources and demand environment. Human capital is the ability to respond to changes in the labor market caused by the Fourth Industrial Revolution through developing skills and talent in the current and future workforce. Given that human capital is the most vital production driver of advanced innovative development [2–6], and it is the structural part of intellectual capital [7], it is reasonable to assess influence intellectual capital on advanced development. Therefore, this study is aimed to look at the relationship between advanced development and intellectual capital by systematic literature review and explore future directions of research in this area.

The study has been carried out using a systematic literature review methodology. The collected data of 15248 articles, proceedings papers, book chapters, review and editorial material from Web of Science Core Collection database (until 15 March 2021) is analyzed by using bibliometric and network analysis. The collected data has been formed by utilizing various keywords within Web of Science Core Collection database (table 1). For advanced refine options, the Results Analysis tool has been used. In terms of annual articles release (Table 2), maximum number of publications has been brought out in 2017, 2019, 2015, 2018, 2016 and 2014.

Table 1. Keywords search results

Keywords	Search results
Intellectual capital	6121
Advanced development AND innovation	8981
Intellectual capital AND advanced development	146
Total	15248

Source: own elaboration based on Web of Science Core Collection Database 1975 to 2021 (15 March)

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Given the number of publications related to combination intellectual capital AND advanced development, it is recommended that more attention should be focus on this research area.

Table 2. Annual publications

Year	Number of Articles		
	1*	2*	3*
2021		2	
2020	374	825	8
2019	564	989	19
2018	493	944	13
2017	584	836	21
2016	478	725	8
2015	546	698	14
2014	390	499	10
2013	341	474	5
2012	337	417	5
2011	378	372	13
2010	296	325	4

* Keywords: 1 – Intellectual capital; 2 – Advanced development AND innovation; 3 – Intellectual capital AND advanced development

Source: own elaboration based on Web of Science Database 2010 to 2021 (15 March)

Table 3 shows the university-wise contribution to studies related to advanced development and intellectual capital. Table 4 indicates the journals publishing articles in the selected area and therefore enhancing the journals popularity for future studies.

Table 3. Affiliation-wise publications

	Number of Articles		
	1*	2*	3*
Bucharest University of Economic Studied (145)	University of California System (251)	Autonomous University of Madrid (3)	
Islamic Azad University (62)	University of London (151)	HSE University (3)	
Ministry of Education Science of Ukraine (54)	Harvard University (149)	Ministry of Education Science of Ukraine (3)	
Macquarie University (53)	Chinese Academy of Sciences (93)	Al Farabi Kazakh	
University of Castilla-La Mancha (49)	University of Texas System (83)	National University (2)	
		Bangkok University (2)	

* Keywords: 1 – Intellectual capital; 2 – Advanced development AND innovation; 3 – Intellectual capital AND advanced development

Source: own elaboration based on Web of Science Core Collection Database 2010 to 2021 (15 March)

Table 4. Journal-wise publications

Number of Articles		
1*	2*	3*
Journal of Intellectual capital (240)	Sustainability (90)	2011 6th international forum on knowledge asset dynamics IFKAD2011 (6)
Proceedings of the European Conference on Intellectual capita (225)	Research Policy (81)	Proceedings of the European Conference on Intellectual capital (6)
Proceedings of the European Conference on Knowledge Management (78)	Technological Forecasting and Social Change (81)	Consumer Centered Computer Supported Care for Healthy People (3)
Proceedings of the International Conference on Intellectual capital Knowledge Management Organizational Learning (77)	INTED Proceedings (79)	INTED Proceedings (3)
Knowledge Management Research Practice (63)	Journal of Cleaner Production (75)	Journal of Knowledge Management (3)

* Keywords: 1 – Intellectual capital; 2 – Advanced development AND innovation; 3 – Intellectual capital AND advanced development

Source: own elaboration based on Web of Science Core Collection Database 1975 to 2021 (15 March)

List of countries examining advanced development in close correlation with intellectual capital is shown in table 5.

Table 5. Publications of top countries

Number of Articles		
1*	2*	3*
USA (881)	USA (2 750)	Russia (22)
China (457)	China (1 174)	USA (19)
Italy (431)	England (866)	England (9)
England (392)	Germany (582)	Romania (9)
Spain (369)	Italy (448)	Spain (9)

* Keywords: 1 – Intellectual capital; 2 – Advanced development AND innovation; 3 – Intellectual capital AND advanced development

Source: own elaboration based on Web of Science Database 1975 to 2021 (15 March)

Studies concerning advanced development and itellectual capital simultaneously have conducted in different research areas (table 6).

Thus, it should be noted that number of articles concerning advanced development and intellectual capital simultaneously is not huge. Understanding the relationship between these functions and given studies that has already carried out for last 45 years, further research should be aimed at extending knowledge in this area, particularly, developing approaches to management of the advanced innovative development of company taking his intellectual capital into consideration, as well as

applying neural networks in maintaining of the intelligent management.

Table 6. Subject-wise publications

Number of Articles		
1*	2*	3*
Management (2,428)	Management (1,282)	Management (47)
Business (1,702)	Business (879)	Economics (30)
Economics (1,077)	Economics (701)	Business (24)
Information Science	Education Educational	Information Science
Library Science (473)	research (649)	Library Science (15)
Business Finance (397)	Engineering Electrical	Education Educational
	Electronic (475)	research (12)

* Keywords: 1 – Intellectual capital; 2 – Advanced development AND innovation; 3 – Intellectual capital AND advanced development

Source: own elaboration based on Web of Science Database 1975 to 2021 (15 March)

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THEORETICAL ESSENCE OF TRUST IN FINANCIAL SERVICES

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Trust in financial institutions is one of the most valuable assets, the presence of which is a guarantee of financial stability and economic development in the country. Modern notions of trust are the result of scientific research by thinkers of the past who have studied this concept in the framework of philosophy, ethics, theology, political science, psychology, and sociology. In the twentieth century, with the development of behavioural theories, the phenomenon of trust has become the subject of research and economists who try to determine its impact on the irrational behaviour of economic agents.

The generalization of economic, social, and psychological research allows us to identify three levels of trust: interpersonal; institutional; systemic.

There is a constant close relationship between these levels. It is a characteristic of the financial services market functioning, which involves the interaction of various economic agents at the personal, organizational (institutional) and systemic levels. The analysis of the literature showed that most international studies of interpersonal trust focus on the psychological aspects of this category [2, 18]. It is considered as 1) part of human nature, which reflects the relationship to the world and people in it [19]; 2) part of the human relationship, which determines the psychological state of a person concerning another in the process of communication [10]; 3) a component that contains a set of expectations and beliefs of partners [12]. Interpersonal trust is an essential factor in increasing productivity, and a factor influencing the economy and people's lives. Interpersonal trust is part of social capital: it determines the efficiency of social institutions [13], economic growth and financial development by reducing transaction costs [8, 9]. In the financial sector, the level of trust is crucial.

At the level of individuals, the main factors determining trust behaviour are the presence of formal institutions that affect the likelihood of the performance of contracts (the rule of law, corruption, bureaucracy, etc.). Also significant are social and economic heterogeneity, wealth, and income levels. Despite the great importance of cultural, historical, ethnic, religious, ideological norms on the level of interpersonal trust, the most important role is still played by economic conditions –

the level of wealth and uniform distribution of income in society [4, 11].

In general, among all methods of measuring interpersonal trust in society, there are two major groups: experimental methods; sociological surveys.

The generalization of scientific works gives grounds to consider equivalent these approaches and the practicality of using the indicator of generalized trust as an indicator of interpersonal trust in society. At the same time, there is the concept of particularized trust in different social groups: family, neighbours, acquaintances and strangers, people of other religions and nationalities.

At the macro level, interpersonal trust forms a system trust, where the object is a specific economic system: national or international banking system, payment system, interbank market, stock market [17], and the subject – compliance with consumer expectations of this system. In the context of the financial services market, the leading indicator that reflects the level of trust is the availability and affordability of quality and cost-effective financial services, which is the goal of money market regulators in the country. In this context, a unique role is assigned to financial intermediaries, which ensures the confidence of economic agents in performing their functions. For example, international accounting and auditing standards that guarantee information transparency in the operation of financial intermediaries; regulation and supervision of the financial sector, aimed at ensuring the financial stability of individual institutions and the system as a whole; credit and rating agencies that assess the efficiency and prospects of the business. That is why the reform of supervision of financial intermediaries is one of the most common areas of restoring systemic confidence in the country during the crisis [7].

The need for institutional trust is the result of the ineffectiveness of interpersonal trust in the financial services market in conditions of information asymmetry and the presence of moral hazards. It justifies the need to create specialized “expert” institutions that ensure market transparency and availability of information about its central counterparties. Institutional trust is based on the compliance of expectations and expectations of consumers of services and products during the execution of contracts.

The key determinants of institutional trust are:

1) Competence – the implementation of the institute’s basic functions and responsibilities, which is manifested in marketing, finance, management.

2) Transparency – information transparency and openness to all stakeholders, including information not only about the activities but also about the products and services of the institute.

3) Integrity – ethical relations with stakeholders, shared values and views. Manifested by the level of social responsibility of the institute.

Analysis of scientific sources revealed that the confidence of consumers of financial services to a particular financial institution is a complex concept that covers such components as:

– Brand image – the total amount of consumer perception of the bank, which is formed from various information sources. Brand strength is often an essential element of consumer loyalty to a particular financial institution, allows for individual informal, friendly customer relationships with the institution. The presence of certain shortcomings in the relationship with customers is not reflected in their attachment to the organization.

– Persuasion to trust. Based on social psychology and economics, trust beliefs are a construct of interpersonal trust, which means the ability to trust other people or organizations in different situations that they will work to satisfy the interests of the principal. It is a belief in the reliability, honesty and competence of the financial institution, the integrity and consistency of its work, care and friendliness to customers, openness and communication.

– Dispositional trust. It means the intentions and ability of people to trust each other, the willingness to depend on other people's situations and actions. It is measured by faith in humanity and the trusting position of the consumer.

– Institutional trust. An element of trust that is part of sociology that refers to trust in a situation or structure. The existence of appropriate structures, effective regulations, norms, sanctions and a stable economic situation play an essential role in providing guarantees, which has a positive effect on the belief in trusting financial institutions.

– Intention to trust. An element of trust that is part of social psychology and economics and means interpersonal willingness to trust depending on the specific actions of others.

In our opinion, in the context of active development of modern technologies, the above list should be expanded with an additional component that would take into account the level of manufacturability of the financial institution.

It should be noted that for the development of the financial system, it is essential not so much to have confidence in financial institutions, as the dynamics of growth of its level. The investment potential of a business, its transaction costs and economic risks significantly depend on it. A significant development is ensured by mutual trust, which is realized in the system of relations between financial institutions and consumers of financial services, between financial intermediaries of the same and different types, between financial institutions and state regulators. According to research by C. Calderon, A. Chong [3] and A. Galindo, based on World Bank data on the efficiency of national financial markets, the level of confidence is a determining factor in the country's financial development and stability of its financial system.

Consumer confidence in the purchase of financial services depends on: the presence of risk and uncertainty of results; the relationship between the subjects of interaction; the degree of vulnerability of the subjects of interaction; expectations of the future behaviour of the other party [6]. Among the main factors influencing the

formation of trust in financial institutions R. Hurley [10] determines: the presence of shared values and interests, the identity of the client with the financial institution; benevolent intentions of the financial intermediary; ability to implement the service; predictability; open and transparent communication with the client. The truthfulness and interest of the financial institution in the welfare of the client are the main factors for establishing a relationship of trust [5]. Consumer confidence in the financial sector is generally based on consumer experience. It depends on the ability of financial institutions to prove themselves as reliable partners who can meet their obligations, work well, and serve the interests of consumers. Experienced clients-users of financial services, as a rule, have a higher level of trust in the financial institution and the financial system as a whole. Long-term and positive relationships with financial institutions contribute to the formation of consumer loyalty, which contributes to the willingness of customers to use additional services of a financial intermediary.

Despite the close public and academic attention to the issue of trust, the literature related to the determinants of trust is scarce and contradictory, especially in the field of personal characteristics of consumers of financial services (age, gender, level of education, place of residence, social status), which can affect trust. M. Malkina and A. Ivanova emphasize that personal characteristics are the main determinants of trust in banks and influence consumer choice [14]. R. Mosch and H. Prast, however, argue that people's trust is not influenced by objective factors of age and gender, while the level of education and specialization have a significant impact [15]. Another approach is used by S. Mudd, K. Pashev, and N. Valev, who relate people's previous crisis experiences to their expectations of future losses. The authors proved the importance of this relationship. They found that individuals who have suffered financial losses in the past are most likely to withdraw their funds from banks and other financial institutions in times of crisis [16].

Also, interesting is a study by T. Beck and M. Brown [1], which covered 28 developing economies. Researchers associate the use of banking services not only with the characteristics of individuals, but also with the ownership structure of banks, the quality of regulatory institutions, and so on. It is concluded that socio-demographic characteristics of households, such as income, level of education and even religion, are important factors in consumer choice of a banking service provider, such as accounts, credit cards, etc.

In general, trust in financial institutions is related to each person's attitude to the potential risk. From the point of view of retail consumers, the process of "buying" financial services is complicated by the variety and complexity of available financial products, and the development of variants of the same product with slightly different functions only adds to their complexity. It is worth noting that today financial and technological innovations, including mobile and online versions of financial services, significantly change the priorities of consumers, raising the issue

of customer confidence in financial institutions to a new level.

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INTERNATIONAL MIGRATION AND THE COVID-19 PANDEMIC: LITERATURE REVIEW

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Ukraine has been for a long time a country that actively provides labor force at international labor market with migrants, mainly skilled workers, due to the various economic, political and social reasons (for instance, high share of unemployment and poverty, low level of salaries and social government support, military action in eastern Ukraine etc). That's why when it appeared a new global threat such as the COVID-19 the usual migration processes have undergone significant changes.

This work is devoted to the study of scientific sources on the connection between international migration and the COVID-19 pandemic. For the study, statistical data from 2019 to 2020 will be used, depending on the availability of relevant reports and data from official sources.

According to the World Health Organization, the Coronavirus disease (SARS-2 or as it is commonly called "COVID-19") is an infectious illness caused by a discovered in December 2019 coronavirus, which was found in China. The Coronavirus pandemic rapidly affected Chinese neighbored countries, then the United States and European countries. Statistically, on November 21, 2020, there are 53.7 million confirmed COVID-19 cases and the highest number of announced cases are the United States, India, Italy, France, and Brazil [2].

Despite the fact of the COVID-19 is a new worldwide treatment, there is a lot of publications about this topic, including investigations of the effect on migration and migration flow. The one of the most quoted article on the topic of migration and the coronavirus on Scopus database is the work of Chakraborty I., Maity Pr. The authors pointed out that the COVID-19 pandemic has seriously demobilized the global economy, therefore the states of countries is facing the threat of high inflation and rising unemployment as a result of level of fallen production level, many international business transportation is suspended or canceled, only in the tourism sector, including tourism migration, the volume of production decreased to 50-70%. Plus, excessive costs for treatment and rehabilitation of victims of COVID-19 and their families will negatively affect the country's budget. [1].

In the background of reports of the international organizations, Gamlen A. refers that the IMF expects a sharp drop similar to that of the Great Depression in

the United States, moreover, predicts a global economic recession of 3% in 2020. At the same time, the EU predicts the worst global depression in history [3].

Moreover, Gamlen A. also mentioned such a resource as the journal “Economist”, in which the topic of changing at the international labor market were discussed. The labor market led to work-related mobility and accelerates trends such as remote jobs. As an argument, it was mentioned that there was a spread of videoconference programs, such as Zoom, Microsoft Team etc. from March till May 2020. The author concluded that the number of people crossing borders, especially on a permanent and long-term basis, will decline faster before they return to their previous statistics [3].

The interesting approach of making research offered Kanu I.A. In the article, the author examines the issue of migration in Africa and health, through the Sustainable Development Goals. The study provides a discussion of further actions, namely: the government should tighten precautions and take into account their impact on migrants [4].

In the next paper developed a model of migration and travel from China. The results of article of Yüçeşahin M., Sirkeci I. showed a positive trend in predicting the spread of the outbreak virus worldwide in the case of interaction. Additionally, it was stressed that there are varied ways to overcome the COVID-19 problem around the world depend on the country [8].

The vice versa examination provided by Lei Che, Haifeng Du, and Kam Wing Chan research about the impact of the Covid-19 pandemic on the migrants' employment in China. In the paper, described the similarity between the current pandemic crisis and two previous crises for migrant workers – the 2003 SARS pandemic, which led to strict lockdowns, and the global financial crisis in 2008-2009, which took a million jobs positions. Data of research informed that at least 30–50 million migrants lost jobs in March 2020. In general, the results demonstrate a strongly negative impact of pandemic crises on migrants, especially in the rural sector [5].

The situation in Ukraine is no exception. The pandemic in this country began in the spring of 2020 and it immediately affected labor migrants from Ukraine. Moreover, in the case of Ukraine, the situation is triggered by the cyclical trend of Ukrainian emigration, which leads to the faster spread of the virus. Starting from March 2020, EU members approved a temporary restriction on non-compulsory movement, including for seasonal workers in agriculture, which led to a shortage of personnel in those recipient countries. Already during the adaptive quarantine in May 2020, the checkpoints on the border with the EU and Moldova were resumed, and already in June 2020, the borders with Russia and Belarus [7].

During January-October 2020, the total number of persons who crossed the border of Ukraine decreased in three times (23,824 million persons) in compare to the same period last year (72,546 million persons) [6]. This data agree that there is

negative tendency between migration flow and the COVID-19, because of closed border with other countries.

The literature review demonstrates that there are a lot of researcher's papers and international organization reports that analyzed international migration flow in the context of COVID-19 pandemic. Most of them confirmed the negative influence, such as demobilized global economy and its recession in the terms of high inflation, rising unemployment, fallen production level, and decreasing of tourism. On the other hand, some of them see some positive trends as spread of work-related mobility and transition to remote jobs. In conclusion, we note that at this time it is important to take the right actions of the government, minimizing the negative consequences and supporting migrants

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STUDY OF POSSIBILITIES OF THE BPW PACKAGE. DIFFERENCE ON CREATION OF DFD DIAGRAMS AND IDF0 DIAGRAMS: DESCRIBE THE PROCESS OF LOGISTICS AT THE ENTERPRISE

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IDF0 diagram combines a small graphical notation with certain recommendations designed to build a high-quality business model or any other system in order to easily describe work and assign tasks.

Data flow diagrams represent a network of interconnected works. They are convenient to use to describe the processes of document management and information processing. Like IDEF0 charts, Data Flow Diagrams (DFDs) model the system as a set of actions connected by arrows. Data flow diagrams can contain two new types of objects: objects that collect and store information (data warehouses) and external objects that reflect the interaction with parts of the system (or other systems) that go beyond the simulation. Let`s see the difference between this two diagrams on the example below. At this work presented on of the business processes named logistic or delivery of grocers.

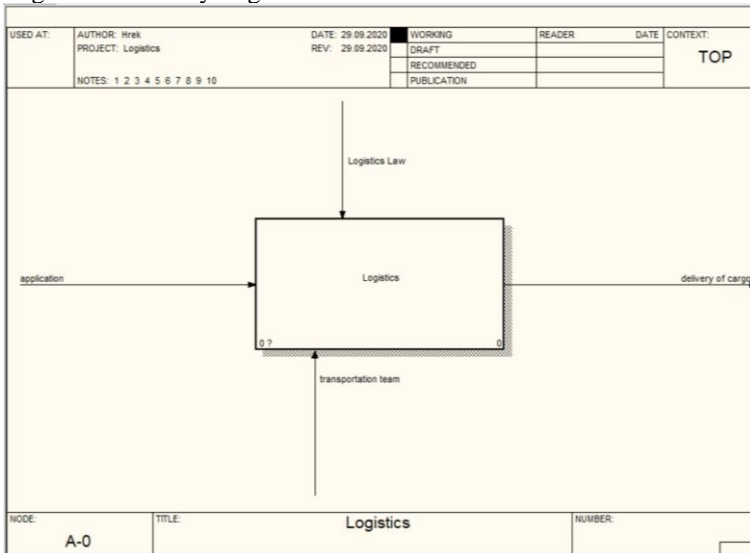


Fig. 1. – Logistic

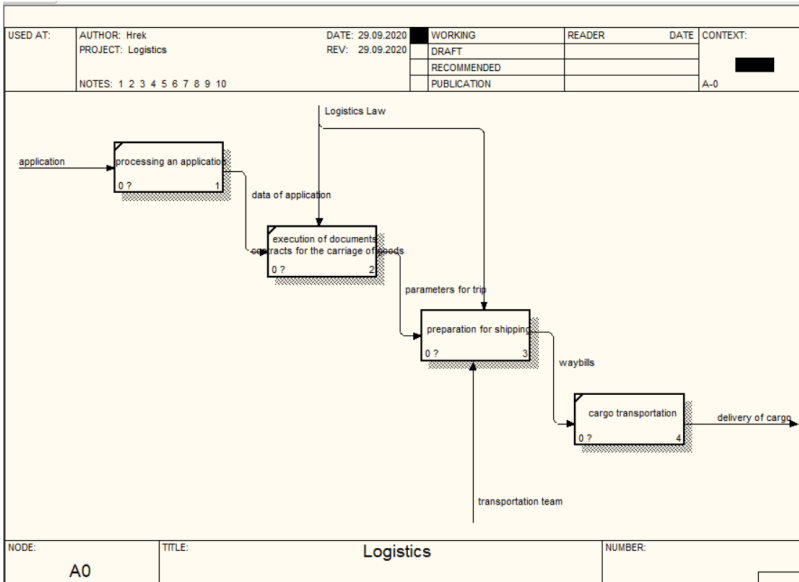


Fig. 2. – First decomposition

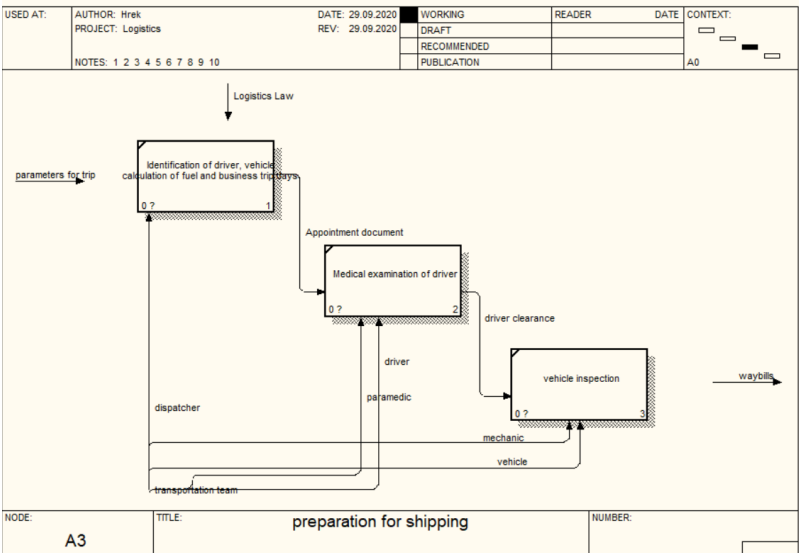


Fig. 3. – Second decomposition

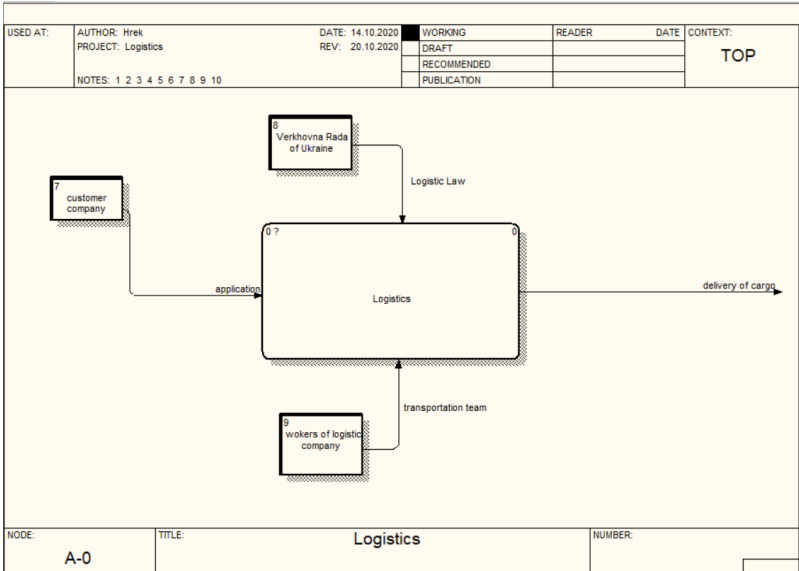


Fig. 4. – Logistic

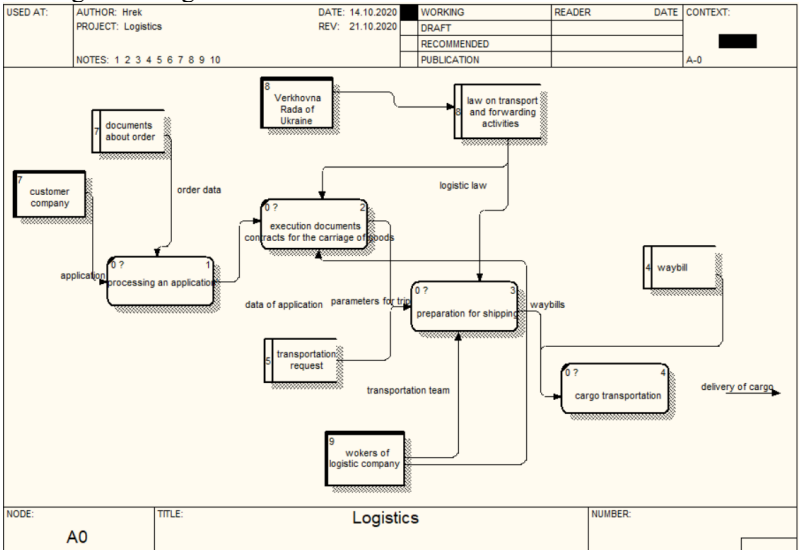


Fig. 5. – Decomposing of Logistic

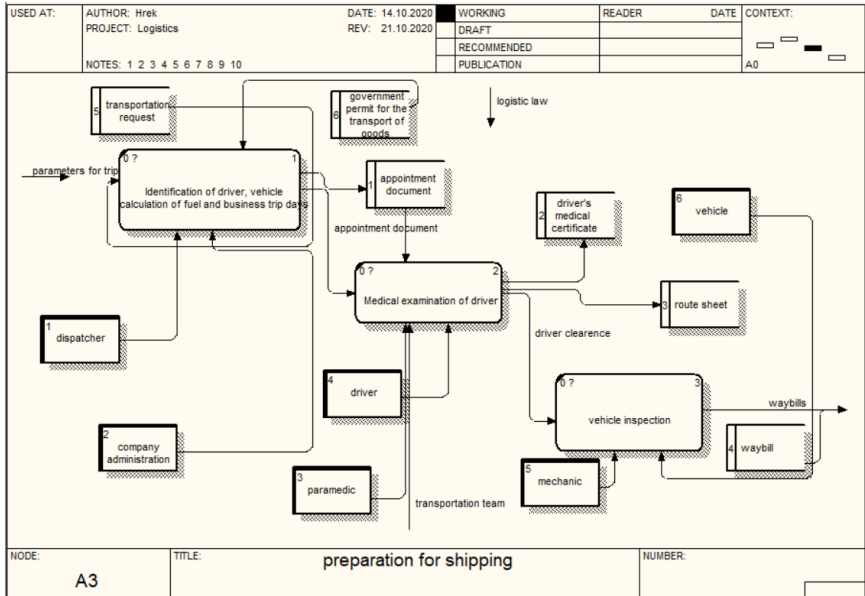


Fig. 6. – Decomposing of Preparation for shipping

The logistics process includes such sub-processes as order preparation and processing, collection of necessary documents and transport invoices, preparation of the team for a working holiday and the shipment of goods.

Although IDF0 diagram is not so extensive, it allows to estimate a certain process at a primitive level.

After analyzing these two diagrams, it can be understood that the most accurate in the implementation and representation of the process will be DFD diagram. In this case, this diagram allows to delve into the process of delivery of goods. It spreads an understanding not only of the process itself but also allows us to understand what external factors affect the process, how interconnected processes. Also, this diagram allows you to see which databases are present in each sub process.

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SUSTAINABLE DEVELOPMENT STRATEGY FOR TOBACCO INDUSTRY

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When it comes to sustainability, the tobacco industry has long faced skepticism because of the nature of the product. In 2005 The World Health Organization Framework Convention on Tobacco Control (WHO FCTC), that was required for implementation under SDG 3.a, came into force and 180 countries as well as the European Union have ratified or acceded it [1]. After that a lot of controversies took place. Can tobacco industry be considered as sustainable? This paper is dedicated to challenges and issues, that tobacco companies can face on their way to sustainable development.

Sustainable development, as defined by the World Commission on Environment and Development, is: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” [2]. In scientific works [3 ; 4], the authors present semantics of sustainable development and the history of the concept “sustainable development”. There are 17 sustainable development goals (SDGs), that aim to promote prosperity and protect the planet. The authors of the paper [5] studied the goals of sustainable development and their priority in different countries. Business is a direct partner in solving the sustainable development challenges, because by applying the creativity and innovation of small and medium-sized enterprises it becomes possible to build a prosperous future. Big companies can also contribute, as they have financial resources for innovations and technologies. The study [6] outlines various aspects for evaluating corporate sustainability. Companies can help in achieving SDGs by connecting their business strategies with global priorities and working on their implementation at the local level. These can be eco-oriented actions, the fight against corruption, protection of human rights, improving social impact on community in which the company operates, etc.

Nowadays tobacco industry is extremely profitable industry all over the world. The tobacco industry has sales of approximately US \$ 814 billion [7]. More than US \$700 billion of this amount is accounted for by conventional cigarette sales, with more than 5 300 billion cigarettes being consumed annually by more than 19% of the world's population. British American Tobacco (BAT) and Philipp Morris International (PMI) are the biggest tobacco companies based on sales. Despite thinking only of high profitability of the tobacco field, it is important to consider the fact that this industry is harmful at every stage of production and affects not only human health, but also the environment.

According to WHO [8], seven million people die each year from tobacco-related diseases worldwide. Tobacco plantations require the use of insecticides, herbicides and other chemicals to grow tobacco and prevent it from pests, and in the process of drying large amount of wood are burned, which contributes to deforestation.

The WHO estimates that more than 11 million tons of wood are burned annually to dry tobacco leaves - the equivalent of one tree for 300 cigarettes [8]. In China, the world's largest tobacco producer, 18 percent of deforestation is the result of the development of the tobacco industry.

According to the study [9] companies need to define priorities and set priority goals in order to build an efficient sustainable strategy, because not all the 17 SDG will be equally relevant for each kind of business.

There are some aspects that should be added into the strategy of the tobacco companies. The principal focus should be on reducing negative health impact. The tobacco industry itself contradicts to the SDG 3 “Good health and well-being”. To reduce the negative impact of the tobacco industry on health, it is necessary to offer consumers a huge choice of products and alternatives that are less risky. This can be achieved by investing in research and development to deliver innovations that can satisfy consumer needs with less harm. For example, BAT, the global leader tobacco company, has introduced the new products on the market – vapour products and tobacco heating products, which are less harmful than smoking (more than 95%). These products are already available on more than 20 markets and company is focused on exceeding the awareness of consumers on such products within the other markets. Based on BAT Sustainability report [11], about 11 million consumers regularly use one of non-combustible products that British American Tobacco offers across 48 markets. Another example of successful implementing of innovations is PMI, a company has introduced a new product on the market – IQOS, which reduces the risk to health, compared with cigarette smoking, by avoiding burning tobacco. Also, tobacco companies need to have a good scientific facility to conduct a quality assessment of emissions, exposure and risks associated with products in order to minimize possible negative impacts.

The most challenging, but equally important part of reducing harmful effects on health is standards and regulation. The industry needs to have strict product safety standards around the world so that the company's marketing is aimed only at adult consumers and does not attract young people. BAT effectively cooperates with the British Standards Institution, the EU standards body technical committee and the International Organization for Standardization in order to develop standards in this industry.

The second goal, which tobacco companies need to develop in their strategies is excellence in environmental management. It includes reducing emissions that have influence on climate change, reducing water withdrawals and improving water recycling, promoting sustainable agriculture and implementing circular economy

principles (which means cut the use of plastic during all process of production as well as post-consumption waste). According to BAT Sustainable Report 2019 [11], the company has reduced CO₂ emissions by 9.5% and the part of renewable energy resulted in 10.8% of the total direct energy usage in 2019. The company is planning to become carbon neutral by 2030. Philip Morris International is focused on developing environmental clean-up programs that have been successfully implemented in 31 countries of the world. The main tool for achieving this goal is to increase awareness among the community, and the company has also developed its own anti-littering policy.

The third part of the strategy is delivering a positive social impact on employees in tobacco industries as well as on people across the supply chain. It mainly means to enhance socio-economic well-being of tobacco-farming communities and to protect human rights. The principal aim is to ensure a quality livelihood for all farmers and workers in the tobacco industry, which is a necessary aspect of the strategies in the biggest tobacco companies.

According to WHO [8], the number of smokers by 2025 will be about 1 billion, which means that people are not going to quit smoking and therefore, no matter how harmful the tobacco industry is for health and the environment, it will develop further. That is why the task of companies is to minimize the negative impact on health and environment and offer quality products on the market. The true approach to sustainable development for tobacco companies is to minimize the negative impact of the products on human health and the production processes on the environment. It means tobacco companies may act sustainably, but they need to constantly look for opportunities to create value and minimize the negative impact associated with their products.

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COMPARATIVE ANALYSIS OF THE CONCEPTS OF VALUE ORIENTED ENTERPRISE MANAGEMENT

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The effective development of the enterprise primarily depends on the quality of management decisions and reasonable planning of its activities [17-19]. In the conditions of transformation of world markets towards their openness and transparency due to intensification of competition and change of behaviour of market participants there is a demand for reconsidering the value of the enterprise as a generator of economic and social benefits for the population and the state [4, 6, 10, 23, 24]. In today's world, the value of business is the focus of many scholars and a fundamental factor influencing the success of the business entity [8, 11, 25].

One of the first theorists in this area Rappoport A. identified seven value factors that took into account the movement of operating, investment and financial cash flows in the forecast and post-forecast periods [22]. A similar approach was followed by another researcher - Arnold G. [2], although in his work he presented the value factors in a more general way, combining them into four main (invested capital, actual and required rates of return, forecast period). The increase or decrease in value, according to the approach of Arnold G., depends on the ratio of actual and required rates of return: the creation of value occurs when the actual rate exceeds the required, the reduction in value - in the opposite situation.

According to Govorushko T. A., Obushna N. I. and Rovny Ya. A. the value of the enterprise is created on the basis of a set and interrelations of factors: the company's market share, the dynamics of financial indicators, the value of shares, etc. [9]. According to value-oriented concepts the value of a firm is determined not by the book value of assets, but by the quality of its securities and position in the capital market, product market, labour and control market [3, 5, 31].

Pilipenko S. M. notes that management of the enterprise on the basis of maximization of its value is a mutually beneficial solution for both owners and shareholders, because the interests of both parties are taken into account and eliminate possible conflicts that may arise between them [21, p. 585].

It is worth noting that one of the most common indicators of valuation of the enterprise is the indicator of economic value added (EVA), which is calculated as follows:

$$EVA = NOPAT - KW * C \quad (1)$$

where: NOPAT – Net Operating Profits After Taxes;
WACC – weighted average cost of capital (WACC);
IC – investing capital.

Among the most common concepts of enterprise management, which are focused on its value, are Value Based Management (VBM), Business Performance Management (BPM) and Balanced Scorecard (BSC). The use of such systems provides quality information collection, analysis and processing for decision making [16, 20, 3, 5, 31].

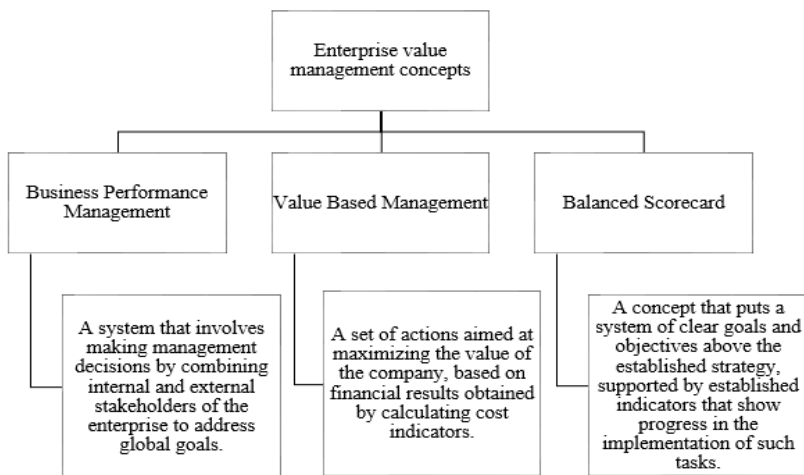


Figure 1. Concepts of enterprise value management (compiled by the authors on the basis of [14, p. 133; 20, 13-15])

The VBM system should be used during the period of stagnation and economic recovery, it will be useful for enterprises in crisis, young enterprises and those who use functional and value management [1, 15]. If we talk about the concept of Balanced Scorecard, it is effective in fast-growing markets, where companies compete with each other for new proposals and ideas, in particular within new financial instruments, models and management technologies created on the market. The BPM concept is more suitable for solving the problem of non-implementation projects for the implementation of collaborative management systems, by detailing the relationships between different business units [12, p. 351; 20].

Among the problems of value oriented management is the limited and difficult application of Ukrainian enterprises precisely because of the lack of study by national scientists. [13, 26, 27] Kreidych I. M. and Gagarin A. A. believe that by studying the advantages and disadvantages of indicators of determining the value of the enterprise, the concept of cost-oriented management in Ukraine will be implemented more actively [14, p. 209].

Thus, the studied concepts in different ways affect the quality of solving

problems in the enterprise, but their application can raise to a new level the process of its management and valuation. For further research, it is proposed to find ways to combine such concepts to develop a unified model of enterprise value management.

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KEY STAGES OF IMPLEMENTATION OF DIGITAL TRANSFORMATIONS IN PRODUCTION

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The concept of "digital transformation" is increasingly mentioned by experts in various fields of production in the context of the current state of the market and prospects for its development. In essence, digital transformation is a process that involves the integration of digital technologies into all aspects of human activity and requires significant changes in existing technologies, culture, operations and principles of creating new goods and services. The introduction of any digital technology requires a comprehensive review of existing production processes with the gradual abandonment of traditional outdated technologies, the maintenance of which becomes unprofitable for the company [3].

The digital transformation of a business covers all its aspects and offers effective ways to improve them based on three principles (Fig. 1).

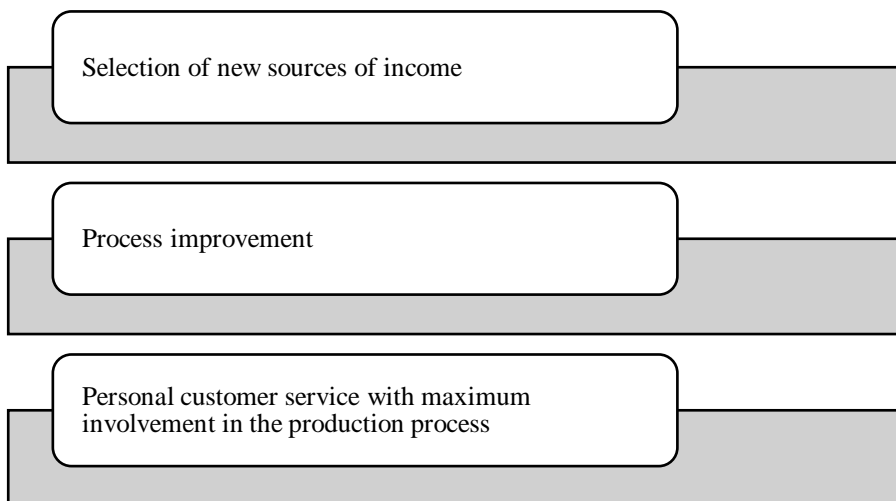


Fig. 1 – Principles of improving business on the basis of its digital transformation (compiled by the author on the basis of [1])

Consider in more detail each of the presented principles. The first principle means the following - digital transformations of doing business contribute to the fact

that some opportunities that were previously unavailable for various reasons become more open and easier to use. It, in turn, contributes to the emergence of new resources and increases aggregate profits.

The second principle (process improvement) is that the latest digital technologies can simplify the intermediate stages of more complex processes through the automation of simpler mechanisms. It allows you to increase the flexibility of the enterprise in terms of using its technological and human resources.

The third principle can be interpreted as individualism in customer service. Today it is not enough to provide one or another benefit to the customer. The client always expects an individual approach to solving his request, which involves personalization and consideration of behavioral aspects. Modern digital technologies based on neural networks or artificial intelligence can quickly solve specific problems.

Usually, the introduction of new technologies is always accompanied by various risks. However, the potential opportunities that open up to the manufacturer play a crucial role in deciding on digital innovations. It is associated with the introduction of digital technologies to minimize the risks. It is necessary to follow a clear plan of action. Consider the main stages of digital transformation of the production process [2].

1. Preparatory stage.

During this stage, the manufacturer adheres to a proven formula for conducting its activities, which is completely absent or presented at a minimum of any experiments. Objectives and prospects for customers, processes, key performance indicators, and business models are identified.

At this stage of the digital transformation, it is necessary to conduct several experiments to assess how much the final result of production will change with the introduction of new technology. If these experiments show a good result and your organization is close to its goal, then this experiment can be considered successful and should be used for the entire organization.

2. Development of a plan.

At the beginning of the implementation of digital transformations, it is important to determine the direction of development, as well as a set of technologies that will help in its implementation. Checking (inventory) of available resources can also be convinced of the need to introduce new digital technologies. Thus, there will be a clear vision of what is in excess and what is lacking. In this situation, as an option, you can buy special additional services that will more efficiently process existing information and provide an opportunity to work comfortably in conditions of growing traffic. In addition, the experiment also plays an important role at this stage. According to Andrew Vaz (Deloitte's Director of Information Technology), the modern world is a world of exponential change for organizations that have long operated under the so-called "status quo" and are threatened with bankruptcy, so it

is important not to be afraid to experiment, look for new development and self-improvement ecosystems. . This stage is also needed in order to convince senior management of the return on potential investments aimed at the development of digital transformations.

3. *Implementation.*

Determined the action plan for the implementation of digital transformations is implemented in the production process. Employees must be familiar with specific technologies or not be afraid and be prepared for their rapid development. During this stage, different departments and units cooperate with each other and share information that can be useful to everyone. This leads to the creation of new strategic roadmaps for the development of the organization. At this stage, roles are defined, investments are planned, and tasks are assigned. A mandatory part of this step is to create a digital transformation strategy that takes into account all the factors that may stand in the way.

4. *Reorientation of the production process.*

Given the successful implementation of digital transformations at this stage, it is necessary to review the entire production process and completely abandon outdated technologies. This step is explained by the fact that the modernization of outdated technologies is usually more expensive than the introduction of completely new approaches to doing business.

Thus, organizations that are proactive and willing to implement digital technologies tend to achieve higher results than those that prefer traditional, often outdated technologies.

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