**University of Security Management in Košice**

**Edited by Olena Chukurna and Viktor Zamlynskyi**

# MODERN TRENDS IN DIGITAL TRANSFORMATION OF MARKETING & MANAGEMENT

Collective monograph

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The monograph examines the current trends in the development of digital technologies in marketing, management and business administration. The prospects for the development of digital technologies in various sectors of the economy of Ukraine and the trends of the influence of digital technologies on global shifts in the systems of marketing management and business administration are determined. The transformations of business models in the conditions of the digital economy are analyzed, the impact of blockchain technologies on the development of promising areas of the marketing management system and business administration is analyzed. Reasonable impact of digital technologies on the transformation of management systems in social, public, legal and administrative spheres and various sectors of the economy. The contours of the formation of the digital economy in the sectors of economic activity and the social sphere have been developed.



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## CONTENTS

# INTRODUCTION

At the basis of the socio-economic development of digitalization in Ukraine, which is taking place during the transformation of citizens' legal awareness, during the period of martial law, transitional development of Ukrainian society, we see the need to develop a mechanism for activating the innovative capabilities of the country and enterprises in the context of digitalization of the economy. The gradual transition from the production of individual products to a service-oriented strategy of cloud technologies, the use of technologies of augmented reality, accounting and analytical data and web analytics, technologies of the Internet of Things, modern means of network communication, marketing technologies of artificial intelligence for the promotion and sale of goods and services indicates a complex of measures accompanying the process of adaptation of information and communication technologies for management needs for administration. The intensity of digital transformations will depend on the consolidation of efforts of scientists and practitioners. Only under such conditions is it possible to activate multi-vector transformational processes in Ukraine, the study of which will be a logical continuation of our research.

In the context of modern vectors of the development of digital technologies and the formation of the foundations of the digital economy, the monograph discusses the transformation of business models in the conditions of digitalization, block chain technologies as a tool of the digital economy, the role of cloud technologies in the development of telecommunications companies in the conditions of the digital economy. The content and features of statistical indicators for assessing the development of telecommunication enterprises in the conditions of digitalization, the possibilities of activating innovative activity in the digital economy are considered. A special role is devoted to the implementation of digital technologies in the marketing activities of enterprises in the conditions of the development of the digital economy.

The impact of digital technologies on the social and public sphere is unprecedented and rapid. Digitization affects the socio-philosophical outlook, changes the traditional structure of society,

forms the foundations of a new digital society through the transformation of the legal foundations of managing social and socio-economic processes in the conditions of the formation of a new paradigm of economic development. In this context, the research results presented in the monograph reveal the transformational shifts in all spheres of society in terms of substantiating the vectors of the new paradigm of economic development - the digital economy, as the next stage of evolution.

The monograph presents the results of research, which are divided into two sections and are devoted to the problems of digital transformation in various management areas. The first chapter of the monograph reveals the current trends in digital transformations in the field of marketing and management. Proposed management solutions in the context of digital transformation of the economy. The second section of the monograph is devoted to digital transformations in the management of the legal, social and administrative spheres.

The monograph is aimed at finding ways to solve the problems of creating a digital society and can be useful to scientists, researchers in the field of digital economy and development of digital society, scientists, postgraduate students, young people who are actively acquiring modern competencies and other target audiences who are involved in the field of scientific knowledge on this issue.

The contents of the chapters of the presented monograph are based on transformational, information and communication processes of management and marketing, but the common denominator of all considerations is digitization. The need for adaptive changes in economic development towards a flexible structure of functioning and processes, accounting and analytical support and statistical monitoring requires an appropriate marketing strategy that plays a critical role in information systems and technologies, concerns legal, business, and social aspects. Each of these segments is described in detail in monograph, showing problematic points and directions of development of the economic potential of various spheres of industrial and economic activity in accordance with the modern trend of sustainable socio-economic development - digitalization.

# 1. MODERN TRENDS IN THE DIGITAL TRANSFORMATION OF MARKETING & MANAGEMENT

## 1.1. THE THEORETICAL AND METHODOLOGICAL BASIS OF THE FORMATION OF BUSINESS MODELS IN THE DIGITAL ECONOMY

At various stages of its development, humanity has tried to find opportunities to improve and reduce forces, costs and time for product production, creating and inventing new opportunities and methods for realizing its needs. Mankind divided the systematic development of technologies in the world and new economic structures into four stages and called them "industrial revolutions".

The first industrial revolution (the end of the 18th century) was due to the discovery and spread of simple mechanisms that replaced manual labour with machine production.

The second industrial revolution (end of the 19th - beginning of the 20th century). During this period, there was a transition from coal, as the main type of resource that provided energy, to the use of oil, as an alternative type of energy carrier. The invention of electricity, the electric motor, the telephone, the use of new methods of goods production by entrepreneurs, namely, conveyor production. Development of the chemical industry and metallurgy.

The third industrial revolution (1960s). Transition and development of automation technologies and their implementation in the enterprise. It was at this time that the path to changes in employment, the development of remote work, and new requirements for workers in the labour market began.

The fourth industrial revolution (XXI century). We live in the period of development of the industrial revolution. It is characterized by the rapid development of the Internet, which in turn changes the trends of product promotion, its implementation, alternative business opportunities, the ability to collect, store and process information that the business owner needs. The emergence of new business models that include new opportunities to manage the enterprise as a whole. The development of the digital economy thanks to new technologies, namely blockchain (cryptocurrency and NFT).

The first mention of the term "digital economy" dates back to 1995 in the works of D. Toposcott and N. Negroponte. In their works, they gave an approximate understanding of how the digital economy would develop and provided their definition and view of digital science as a whole, replacing such concepts as "new economy", "Internet economy" and "network economy", thereby providing a more concrete meaning. According to Negroponte, comparing traditional markets and digital ones, he singled out the following advantages: the virtual nature of economic relations; lack of physical weight of products, the equivalent of which will be the information volume; the low level of costs for the production of electronic goods and the smaller area occupied by electronic devices and carriers; – instant global data exchange via the Internet; emergence of new digital currencies[1].

We will analyze the interpretation of the essence and vision of the digital economy by various scientists.

Analysing the statements of various scientists, we can conclude that the digital economy is an economy based on digital computer technologies and information as well as communication technologies (ICT), but, unlike informatization, digital transformation is not limited to the introduction of information technologies, but fundamentally transforms spheres and business processes based on the Internet and new digital technologies[2].

The second stage of the digital economy began in the mid-1990s during the period of large-scale development and spread of the global Internet and mobile communications.

Scientists distinguish three main stages of development and formation of the digital economy:

The first stage of the development of the digital economy began to take shape in the 1960s, when digital technologies began to spread.

Today, we can talk about the third stage of digital transformation, which is connected with the spread of digital currencies and

[1] Yankovets T. / Digital technologies for increasing the value of brands [Electronic resource]. – URL.: http://visnik.knute.edu.ua/files/2019/04/10.pdf

[2] Konoplyannikova M.A. Management of marketing activities: concepts, principles, approaches / M.A. Konoplyannikova. Global and national economic problems. – 2017. – No. 17. – P. 332–336.

technologies in the global economy. Bitcoin, NFT and other digital currencies and technologies have taken their place in the global financial markets, and their number and the volume of transactions made with them are increasing, creating a new financial component in the global financial structure that meets the needs of the world today. Blockchain technologies, namely crypto currency and NFT tokens, have been used since 2009 and have proven their reliability and economic value for 10 years, although the latter is a new technology, but it has also proven its value and effectiveness.

Table 1

**Definition of the term «Digital Economy»**

| Author | Definition |
|---|---|
| D. Tapscott | an economy based on digital computer technology, sometimes called internet economy, new economy, or web economy |
| N. Lane | the convergence of computer and communication technologies on the Internet, which stimulate the development of electronic commerce and large-scale changes in the organizational structure |
| M. Nikrem | the part of total output created by various "digital" resources. These resources include digital skills, digital equipment (components, software, and communications) and intermediate digital goods and services used in production |
| S. Dalman | combination of technologies of general application and a number of types of economic and social activities carried out by Internet users with the help of appropriate technologies |

Analysing the terminology specified by various scientists and the gradual development of the digital economy nowadays, the following features can be formed:

1. Rapid development and the ability to introduce new information and communication technologies;

2. Change in search behaviour; obtaining and analysing the received information;

3. Intensity of innovative use, massive data processing and analysis technologies, cloud technologies, artificial intelligence technologies

and creation of new products based on high-performance computing, quantum technologies and distributed ledger systems (blockchain);

4. Striving for the development of marketing that is directed to a specific consumer, taking into account all his wishes and, therefore, production;

5. Creation of unique conditions for companies and the opportunity to achieve new qualitative levels of efficiency of economic activity, which enables the transition to new sales markets and the implementation of new business models;

6. Greater demand and requirements for specialists, changes in employment requirements by enterprise spheres;

7. The connection with the so-called on-demand economy, which focuses not on the sale of manufactured goods and services, but gives the opportunity to access them exactly at the moment when it is needed by the consumer, entrepreneur, etc., simplifies and in turn stimulates the possibility of selling the product and makes it possible to improve and introduce new marketing tools that will work for a specific consumer[3].

Digital diffusion occurs when digital technology accelerates the transfer of new knowledge, business innovation, and increases employee productivity within a company across multiple industries to achieve sustainable economic growth.

The digital economy makes significant adjustments to the development and changes of current types of business, production, and the processes associated with them. Every year, the digital economy develops more and more and implements more complex levels of digitization in the economy, businesses need to implement and transform to new production relations, which in turn stimulates the development and unification of all production and service links into a single digital system in which:

1. All elements of the enterprise's economic system are present in the form of an objective, i.e., physical presence, as well as in the form of digital copies, virtual (mathematical models).

2. All enterprise objects, products and processes form a progressive digital system that allows you to control all processes without being

[3] History of the development of the "VOVK" brand [Electronic resource]. – URL: https://ves4i.com.ua/VOVK

physically in the middle of the system, but to control everything outside it, which simplifies work and systematizes it.

3. Due to the implementation and realization of digital copies (mathematical models) and precisely because they are part of a single system, all elements of different branches of the production system constantly interact in almost real time, simulating real processes and forecasted situations, analyzing them, gradually and quickly ensuring constant optimization and problem solving of the whole system.

The main segments of the digital economy are as follows:

1. the sector of information and communication technologies, e-business infrastructure (networks, software, computers, etc.);

2. digital production and electronic business, including industry, i.e. business organization processes using computer networks;

3. electronic trade, i.e., retail Internet sales of goods[4].

In 2001, the American economist Thomas Massenburg singled out three main concepts of the digital economy:

1. Electronic infrastructure. Development of computer technologies, improvement of the quality provider services provision, improvement of the mobile telephony network.

2. Electronic commerce. Financial transactions on the Internet.

3. Electronic business. Development of systems and their implementation in the company's field of activity to improve its work.

The influence of digital technologies development on the global market and on the world, GDP began to be carried out in the late 1980s, the basis for this was active development of data storage, analysis and processing technologies provided by computer technologies. According to the calculations of foreign experts, during 1987-1999, the average annual growth rate was 0.3% due to the increase in sales of various types of computer technologies and the computer itself. In 2000-2010, these indicators reached almost 45% of the world GDP due to even greater development of technologies, active use of these technologies by both business owners and ordinary consumers. Active growth according to the conclusions of the consulting company "PWC" is believed to have occurred at the time

[4] Guzenko H.M. Management and improvement of marketing activities at the enterprise / H.M. Guzenko. Economy and society. – 2017. – No. 12. – P. 227–234.

when 3G Internet technologies were spreading, which are one of the concepts of the digital economy, namely the electronic infrastructure that provides more opportunities for realization of various needs by consumers and entrepreneurs for the development of society as a whole.

The sampling of each country of the world according to the level of digitalization makes it possible to distinguish four stages of the society development.

Experts of the PWC consulting company analysed a sample of more than 150 countries in order to ensure the objectivity of the data. The largest number of these countries occupy the first stage of the development of digital technologies, namely the group of limited development, namely 0-30% of various digital technologies development. These are mainly the least developed countries in which the level of GDP per capita occupies the last positions on the international level. For example, according to international rankings, the gross domestic product of India ranks 142nd, the African countries that have taken this position have the lowest GDP per capita and occupy the last places.

According to the data provided to us, we can see that the smallest number of countries represented in the study, namely 19, fell into the second group. This nascent group includes countries whose economic development is ensured by means of the realization of natural resources located in these countries and cheap labour. The level of GDP per capita is quite low, and the reason for this is the lack of the industry and social infrastructure development.

The third group of countries development level reaches the average, as there are qualitative changes in the field of technology development, which in turn creates added value in society. There are changes and mergers of various production branches with the help of digital technologies, which in turn give good growth indicators for enterprises, which they achieve thanks to effective business strategies, and they, in turn, make it possible to form new business models. In this study, Ukraine occupies the transformation group, which gives an understanding of where and how to develop in the field of digital economy, GDP per person in our country ranks 133rd in the world.

Table 2

**Development of digitalization in different countries of the world**

| Digitization of the economy, % | Stages of development of the digital economy | | | |
|---|---|---|---|---|
| | Limited development (constrained) | Genesis (emerging) | Transformations (transitional) | Advanced development (advanced) |
| 0-30 | 65 countries (Afghanistan, most countries of Africa, Moldova, Nepal, India, Uzbekistan, Vietnam, etc.) | | | |
| 30-40 | | 19 countries (Albania, Brazil, Georgia, China, etc.) | | |
| 40-50 | | | 28 countries (Argentina, Estonia, Latvia, Iran, Serbia, Turkey, Ukraine) | |
| More than 50 | | | | 37 countries (Australia, countries Scandinavia, France, Germany, Poland, Hong Kong, Japan, USA, United Kingdom) |

Comprehensive digitalization contributed to the emergence of security issues of conducting economic activities, the issues of which have been studied by many scientists[5]

In the conditions of the development of digitalization, business approaches to the formation of enterprise business models are changing. Digital technologies have contributed to the transformation of traditional approaches to building business models. In order to study the evolution of the development of scientific opinion regarding approaches to the formation of business models, an analysis of the interpretation of the term «business model» was carried out. In the future, this will provide an opportunity to identify changes in approaches and elements of business models in the conditions of the digital economy.

The concept of «business model» was formed at the end of the 20th century and, in the generally accepted sense, was used to characterize a wide range of informal and formal key aspects of business. The construction of business models involved the substantiation of the following components of its elements, namely: purpose, potential customers, offer, strategy, infrastructure, organizational structure, trade practice, management processes, etc. In a broad sense, a business model is a structurally constructed system, the purpose of which is the implementation of commercial and marketing opportunities.

The analysis of research conducted in this area allowed us to conclude that the substantiation of business models used in the digital economy began to take place in the early 2000s. The emergence of Internet technologies and the development of electronic commerce created conditions for changing traditional business processes. Scientific substantiation of business models in this direction was carried out by many scientists-founders of this field. Since the second half of the 2000s, research has been introduced that is devoted to the creation of classifications of business models of firms and the

[5] Reitšpís J., Mašľan M., Britchenko, I. Selection and application of appropriate analytical methods needed to assess the risks reducing the security of the protected system**.** *Baltic Journal of Economic Studies*. – Riga (Lotyšsko): Baltija publishing. Roč. 7, č. 3 (2021). DOI 10.30525/2256-0742/2021-7-3-1-8

subsequent comparison of differences in the revenues generated, depending on the chosen type of business model.

It should be noted the scientific works of the following scientists, who researched and substantiated the evolution of approaches to the formation of business models in the conditions of digitization and informatization of the economy.

Timmers P. considers the business model as a set of products, services and information flows[6]. Weill P. and Vitale M. similarly describe the business model and consider it as the distribution of roles and relationships between consumers, customers, partners and suppliers[7]. Linder D. and Cantrell S. single out three types of business models as the basic logic of the organization in value creation[8]. The similar approach is presented in the works of Petrovic O. and Kittl K.[9] and Applegate L.[10], where a business model is defined as a description of a complex business system, its structure and interaction with the external environment while promoting value.

The study by Tapscott D. and Ticoll D. does not give a clear interpretation of the definition of a business model, but there is a mention of business networks in which the network is used for primary business communications and transactions[11]. The approach aimed at

[6] Timmers P. (1998) Business Models for Electronic Markets // Journal on Electronic Markets. Vol. 8, N2. P. 3–8.

[7] Weill P., Vitale M. (2001) Place to space: Migrating to eBusiness Models. Boston, Harvard Business School Press.

[8] Linder J., Cantrell S. (2000) Changing Business Models: Surveying the Landscape. Accenture / Institute for Strategic Change. URL" http://course.shufe.edu.cn/jpkc/zhanlue/upfiles/edit/2010024120954.pdf

[9] Petrovic O., Kittl C. (2001) Developing Business Models for eBusiness // International Conference on Electronic Commerce 2001. Vienna

[10] Applegate L. M. (2001). E-business Models: Making sense of the Internet business landscape // Information Technology and the Future Enterprise: New Models for Managers / Ed.by L. M. Applegate, G. W. Dickson, G. DeSanctis. Upper Saddle River, NJ: Prentice Hall.

[11] Tapscott D., Ticoll D., Lowy A. (2000) Digital Capital — Harnessing the Power of Business Webs. Boston: Harvard Business School Press.

creating business networks was also presented in the scientific works of Amit R. and Zott K.[12].

In this context, the scientific approach of Osterwalder O. and Pigneur Y. deserves special attention, in which it is shown that the business model describes the process of creating and realizing value. The concept describes business models as nine building blocks that show the logic of how a company generates gross revenue. These nine blocks are grouped into four business areas: customers, offering (good or service), required infrastructure, and financial viability. In other words, a business model is a plan of how the company's strategy should be implemented within its internal structures, processes and systems[13].

The conducted analysis allows us to substantiate the following stages of the evolution of the concept of the business model of the firm: emergence, formation and operationalization (Table 3).

The first approach to defining business models substantiates the ways of obtaining profit, the second approach has a broader meaning and is focused on the creation and promotion of value. When implementing the second approach, social responsibility and the company's orientation towards compliance with ethical standards can be used. Thus, the second approach solves not only the issue of profit, but also reflects the value proposition and social responsibility of the enterprise.

In this context also notes that the main aspects of the enterprise's business models should be the sources of creating and obtaining a value proposition within the framework of which there is strategic control over business tools.

Analysis of the majority of interpretations of the concept of a business model, which are devoted to the research of modern scientists, allows you to divide them into two groups that reflect the changes that have taken place in the understanding of the concept of «business model». The first approach considers the business model as

[12] Amit R ., Zott C . (2001) Value Creation in e-Business // Strategic Management Journal. Vol. 22. P. 493–520

[13] Osterwalder A., Pigneur Y. (2009) Business Model Generation // Business Model Generation .com.

a tool for generating income, the second approach is focused on value creation (Fig. 1).

Table 3

**Stages of evolution of business models**

| Stage | Period | Characteristic |
|---|---|---|
| The stage of emergence of the business model concept | 1995-2000 | The first definitions of the concept of a firm's business model appear, as well as works devoted to the analysis of business models of firms engaged in electronic commerce. Research on the e-commerce market has contributed to the understanding of the business model as a characteristic way of generating income |
| Stage of development of the business model concept | 2000-2005 | There is an expansion of such a narrow view of this term. The possibilities of using the business model as a tool for analysing companies in any industry are revealed. This leads to a rapid increase in the number of publications that use the business model to investigate specific firms. In turn, the number of works was reflected in the emergence of a variety of approaches to the definition, analysis and selection of components of the company's business model |
| The stage of operationalization of the business model concept | 2005 - to the present time | The focus of research is shifting to the development of specific characteristics of business models of firms, suitable for creating classifications and identifying specific types of business models. This made it possible to compare the results of companies with different business models and to use the selected characteristics of the business model to interpret the differences in the revenues generated by the firm. Thus, within the selected stages of the evolution of the concept of the firm's business model, the understanding of the business model changed, which led to the existence of a variety of approaches to the definition and selection of structural elements of the firm's business model. |

Chesbrough G. and Rosenbloom R. single out another point that is necessary for building a business model - this is the creation of the

foundations of sustainability of competitive advantages. Based on these approaches.

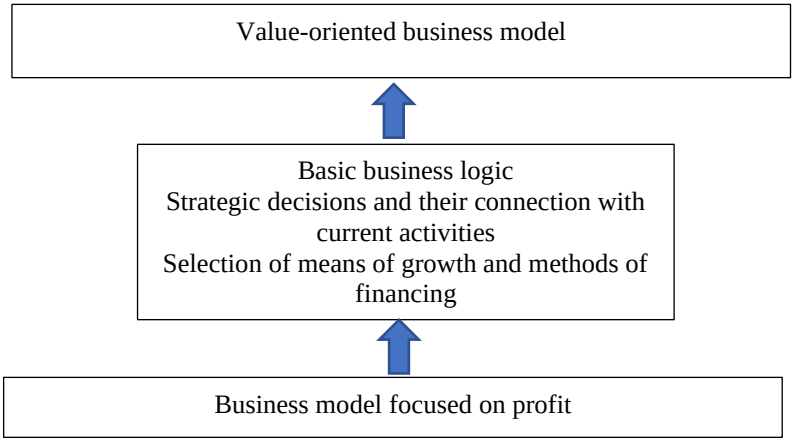


Fig. 1. **Approaches to the interpretation of «business models»**

Chesbrough G. notes: «Any business model performs two important functions: it creates value and receives part of that value. It creates value through a series of activities, from those related to raw materials to those in which the company interacts with the end user who receives a new product or service. During the chain of various types of activities (during the creation of a product or service), new value is added»[14].

In addition, Chesbrough G emphasizes that the business model should determine how the company receives part of this value. For this, unique resources, assets or positions are used, with the help of which or on which the specified types of activities are performed, where the enterprise has a competitive advantage.

The most foreign researchers follow a value approach when building business models and consider an enterprise successful if its business model is unique and innovative.

[14] Chesbrough H. W., Rosenbloom R. S. (2002) The Role of the Business Model in Capturing Value from Innovation: Evidence from Xerox Corporation's Technology Spin-off Companies // Industrial and Corporate Change. Vol. 11. P. 529–555.

The company's unique business model realizes innovative opportunities for creating or assigning value on the market. That is, opportunities that other companies in this industry do not have and allow the enterprise to have a competitive advantage.

Another approach to the analysis of business models allows you to divide business models into four blocks: value proposition for the consumer; sources of income generation; key resources; key processes[15] (Fig. 2).

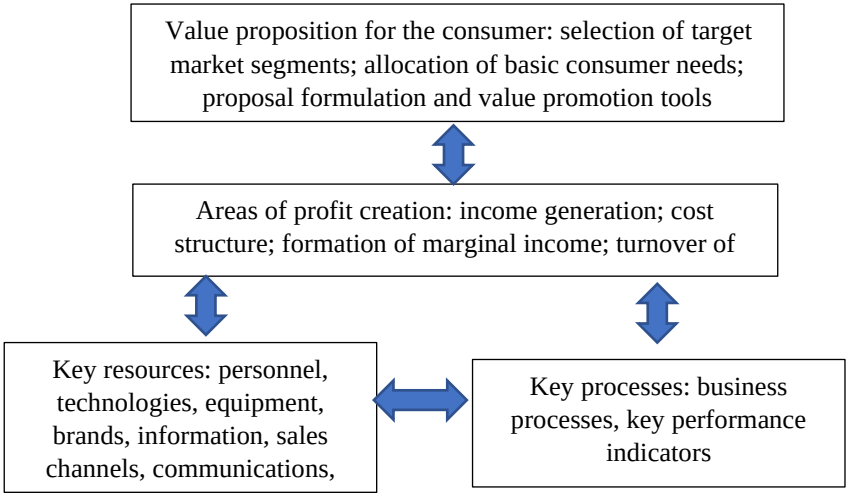


Fig. 2. **Elements of a business model according to the approach Johnson M., Christensen C.M., Kagermann H.**

A number of business models, including Canvas, have been built according to this distribution. The approach proposed by Johnson, Christensen, Kagermann is a process approach and involves the creation and promotion of value by identifying the key processes and resources of the enterprise.

In general, the entire business process management system is aimed at creating value for the consumer. Within the framework of the system, it is assumed that the goals of the organization are achieved

[15] Johnson M., Christensen C.M., Kagermann H. (2008) Reinventing your business model // Harvard Business Review. Dec. P.50–59

through conscious management of business processes. Regardless of whether the organization is commercial, non-commercial or governmental, its main purpose is to create products and services that have value for the consumer. That is why all goals of the organization should be reduced to achieving a high level of value.

In MBA programs, it is common to state that the main purpose of a commercial organization is profit from investors' investments. However, this goal may not be achieved if the products and services offered by the company do not have value for consumers. Thus, the primary goal of any enterprise - creating value for consumers in the form of providing products or services, is transformed into value for investors.

The simple definition of a business process is a set of actions that transform one or more inputs into a specific result that has value for the consumer. This approach justifies that the goals of the organization can be achieved through purposeful management of business processes.

To understand the essence of the business model, an approach can be given[16], which includes four independent but related components of the business model:

— types of activities: main and auxiliary;

— business units in which areas of activity are disclosed (these units can be internal divisions of the enterprise and external counterparties);

— relationships entered into by business units in the course of their activities;

— mechanisms of management and control of the effectiveness of the functioning of the business unit and the relations between them.

It can be concluded that the business model has a dual nature, which covers activities, on the one hand, and relationships, which are entered into by participants of certain activities, on the other hand.

The significant number of works investigating business models are an analysis of the operation of the enterprise in a static state. Only in

[16] Santos J., Spector B., van der Heyden L. (2009) Toward a Theory of Business Model Innovation within Incumbent Firms // INSEAD working papers. INSEAD Working Paper Series INSEAD and Northeastern University. Fontainebleau.

the research of Teece D. J. [17] attention is paid to the dynamic aspect of business model analysis, which involves the continuous identification of new opportunities and their implementation through the creation of a new business model. As a rule, most large successful companies traditionally use one business model, adjusting tactics and strategy. Radical change or partial modification of the existing business model is associated with innovations, and with the so-called disruptive innovations that completely change the structure of the market.

An interesting example of a change in business models was the transition of many companies to the ideology of open innovation, according to which enterprises can and should use both internal and external ideas in innovative activities, as well as apply «internal» and «external» ways of entering the market with innovative technologies. «This business model uses both external and internal ideas to create value; at the same time, there are internal mechanisms in the overall design that allow the company to obtain part of this value»[18].

The analysis of approaches to the interpretation of business models allows us to determine that the only common feature for the majority is the creation of value that the consumer is ready to pay. Value is generated in specific geographic and product markets, target segments, consumers, and its measurement is based on a comparison of the amount of revenue received and the costs of creating value.

In this aspect, considerable attention is paid to the value creation chain, the distribution of operations between partners, as well as the description of company resources and assets necessary for value creation. This approach to the analysis of business models provides an understanding of business architecture, reveals value creation processes, but reflects the firm's work only in a static state. This

[17] Teece D. J. (2007) Explicating dynamic capabilities: The nature and microfoundations of sustainable development // Strategic Management Journal. Vol. 28. P. 1319–1350.

[18] Chesbrough H. W., Rosenbloom R. S. (2002) The Role of the Business Model in Capturing Value from Innovation: Evidence from Xerox Corporation's Technology Spin-off Companies // Industrial and Corporate Change. Vol. 11. P. 529–555.

contributed to the emergence of dynamic business models aimed at finding and implementing new opportunities.

Thus, the analysis of business model concepts existing in the literature allows us to distinguish the following three approaches to the definition and analysis of business models:

— assignment of value through its creation and promotion with the help of diversification strategies. This approach involves the generation of income in new industries or activities (sales through the Internet, Internet advertising, etc.)[19];

— a process approach that involves the creation of value through business processes that occur at the enterprise.

— creation of dynamic business models, which involves the company's constant search for new opportunities, both within existing business models and their modifications.

Noting the importance of all scientific approaches and confirmed in practice, the effectiveness of the implementation of traditional business models, the development of the digital economy contributed to the transformation of traditional views on these aspects.

Let's consider the main reasons and consequences of the impact of digitalization on socio-economic processes and their reflection on modern approaches to building business models

The impact of digitalization is reflected in the development of socio-economic relations in the following directions:

— creation of a "smart" society based on new values, orientation to human needs, flexibility and creativity;

— a radical change in the labour market, health care system, education and spatial development;

— the disappearance of a number of traditional professions due to the automation of relevant labour operations and the simultaneous appearance of new professions;

— growing demand for creative work, creativity and creative technologies;

– the transfer to the digital economy of a significant part of labour relations and entire segments of employment, the flexibility of which

[19] Mahadevan B. (2000) Business Models for Internet-Based E-Commerce // California Management Review. Vol. 42. URL: http://www.iimb.ernet.in/~mahadev/bmodel.pdf.

forms is significantly increased due to an increase in the share of non-standard, partial and unstable, one-time employment, etc.;

– digitalization requires the formation of new competencies of the labour market, which affects the restructuring of the entire education system;

– growing influence of young workers, representatives of generation Z, who use digital technologies almost from birth (digital natives) and have unlimited access to information and developed digital competencies.

The key motivating factor in the digital economy is the possibility of personal development, not just career growth and higher pay.

Another significant feature of the formation of a digital society is the development of mass online education due to the appearance of high-quality mass open online courses and the opening of general access to educational courses of the world's leading universities. This leads to the publication of a large amount of information in open sources and the loss of universities' monopoly on the transfer of knowledge.

Digitization of education also brings a number of difficulties, requiring the solution of the issues of adaptation of the educational system to the digital environment, working out the ethical aspects of the use of digital technologies in the future.

The volume of data, which is growing significantly and exceeds the human ability to assimilate it, determines the demand for artificial intelligence (AI) technologies and electronic assistants. Increasing the speed of information exchange and its application requires increasing the information literacy of the population, which contributes to the emergence of digital inequality and the risks of digital segregation of consumers of digital services.

The spread of the Internet of Things will make a person practically transparent to any interested persons and structures, which, in turn, creates a demand for the development of information protection technologies and cybercrime technologies.

All of these trends, which have arisen as a result of the development of digitalization, contribute to the gradual transformation of socio-economic relations and change the economic basis.

As a result of such transformations, digitalization can be defined as a factor affecting the change of the economic base. Such an approach should be justified by the following provisions:

– the development of the digital economy challenges the traditional principles of national or regional economic systems. In the conditions of erasing the borders of national economies, the question arises of real processes of creation and distribution of value in the digital economy;

– in the digital economy, there is a change in the factors of value formation and the transformation of the law of value due to the appearance of new factors of production;

– the digital economy is characterized by reliance on intangible assets, massive use of data, implementation of non-standard business models and difficulties in determining the jurisdiction in which value creation takes place.

The substantiation of the features of the digital economy allows us to conclude that the main transformations take place precisely because of the law of value, in terms of the emergence of new factors of value formation and real processes of its distribution. These transformations affect the formation of business models used in the digital economy.

The economic basis of business models in conditions of digitalization should be based on taking into account the following trends:

– Technologies of big data analysis and artificial intelligence help to find new sources of value creation based on the study of digital portraits of consumers and patterns of their economic behaviour. Customer data is becoming a core asset of digital companies, and access to large volumes increases market value.

– The main parameter of the competitiveness of new business models is the speed of bringing a new product to the market (timeto-market). Modern approaches to development and production based on advanced production technologies allow to reduce time to market and use an iterative approach to updates and improvements, adapting to customer needs.

– The predominance of intangible assets in digital business models and the ease of transition of consumers from one company to another increase the significance of the brand and dictate the need to create incentives for the use of a certain digital platform or business model,

increase loyalty through the provision of individual or extended services.

– Value chains allow you not to limit business to certain geographic regions and market segments, most digital platforms operate in many markets. The development of digital platforms also allows for the expansion of value propositions for the consumer through partnerships with other suppliers.

– The formation of a "sharing-type" economy or an economy of joint consumption.

All of the above-mentioned trends contributed to the emergence of new types of business models inherent in the digital economy. The most common business models of the modern type in the conditions of the digital economy are the following:

— *Digital platforms* that provide direct interaction between sellers, buyers and supplier partners, which allows to minimize transaction costs and expand opportunities for joint consumption of goods and services. Depending on the product and market segment, platforms can be communication, social, media, search, operational and managed, service, sharing, product, transaction, etc.

— *Service business models* that are service-based and based on using resources instead of owning them (including Software as a Service (SaaS), Infrastructure as a Service (IaaS), etc.). New types of service models are emerging today, including Robots-as-a-Service, City-as-a-Service. Service models contribute to the personalization of goods and services, allowing the client to consume the necessary product in the necessary volumes to achieve the desired result.

— *Models based on results.* These are business models in which pricing is based on achieving results and effects for the client, including on the basis of consumption of complex products and services. By analogy with service models, such business models are often called Product-as-a-Service (PaaS). For example, BASF's business model, which is focused on the supply of fertilizers, nevertheless provides customers with detailed recommendations on which fertilizers to use, in what quantities and on which plants in a

certain period of time, based on the monitoring and analysis of data on soil, plant condition, weather conditions and other parameters[20].

— *Crowdsourcing models* based on attracting external resources (money, people, ideas, etc.) to implement business processes — innovation, product development, production, marketing and sales, etc.

— *Business models based on monetization of customers' personal data,* when free services for users sell their data to other consumer segments[21].

The level of spread of new business models in Ukraine differs significantly by economic sector: the most common digital platforms in markets characterized by close interaction between suppliers and consumers are retail trade, financial services, consumer goods and services, where platform solutions are actively developing. since the beginning of 2010

The specifics of the formation of business models in the conditions of digitalization are formed under the influence of global factors, and its dependence on the level of development of the national economies of countries requires additional research.

However, technological solutions that contribute to changing the business model of enterprises from product-oriented to service or customer-oriented have the greatest potential for creating added value [22].

The fundamental differences of digital business models are presented in the table. 4.

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[20] Gartner (2018*b*). Gartner Top 10 Strategic Technology Trends for 2019. <https:// www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technologytrendsfor-2019/>.

[21] Global Education Futures Report (2018). Образование для сложного общества. <https://drive.google.com/file/d/0B9ZvF6mQ5FMbSTFKVmhodU5rNTNiTXpUZ2QwZktiR0pzSmJR/view>.

[22] Cisco (2016). Where to Begin Your Journey to Digital Value in the Private Sector Economic Analysis. <https://www.cisco.com/c/dam/en/us/solutions/collateral/service-provider/value-at-stake.pdf>

Table 4

**Basic differences of digital business models**

| Key parameters | Digital business models | |
|---|---|---|
| – direct interaction between sellers, buyers and supplier partners;<br>– minimization of transaction costs; expanding opportunities for joint consumption of goods and services. | Digital platforms | Customer-oriented models |
| – based on using resources instead of owning them;<br>– contribute to the personalization of goods and services; allow the client to consume the necessary product in the necessary volumes to achieve the desired result | Service business models | |
| – business models, the key aspect of which is the pricing approach;<br>– the pricing strategy is based on the consumption of complex products and services. | Outcome-based models | |
| The possibility of attracting external resources (money, people, ideas, etc.) for the implementation of business processes with their optimal use. | Crowdsourcing models | |
| free services for users sell their data to other users or consumers | Business models based on monetization of personal data of customers | |

The main feature of business models used in the digital economy is a customer-oriented approach, which allows you to optimize the company's activities and take into account the needs of customers in accordance with all key resources. All customer-oriented business models provide a marketing orientation of business. Customer-oriented models do not simply advance value and justify the key resources necessary for this, they involve constant interaction with the customers of the enterprise. This allows you to constantly adjust business processes and interact with all counterparties and customers in an interactive mode. Taking into account these aspects, we can conclude that it is through the use of client-oriented business models that the concept of marketing management - interaction marketing is

realized. The digital economy has contributed to the formation of a unique business environment that has contributed to the spread and development of the very concept of interaction marketing. Which provides for meeting the needs of consumers and business partners and the state in the process of interaction with them. Key aspects of this concept are provided by the development of biotechnology, nanotechnology, information and IT technology, optoelectronics, and the aerospace industry. In addition, the technologies of "Industry 4.0" are also beginning to be reflected in the further improvement of interaction with customers in business models through the development of neurotechnology, genetic engineering, artificial intelligence, unmanned vehicles, and implantable technologies. These technological changes contribute to the transformation of approaches to interaction with customers and counterparties within the framework of business models, thanks to neurotechnology's and the introduction of artificial intelligence. All these trends influence customer behaviour, making it completely manageable and under the control of business goals, and at the same time actualizing issues of social responsibility and business ethics.

**Conclusions.** The article analyses the evolution of scientific opinion regarding approaches to the formation of business models. The factors influencing the evolution of approaches to the formation of business models of an enterprise in the digital economy are identified. It has been proven that the business models used in the digital economy are client-oriented, which proves their purely marketing nature. The influence of "Industry 4.0" technologies on the evolution of approaches to the definition and formation of business models is substantiated.

## 1.2. BLOCKCHAIN TECHNOLOGY AS A MANAGEMENT TOOL IN THE DIGITAL ECONOMY

Globalization has contributed to the development of digitalization and the use of digital tools in all fields of science and socio-economic areas. The spread of digitalization has contributed to the emergence of new technologies, the development of which has influenced the emergence of online economic settlements. Such technologies that

contributed to the changes include blockchain. Features of the application of blockchain technology aroused the interest of many scientists who studied the processes of its implementation in various spheres of the economy. However, it is in the financial sector that blockchain technology has become the most widespread in the Ukrainian economy. The research of I.G. Britchenko is devoted to the implementation of blockchain technology in the financial sector.[23] The most developed use of blockchain is in the field of cryptocurrencies.[24]

The purpose of the article is the analysis of blockchain technologies as an institution of management in the digital economy and the formation of the conceptual basis of management based on blockchain technology in the digital economy.

Result of study. The idea of blockchain technology was described back in 1991, by researchers S. Haber and W. Scott Stornett, who introduced computational solutions for digital documents with a time stamp so that they could not be issued retroactively. The system used a cryptographically secured block chain to store time-stamped documents. In 1992, Merkle trees were included in the development, making it more efficient by allowing multiple documents to be collected in one block. However, this technology was not used and the patent was lost in 2004, four years before Bitcoin was created[25].

In 2004, computer scientist Hal Finney (Harold Thomas Finney II) introduced a system called RPoW (Reusable Proof of Work). The system worked by obtaining a non-fungible or non-interchangeable Hashcash token based on proof of work and signed by RSA, which could then be transferred from person to person. RPoW solved the problem of double spending by facilitating the retention of ownership

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[23] Britchenko I., Cherniavska T. Blockchain Technology in the Fiscal Process of Ukraine. *Списание «Икономически изследвания (Economic Studies)»*. – Институт за икономически изследвания при БАН, София (България). Volume 28, Issue 5. 2019, 134-148.

[24] Pakhnenko O., Rubanov P., Girzheva O., Ivashko L., Britchenko I., Kozachenko L. Cryptocurrency: Value Formation Factors and Investment Risks. *Journal of Information Technology Management*, Vol. 14, Issue 3, 2022, 179-200. DOI: 10.22059/JITM.2022.88896

[25] Blockchain [Electronic resource]. URL: https://www.tadviser.ru/index.php

of tokens registered on a trusted server. RPoW can be considered an early prototype and a significant early step in the history of cryptocurrency[26].

At the end of 2008, a white paper introducing a decentralized peer-to-peer (P2P) electronic money system called Bitcoin was sent out by mail, by a person or group using the pseudonym Satoshi Nakamoto. Double-spending protection in Bitcoin was provided by a decentralized peer-to-peer (P2P) protocol for tracking and verifying transactions. Instead of using the hardware trusted computing function of RPoW, it is based on the proof of work algorithm Hashcash. That is, Bitcoins are «mined» for a fee using a proof-of-work mechanism for individual miners and then verified by decentralized nodes in the network. On January 3, 2009, Bitcoin was born when the first bitcoin block was mined by Satoshi Nakamoto, who had a reward of 50 bitcoins. The first Bitcoin user was Hal Finney, he received 10 bitcoins from Satoshi Nakamoto, in the first Bitcoin transaction in the world, on January 12, 2009.

In 2013, V. Buterin, a programmer and one of the founders of Bitcoin magazine, stated that Bitcoin needed a scripting language to create decentralized applications. Without receiving agreement from the community, V. Buterin started developing a new, distributed, blockchain-based computing platform, Ethereum, which showed scripting functionality called smart contracts.

Smart contracts are programs or scripts that are applied and executed on the Ethereum blockchain, they can be used, for example, to make a transaction if certain conditions are reached. Smart contracts are computer programs that perform the function of implication, but at the same time Blockchain provides automatic implementation of such contracts without human intervention. Smart contracts can monitor the performance of long-term loans, as well as update the data in the Blockchain according to predefined rules, for example, transfer digital assets from one participant to another.

Blockchain is a distributed database that stores information about all transactions of system participants in the form of a «chain of blocks», which cannot be changed after recording. Access to the

[26] History of Blockchain [Electronic resource].
URL:https://academy.binance.com/ru/articles/history-of-blockchain

registry is available to all blockchain users who act as a collective notary who confirms the truth of the information in the database[1].

Blockchain allows you to automate the process of data certification and confirmation of events due to the distributed nature of storing information that is not controlled by a specific regulator. Due to the fact that the distributed blockchain registry is stored on different computers, the availability and integrity of this data can be checked by any user who has access to it. This will allow you to do without any intermediaries during transactions, for example, you will not have to involve a notary to sell an apartment, etc.

So, the blockchain solves a number of issues: reduces costs during transactions; reduces the time of transactions to a few hours; removes unnecessary items of costs.

Blockchain appeared as a technology for launching bitcoin into circulation, and was originally used only for the management of cryptocurrencies. However, since its introduction in 2009, the area of use has expanded significantly. Today, in various articles, forums and conferences, new options for using technology are discussed, in particular in trade reporting; non-cash payments, checks and payments; accounting; monitoring; risk management; audit; management and financial accounting. Blockchain is also beginning to be actively introduced into property registration systems and various state registries, management of supply chains, and areas such as digital identity, energy, voting, gaming, the Internet of Things, etc.

According to figure 1, the first stage is the beginning of the flow of money. The second stage shows how transactions are sent to the network and assembled into «blocks». At the third step, the blocks are sent to all system participants for verification. If there are no errors, everyone writes the «block» to their database at the fourth stage. Only on the fifth one you can add a «block» to the «block chain», which contains information about all previous transactions. The sixth stage shows that the money has been transferred from User A to User B.

The implementation of blockchain is a complex process, but the basic idea of the technology is simple: a distributed ledger or database running at once on a large number (sometimes millions) of nodes distributed around the world among different users and organizations. The unique feature of the blockchain is the immutability or irreversibility that is guaranteed by the cryptographic security system.

For example, when transactions from the registry are grouped into blocks and recorded in the database, the record is preceded by cryptographic verification, as a result of which it is almost impossible to change the state of the registry by any fraud. The trust in the blockchain is based on the fact that any changes to the data in the blockchain are possible only if the network participants confirm the legitimacy of the transaction in accordance with common rules and protocols.

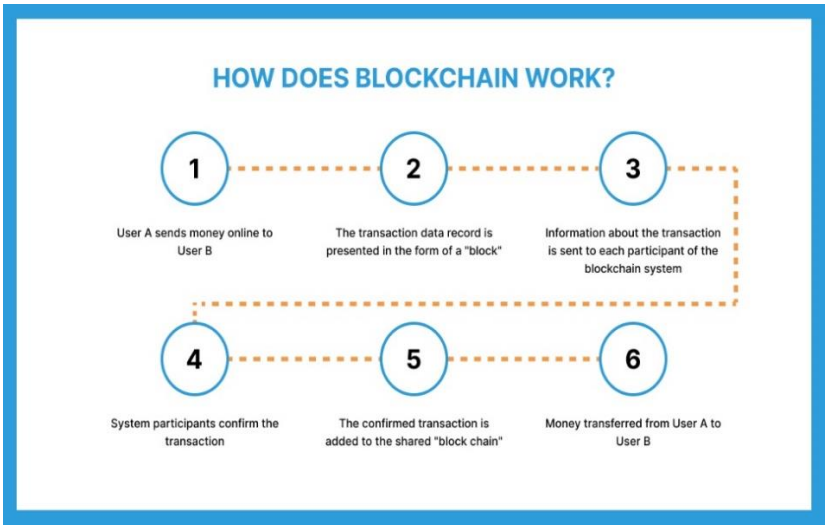


Fig.1. **The principle of blockchain technology**

Technology can really protect the data we have to work with, making it more available and clearer. In addition, blockchain can significantly reduce costs and minimize the time needed to solve problems and fix errors.

While the interest in blockchain technology is mostly associated with the field of finance, the application of distributed ledger technology is not limited to it. Along with banks and startups, other markets have also taken notice of the technology and are looking for ways to use it. Consider some interesting examples of practical

applications of blockchain technology that exist outside the financial services and economic area (figure 2).

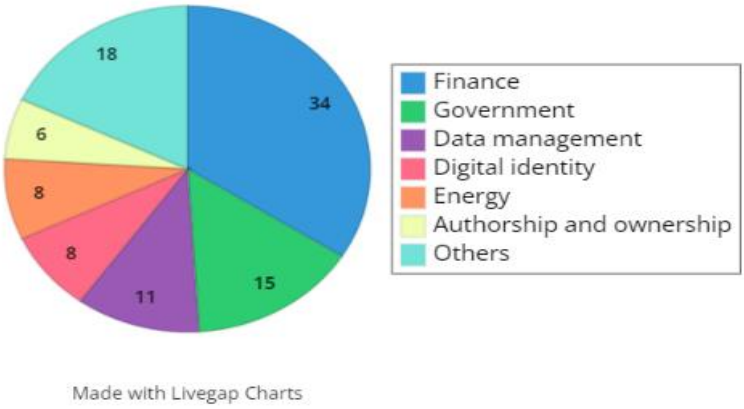


Fig. 2. **Areas of use of blockchain technology**

Consider the areas of use of blockchain technology.

Authorship and ownership. Ascribe helps artists and creative people to confirm and preserve copyright using blockchain. The Ascribe marketplace allows the creation of digital editions using unique identifiers and digital certificates to prove authorship and authenticity. In addition, the mechanism of transfer of ownership from the artist or author to the buyer or collector, including its legal aspects, has been established. Other examples of services from this industry: Bitproof, Blockai, Stampery, Verisart, Monegraph, Crypto-Copyright, crypto-copyright.com, Proof of Existence.

Data management. Factom is an excellent blockchain company that applies distributed ledgers outside the financial area, in this case - in the field of data management. The company's identity blockchains are used to realize database management and data analysis systems in various fields. Businesses and governments, non-profit organizations use Factom to simplify record-keeping procedures and capture information about business processes. Factom's solutions enable customers to operate in accordance with the security and legal requirements of their market. All records in Factom are time-stamped

and stored in blockchains, which reduces the cost and difficulty of managing, auditing and complying with regulatory requirements.

Digital identity, authentication and confirmation of access rights. 2WAY.IO, ShoCard, Guardtime, BlockVerify, HYPR, Onename and a number of other companies use distributed ledger technology in solutions designed to identify and confirm access rights. Blockchain is used here not only for the transfer of money. Decentralized distributed ledgers can be used to store any type of data and perform various transactions in a secure and open way. Moreover, creating an identity on the blockchain can give individuals greater control over access to their personal data and the degree to which it is open to others. The combination of the decentralized principle of blockchain and identity verification tools allows you to create a digital certificate that plays the role of a kind of watermark that can be put on any transaction with any active. Here are some other examples of companies from this industry:

1. Civic is a blockchain-based identity management platform whose services are aimed at solving the problem of identity fraud. The service allows users to register, confirm personal information and protect their credit history from fraudsters.

2. UniquID Wallet provides a secure identity management solution integrated with fingerprint scanners and other biometric personal devices. UniquID Wallet is available on non-standard devices, servers, personal computers or smartphones, tablets and other devices with limited time without power. Among the declared features are an individual blockchain storage for information about the «devices» used and the absence of passwords, replaced by algorithms for user recognition by personal objects connected to the system. This allows to achieve the highest possible level of integrity and operational connectivity within any infrastructure.

3. Identifi links all personal network profiles and personal data into a single identification tool.

4. Evernym – is an international identification network based on its own high-speed, advanced distributed ledger with separation of rights, designed to provide tools for personal data control. The source code of the project is open.

Diamonds. The diamond industry is one of the largest natural resource industries, which also makes a significant contribution to the

GDP of African and other diamond mining countries. Its specific feature is a high level of crime and violations of the law. Precious stones are very small in size and therefore easy to transport secretly. The most pleasant part for the criminals is that the transactions are performed confidentially, and each purchase allows them to make a profit for several years. Diamonds are badly known as an instrument of money laundering and financing of terrorism on a truly huge scale around the world.

One of the pioneering technology companies in this field is working on solving a number of such critical and difficult problems – Everledger. It provides various stakeholders from insurance companies and claimants to law enforcement agencies with access to a registry with unchanged historical data, which allows for the identification of diamonds and authentication of diamond transactions. The service produces a «digital passport» for each diamond - a kind of unique tag that follows its precious stone in all transactions related to it.

Energy. The founders of Energy Blockchain Labs say that the company is the only company in the world whose activities are completely dedicated to the full cycle of value creation in the energy industry. Founded in 2016 by three experienced specialists in the field of energy, finance and information technology, the laboratory is working on revolutionary solutions, including projects with other companies focused on the development of a number of blockchain-based energy Internet technologies and solving problems in the field of energy production and use, trade, management and others. There are other areas in the energy industry where talented business people have managed to find a way to apply decentralized distributed ledgers. Here are some interesting examples:

1. Grid Singularity – is a decentralized information exchange platform in the industry that provides a number of applications that simplify data analysis and testing, smart grid management, work with «green certificates» and more.

2. LO3 Energy's TransActive Grid project is a cryptographically secure decentralized "open source" platform for applications. Built-in business logic tools allow in real time to measure the level of electricity generation and use, as well as some other indicators. The

project is under development and the first demonstration plant is currently operating in the New York district of Brooklyn.

Electronic voting means. Follow My Vote is developing a safe and clear platform for anonymous online voting, using blockchain technology and elliptic cryptography to guarantee the correctness and reliability of the results. In February 2016, Nasdaq and the Estonian government announced that the government's digital presidency platform e-Residency will be used to simplify the blockchain voting process at shareholder meetings of companies listed on the country's only regulated exchange, Nasdaq's Tallinn Stock.

The e-Residency platform is an electronic identification system that is widely used by both Estonian residents and people with business interests in the country and allows all holders of relevant identification cards and digital keys to access a wide range of government, banking and other services.

Organization of private and public administration. Blockchain can be used not only to increase the transparency and integrity of political systems. In particular, there is a whole international virtual nation called BITNATION. It has its own citizens, ambassadors, partners and physical locations around the world. Anyone can join it without any restrictions.

Another interesting example is Advocate, a platform for improving the cooperation of citizens with government representatives, focused on helping both ordinary members of society and candidates for positions of local government officials.

It is also important to remember Borderless, a civil government platform that positions itself as a coalition of globally accessible legal (marriages, registration of legal entities, notary) and economic services (basic income, financial transactions) based on smart contracts and the Expanse blockchain.

As for solutions for effective management inside organizations, there are such services as Otonomos, BoardRoom and Colony. Otonomos and BoardRoom automate the process of company formation, financing and management using blockchain. Colony allows residents of different countries to create online companies.

The use of blockchain technologies already provides real benefits. Blockchain platforms simplify the transition to the digital economy and provide an extremely high level of security. But we have to admit

that the market is only approaching the point where digital blockchain technology will become necessary for everyone.

In 2022, developing technologies and standards will promote the adoption of blockchain and other DLT platforms by enterprises. A variety of corporate use cases continue to appear that provide organizations from different industries with the opportunity to develop new business models that transform the value creation of all kinds of physical and digital assets and optimize business processes outside the organization.

The blockchain landscape is developing at a quick pace. The applications of blockchain technology are very widespread. From the appearance of NFTs, crypto games and the meta-universe to how bitcoin has become legal payment and the subject of discussion in central banks around the world.

Blockchain opportunities are possible not only in the cryptocurrency area. Distributed storage technology is also developing in the following areas:

Optimization of algorithms. Developers offer new blockchains and superstructures over already existing platforms that optimize their work. That is, new opportunities are emerging that expand the scope of the technology.

Increasing the speed of work. A barrier to the spread of blockchains is the low speed of transaction processing. Currently, the authors of various projects are trying to solve the problem by inventing new algorithms to confirm transactions. As soon as they succeed, «block chains» can be used for microtransactions.

Expansion of functions. Now it is not enough to have a blockchain that can only take into account payments between users. We need platforms for launching smart contracts and running decentralized applications. Developers are involved in their creation. Investors welcome this future of blockchain technologies. After all, the more widespread cryptocurrencies and projects based on them will be, the more money can be earned on investment.

Blockchain technology has been around for over a decade. However, it is still an innovation in many countries and its use is not well regulated by law. Due to the functionality of blockchain and its variety of applications in many industries, including commerce, the

development of the discussed technology and regulations related to it should be expected in the near future.

Over the past few years, industries related to the blockchain sector have been developing. Previously unknown technologies are becoming popular and taking a leading position in the community, involving ordinary users and investors.

One of the discoveries was Web3 - the concept of a global network built on blockchain technology. Its idea is to transfer the function of creating business, making profits from leading companies and institutions to ordinary citizens. The project is based on decentralization and tokenization of the economy. Experts note that the introduction of Web3 allows to solve the issue of centralization of the Internet, increase security and anonymity, as well as improve the scale of information spreading.

To promote the trend in 2022 - 2023, the following components are provided:

1. A large group of experienced developers who develop Web3-technology, investing time and energy in its development.
2. Large investments, which have increased significantly in recent years.
3. The right time to launch the project. The necessary infrastructure was created during the fall of the cryptocurrency market, which speeded up the popularization of the direction.

With the use of Web3, there are those who want to invest in the direction. Beginners often confuse Web3 and Web 3.0 technology, which are different tools. The first is based on blockchain technology, and the second is a new generation of the Internet, which is not related to the cryptocurrency sphere.

The idea of Web 3.0 is to analyse the data of Internet pages, their processing and giving the results of conclusions. At the same time, the new technology has a number of disadvantages for the user. It provides more rights in the search engine, which itself chooses the results and can be subject to censorship. The advantages are higher confidentiality and decentralization.

An important place among the trends in the blockchain sector is occupied by DeFi - decentralized finance or a group of programs and services based on the blockchain. The main goal of the developers was

to create a financial ecosystem characterized by openness and independence.

With DeFi finance, users conduct transactions without involving third persons in the form of judicial, brokerage or banking organizations. Ecosystem programs provide interaction between all participants. DeFi includes stablecoins, pharming, issuance of tokenized shares, DEX-exchanges, cryptocurrency loans, etc.

Popular instruments of the DeFi system include futures contracts, stocks and options. The purpose of the platform is to create competition for the banking sector and simplify transactions. By the end of 2022, three ways of trend development are predicted:

1. Jump in market volume, and then a sudden bearish trend.
2. Increasing the volume of transactions in cryptocurrency and maintaining this level during 2023.
3. Slow but stable increase in the volume of operations during 2022-2023.

With DeFi tokens, you can conduct transactions faster and eliminate the human factor. They are based on smart contracts that significantly increase the security of the transaction.

Among the trends in the blockchain sphere, there is also NFT - non-fungible tokens, which is a digital record of the belonging of an object to a certain user (buyer). It can be a tweet on a social network, a picture, an avatar, a hero in the meta-universe, and much more. Despite the surge in popularity of NFT, the structure of the technology is still developing. It includes: marketplaces where you can create, sell and buy NFTs; tools for authors; information management systems; community business models, etc.

In the case of metaverse, it is worth focusing on unique objects for which people will pay money. They should be individual to eliminate the risk of theft.

The development of the NFT trend can be seen by the number of sales of digital assets through marketplaces. The total amount of transactions is more than $2 billion, and the value of individual tokens reaches several million dollars. So far, the sector of irreplaceable coins occupies about 1% of the total cryptocurrency market, but in the future the situation will change in the direction of growth.

It is possible that by the end of 2022 or 2023, interest in this technology, as well as in cryptocurrencies, will decline. But experts

do not believe in such a scenario due to the multi-vector development of the platform and the increase in interest in it.

When looking at trends in blockchain technologies, one of the leading roles is taken by DAO in cryptocurrency. This is a decentralized organization built on the principles of autonomy using a blockchain. Management is carried out using a program code that has no connection with a person.

The feature of DAO systems is the absence of the main control unit. It is decentralized, and all its participants are equal and have the right to vote for changes to the protocol.

As an example of organizations, it is necessary to highlight the crowdfunding structure called The DAO. Immediately after its appearance, it managed to attract more than 150 million investments and take a leading position. The first project ended unsuccessfully with the theft of money by hackers, but today such risks are minimal.

Developers optimize the technology and fix bugs. In 2022, the DAO trend appeared, and the growing popularity is a confirmation of this statement. The main advantage is the great potential that allows minimizing the bureaucratic component and levelling the influence of the human factor.

The basic features of DAOs include: independence of participants; open-source code on blockchain; accessibility of membership to everyone.

To get the right to manage the community, a token is used that distributes money based on priorities, which increases interest and ensures financial responsibility for deviations from the rules. The DAO group has a separate capital, which provides automation of the process and protection from collusion of third-party groups.

The list of trends should also include multi-chain, which is considered the key to the development of blockchain technology. Since the beginning of 2022, such networks have again come into focus and are in high demand. The idea of a multi-chain network is the ability to simultaneously work on 2 or more blockchain platforms, support fast chain building and use as an additional scaling layer for other networks.

Today there are 15 basic blockchains that are the basis for many cryptocurrencies. Each of them concentrates assets of at least $ 10

billion. With the development of multichain, a whole world of blockchains has appeared with its own laws and economic component.

A powerful multi-chain system is based on the following features: modular construction; fast creation of new chains; ensuring effective interaction of different blockchains; guaranteeing the basic security of the multi-chain network; managing multiple ecosystems, etc.

The main difficulty is to create bridges that provide quality communication between different blockchains. Given the trends in blockchain technologies, multi-chain should be a priority due to improved scalability, decentralization and user protection. Current solutions are still in their initial state because of the absence of a full bridge.

The trends discussed above in the field of blockchain are unique and have good prospects for development. In this context, gamification, streaming services and NFT technologies are becoming popular. All these technologies are also used as marketing promotion tools. NFT is a special tool, as it allows creating digital products only for the conditions of the digital economy. NFT is based on the use of blockchain technologies, along with it is the result of creative solutions that have the goal of generating additional profit. The NFT value proposition is based on the expected that buyers will be ready to pay more for a digital artifact because they belong to a network of people with similar values and interests. Thus, NFT is a technology that provides an opportunity to create communities of consumers who have common needs and are united by a common lifestyle. Through NFT technology, it is possible to form digital brands and convert already existing brands into digital format.

It is predicted that by 2024, about 50% of public companies will have something like NFT to support their brand. NFT will become a powerful marketing tool to support the effect of digital ecosystems and increase the value of companies in the digital economy.

The main trends in NFTs over the past year have been their steady growth, as well as the growing interest in them and the ways in which they can be used, which are constantly expanding. The future that is possible with NFTs opens the way for development - a future that will close the distance between customers and creators, add value and

security to digital assets, and maybe even completely change the world[27].

Thus, according to Gartner forecasts, by 2026, gamification of non-fungible tokens (NFT) will bring the company to the top ten most valuable companies.

NFT technology is closely related to information systems and the blockchain as an environment in which the creation of digital assets becomes possible. Therefore, NFT belongs to the type of digital assets that are created on the blockchain and allow to get the ownership of goods that exist exclusively in the digital economy, such as images, animations or videos. From a technological point of view, an NFT asset is a digital certificate attached to any "digital good", such as an image, video, audio, etc. This certificate (token) will contain all the information about this product. Thus, the token is the ownership right to this digital asset, which was created on the basis of NFT technologies. At the same time, the token performs marketing functions of informing about the digital product or asset and its promotion in the digital economy.

The token confirms the exclusive right to the product, so owning it, buying, selling or exchanging, all these operations are performed with the product itself. Thanks to this, you can always find out who created this product, who is its owner. This is possible due to the fact that tokens are stored in an open blockchain and that is why information about the product, the history of its operations will always be available and reliable.

So, along with marketing functions, it is an ideal opportunity to secure ownership of any unique object in the digital economy.

Potentially, the use of NFT tokens allows you to digitize or transfer any product to the blockchain. They can be used for real/material assets (original works of art) as well as for fully digital products. But it is necessary to note that there are many difficulties with this, since the sphere has only now become popular and is just beginning its active development. If there are difficulties with the transfer from the

[27] [Electronic resource]. URL: https://delo.ua/uk/creative-industries/keisi-nft-v-ukrayinskomu-biznesi-ta-mistectvi-vid-dizainerskix-vitvoriv-do-pisen-u-viglyadi-tokeniv-391789

physical to the virtual world, then digital objects are just perfect for this[28].

Digital art, items from computer games, such as weapons and other character inventory, are already being actively tokenized. You can even buy land in one of the virtual universes.

It should be remembered that anything can become a digital asset and NFT token. Any digital mark on the network can be tokenized using NFT. For example, on the Valuables platform, it is possible to create, sell and buy NFTs based on tweets (the first tweet of Twitter founder Jack Dorsey is already sold for $2 million).

A token, being a unit of account in the blockchain network, with which you can create digital values, at the same time becomes a marketing tool for creating and promoting a brand.

Blockchain, in turn, allows the functioning of a digital asset, as it is a decentralized network that operates on the principle of a consistent chain of blocks that contain information about transactions with tokens. Records in the blockchain are not subject to change and are public, so it allows to avoid data manipulation and provide their security.

Tokens in such networks are of two types: fungible tokens and non-fungible tokens. Here is a simple example: the well-known cryptocurrency bitcoin is a fungible token, since any bitcoin has the same value as another and can serve as an object for exchange with other crypto assets. "Non-fungible" in this context means that it is unique, both in terms of the object it describes and its value. That is, a collectible picture, which is represented by a token and is one of a kind, cannot be replaced by another similar one, because there is no other such in nature. That is why NFT is the irreplaceable token that is able to create original digital products, converting them into digital assets.

Let's consider several global examples of Blockchain technology application in various sectors of the economy.

China accounts for 84% of blockchain patents in the world. On September 20, 2022, the head of the Chinese government said that China has the largest number of blockchain patents among all

[28] [Electronic resource]. URL: https://ain.ua/ru/2021/03/18/nft-renesans-abo-yak-prodati-cifrove-mistectvo-za-miljoni

countries in the world - 84% of the total. The Chinese leadership believes that blockchain speeds up integration with the economy, services to support people's living conditions, smart cities and administrative services[29].

Blockchain is a decentralized ledger technology that is best known as the basis of cryptocurrency. The fact that it is open source and does not involve a central authority makes it attractive for a variety of applications, but in China the technology is heavily regulated and requires registration with the Cyberspace Administration of China (CAC).

China has large-scale plans for blockchain technology. In 2019, President Xi Jinping said that blockchain will play an important role in the next stage of technological innovation and industrial transformation. According to a report by 01Caijing analytical centre and patent consulting company PatSnap, from 2015 to June 2021, Chinese blockchain patent applications accounted for nearly 60% of the total, with the United States in second place and South Korea in third. However, only 19% of Chinese applications were accepted, while the share of accepted applications from the United States and South Korea was 26% and 43%, according to the report.

On February 1, 2022, Chinese government announced the launch of a program to integrate blockchain into the national economy and private sector. The government is going to create 15 pilot zones in which new technologies will be designed, tested and introduced into everyday life. The initiative will cover 15 government agencies and more than 164 private organizations - from banks and IT companies to leading automakers.

Despite Beijing's great interest in blockchain, China plans to strictly regulate cryptocurrencies using blockchains as a non-financial system. The Chinese government has already put a complete ban on all cryptocurrency transactions and mining, explaining its decision by the danger of the shadow economy. Instead of decentralized digital currencies, the government plans to use digital yuan - stablecoin, which is fully regulated by the Central Bank of China.

[29] Blockchain in China [Electronic resource]
URL:https://www.tadviser.ru/index.php/

In July 2018, Malta introduced cryptocurrencies and distributed ledger technologies in an effort to turn the island nation into a blockchain capital. The Maltese Parliament has passed three bills designed to provide a legal framework for the use of blockchain technologies and to stimulate their development and financing. These technologies enable secure and fast money transfers without interference or control from third parties, reducing transaction costs[30].

Analysts note that this step by the Maltese government will make the country incredibly popular for the development of innovative technologies. This approach will make Malta the centre of innovative technological startups and blockchain companies, which will certainly boost the development of the state economy.

Malta has passed a number of laws relating to blockchain and cryptocurrency, creating a regulatory environment that has proven attractive to businesses. Competing with London, Berlin and Zurich (Switzerland), the country has quickly become a major European blockchain and cryptocurrency hub.

El Salvador became the first country in the world to recognize bitcoin as a payment instrument on a par with the US dollar, the relevant law was passed by the local parliament. It obliges all sellers in the country to accept bitcoin to pay for goods and services, and also allows paying taxes with this cryptocurrency[31].

On June 9, 2021, the Legislative Assembly of El Salvador passed the «Bitcoin Law». It contains ten points in total. According to the law, all prices in El Salvador can be set both in US dollars (the country's official currency since 2001) and in bitcoins. Any participant in economic relations, be it a company or an individual, is obliged to accept bitcoins as payment for goods and services, if the customer requires it. It will also be possible to pay taxes in bitcoins. Since bitcoin is recognized as a means of payment, it will be free from capital gains tax, says another point of the law.

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[30] Blockchain in Malta [Electronic resource].
URL:https://www.tadviser.ru/index.php/

[31] El Salvador was the first in the world to recognize bitcoin as a means of payment [Electronic resource]. -
URL:https://nplus1.ru/news/2021/06/09/its-happening.

According to the law, the government will provide citizens and companies with the means to conduct transactions in bitcoins and automatically exchange them into dollars and back, but will realize them in such a way as not to disturb private alternative services. In a press release on the parliament's website, it is noted that El Salvador will enter into a partnership with the Strike payment system, which supports bitcoins.

Also, the Central African Republic (CAR) has legalized bitcoin as a means of payment along with the Central African franc. Thus, the CAR became the first country in Africa and only the second in the world after El Salvador to do so.

In a few years, blockchain has gone from an unknown technological innovation to an irreplaceable tool that is already used at the governmental level, even in the political sphere. Thus, the European Union Parliament is considering blockchain technology to create voting systems with protection against data falsification. If the voting takes place on the basis of the blockchain, then voters can have no doubt in the openness and honesty of the voting results.

Ukraine is gradually integrating Blockchain into various industries. Thus, in 2016, the NBU Board approved and presented the Cashless Economy roadmap, which for the first time outlined plans for the use of Blockchain technology. The Ministry of Agrarian Policy and Food in 2017 introduced Blockchain technology in the State Land Cadastre.

The World Economic Forum has identified blockchain as one of the global trends of the next decade. It can affect many processes not only in the commercial but also in the public sector - from public purchases to the organization of elections. Analysts from Gartner in the report Blockchain-Based Transformation: Gartner Trend Insight Report assure: blockchain will definitely affect business and society in the long term. Now the technology is young, but many companies are already changing business processes, focusing on the use of blockchain. Now we are in the so-called irrational phase of technology development. Until 2026, we will have a phase of large investments, when large blockchain projects will be realized. And then the value-added generation phase will begin - when blockchain becomes popular and we learn to use it fully. Technological progress requires testing and adaptation, it has a number of features and certain disadvantages in use that need to be understood and considered in the work of

specific industries and enterprises. Today, the potential of blockchain technology is being more and more discovered, which lies in its reliability, openness and efficiency, so blockchain continues to add to the list of covered industries.

The analysis of the use of blockchain technology in the global economy is best carried out on the examples of world leaders in this field.

As a first example, let's take a large cryptocurrency platform for payment systems focused on currency exchange operations without chargebacks - Ripple. According to the research, this company started using the blockchain system in 2012. The feature of blockchain technology allows banks and financial institutions to use the capabilities of Ripple to optimize existing systems. Theoretically, two participants are required to implement projects:

1. A banking organization that stores funds and transfers balances on the orders of customers.
2. Market makers - provide the necessary level of liquidity for the asset of interest.

In essence, the Ripple blockchain is a publicly accessible database (registry) filled with certain information accepted by the system on the basis of general consensus. The register contains large amounts of information on offers to buy and sell monetary units or assets. Implementation of the consensus principles guarantees payments, conversion and transfer of money into the distributed structure. Network participants conduct transactions with each other using transactions that have a cryptographic signature. Transactions are carried out in the form of cash or using the internal Ripple currency (XRP). In the latter case, a built-in ledger can be used, and for transactions using other instruments, only amounts in the form of debt are displayed in the ledger.

With the development of the technology and the expansion of the blockchain project, Ripple has been implemented in many protocols that provide verification of users and bank services. In this case, network participants indicate trusted persons and voice the amount of the transaction. If users have the necessary level of trust in each other and do not use XRP during the transaction, the size of the credit lines changes. The limits set for each of the participants are taken into account. If there is no trust, the system independently selects nodes

that have the necessary level of trust and conducts the transaction with the help.

Interestingly, Ripple does not use blockchain in its classical sense. The platform is based on special gateways that play the role of nodes in the transaction. The role of such network elements is performed by certain individuals or enterprises. The gateway itself accepts deposits in currency from network participants, and then transfers the balances to the Ripple platform Registry. Another purpose of such a node is to redeem the balances on the registry, which take place after the withdrawal of currency funds.

Ripple's key product is RippleNet, a global network for cross-border financial transactions used by banks, payment services and other financial institutions. RippleNet provides users with real-time messaging, clearing and settlement of financial transactions.

In September 2018, the Ripple team announced the integration of RippleNet technology into the National Commercial Bank, which is located in Saudi Arabia and is one of the largest banks in the Middle East.

RippleNet appeared in 2019 and combined the company's three main products:

1. xCurrent is a cross-border payment processing solution that is embedded in the banking infrastructure. It improves the efficiency of traditional payment message formats, while having similar security standards and meeting regulatory requirements.
2. On-Demand Liquidity (ODL) is a liquidity service for fiat currency transactions. For international transfers, banks need to store various local currencies. ODL allows to release this capital by converting fiat into XRP - cryptocurrency is used as an «intermediary» for payment. First, the bank's main currency is exchanged for XRP, and after the transaction is successfully processed in another bank, it exchanges XRP for its own currency. Previously, this product was called xRapid.
3. xVia is an API interface designed specifically for easy use of individual components of the entire RippleNet ecosystem. xVia does not require installation, functioning as a browser extension, and can be embedded into existing software.

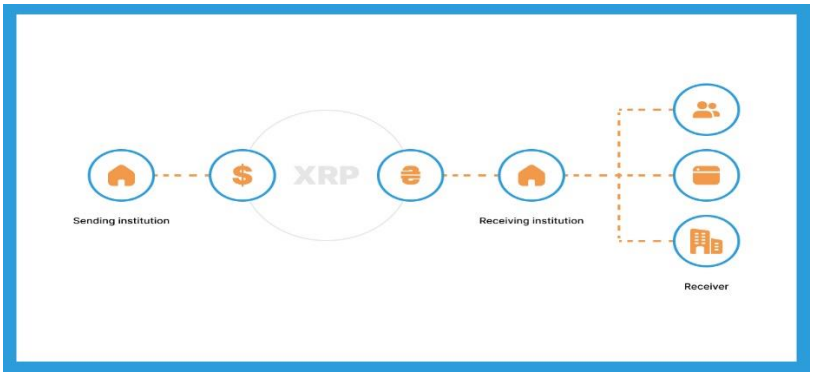


Fig. 3. **The scheme of transfers through the Ripple network**

ODL can increase the interest in XRP token from financial institutions. According to data for 2021, the annual volume of payments through ODL increased almost eight times compared to the same period of the previous year, reaching $15 billion. Currently, the Asia-Pacific region is the leader in the use of the ODL service[32].

In October 2019, Ripple rebranded and divided its products into two separate projects. Now the name RippleNet covers two existing products: xVia, xCurrent. The product xRapid (ODL), tied to the promotion of the cryptocurrency XRP, was named Liquidity on Demand. Instead of buying xCurrent or xVia, customers will connect to the RippleNet network in a local environment or the cloud, and instead of buying xRapid, they will use liquidity on demand. According to the company statement, these are not new products, but rebranding of existing products, which will not affect our customers in any way.

Ripple was created as an alternative payment system for banks, through which financial companies can quickly and cheaply transfer various assets (currencies, commodities, etc.). In fact, the project should replace SWIFT - the most popular banking payment system that has been operating since the 70s.

[32] Joseph F. Borg, Tessa Schembri. The regulation of blockchain technology / Global Legal Insights. - Blockchain & Cryptocurrency Regulation. 2019, First Edition, 188-192

The Ripple ecosystem operates on the basis of the decentralized XRP Ledger (XRPL) network. Among its advantages are high speed (the average block production time is 3-4 seconds) and low transfer fees. According to the official website, XRP Ledger is suitable for microtransactions in applications, NFT and DeFi protocol deployment, as well as for issuing stablecoins and CBDCs. In addition, traditional assets such as securities or fiat money can be tokenized in XRPL.

According to the information on the company's official website, Ripple provides commercial services to hundreds of companies in more than 50 countries. Among the well-known clients are Australia's National Australia Bank (NAB), Canada's Canadian Imperial Bank of Commerce (CIBC), Japanese financial giant SBI Holdings and the National Bank of Egypt (NBE). As of October 2021, more than 300 financial institutions were on RippleNet alone. The main reasons why banks are in no hurry to actively use RippleNet:

1. XRP volatility - the cost structure may depend on market fluctuations;
2. Public nature of transactions with the coin - all transactions in the XRP Ledger can be traced.

In November-December 2017, Ripple announced that American Express and Santander intend to use the Ripple protocol for payments between the United States and Britain, and some South Korean and Japanese banks - for cross-border payments. American Banker explains this by the fact that «from the banks' point of view, distributed ledgers such as the Ripple system have a number of advantages over cryptocurrencies such as bitcoin», including price and security[33].

Ripple is not limited to the development of solutions for cross-border payments. In early 2022, the company announced the launch of a crypto service for institutional clients called Ripple Liquidity Hub, designed to trade and store bitcoin, Ethereum, XRP, Litecoin, Bitcoin Cash and Ethereum Classic. In March 2022, Ripple announced the allocation of $1 billion of XRP for grants for developers, as well as the creation of a $250 million fund for digital artists and developers in the field of irreplaceable tokens (NFT).

[33] Ripple [Electronic resource] URL: https://uk.wikipedia.org/wiki/Ripple

The analysis found that Ripple has been trying to change the banking sector for 10 years by offering a faster and cheaper way of international transfers compared to traditional financial solutions. Currently, the speed of transactions in the XRP Ledger is 3-5 seconds, the cost of a transaction with XRP is $0.0002, and the capacity of the XRP Ledger is 1,500 transactions per second[34].

For comparison, the transaction speed in Ethereum is more than 2 minutes, Bitcoin is more than an hour, and traditional bank transfers take several days. Ripple has provided low fees for transactions. Thus, transactions in the Ripple network using blockchain technologies are the lowest ($0.0002). Another important factor is the reversibility. The transaction can be corrected if there is an error or cancelled, which is impossible in the case of the classic blockchain. It can also be added that blockchain technology has allowed Ripple to provide complete anonymity of transactions, reliable protection against spam and no risk of inflation. Thus, blockchain technology has enabled Ripple to remain a promising and competitive company in its field of activity: it offers a fast and convenient service that can become much more popular in the future than it is now.

Another example is Visa - a global payment technology company that provides consumers, businesses, banks and government agencies with the ability to make electronic payments. The global financial services giant Visa is not a newcomer to the world of cryptocurrency, as it has already partnered with regulated crypto trading platform Coinbase and wallet Fold. However, the company recently made it clear that cryptocurrencies and blockchain will become an even more important part of its future.

The payment giant has launched Visa B2B Connect, a product that was originally developed with blockchain startup Chain. According to the report, Visa B2B Connect will serve businesses that make payments in 30 markets, and the service is expected to expand to 90 markets by the end of 2019. While Chain, which builds blockchains to support financial systems, played an important role in the development of Visa B2B Connect in the early stages, Visa ultimately turned to

[34]What is Ripple (XRP) [Electronic resource] URL: https://ru.beincrypto.com/learn/chto-takoe-ripple/#3.

Hyperledger Fabric to provide the blockchain side of the system, with support from IBM.

«B2B Connect is one of the most striking examples of how blockchain is shaping payments», - IBM Blockchain CEO told reporters[35].

Thus, blockchain technology has enabled Visa's corporate clients to bypass the slow correspondent banking system, making available almost instant international payments using a system partially based on distributed ledger technology (DLT). It is worth noting that the network is not entirely based on distributed ledger technology, but it has been used for some elements, as blockchain allows for more information about payments than traditional systems.

Currently, B2B Connect is intended for use only by large companies and financial institutions. In the future, Visa plans to expand this service for ordinary customers. The mission of B2B Connect is to eliminate any contractors in international money transfers, which will significantly reduce fees. This project can be a significant challenge for xRapid Ripple, which has similar objectives.

In addition to the above, Visa also announced that it is working on an interoperability system that will work across different blockchain networks and connect different CB digital currency networks around the world. According to Visa, this system will be called the universal payment channel and explained why they believe that the network of digital currencies of the Central Bank will work seamlessly and what role the universal payment channel will play. Visa believes that in order for CBDCs (central bank digital currencies) to be successful, they must have two key components: a great consumer experience and widespread adoption by traders. This means the ability to pay and receive regardless of currency, channel or form factor. Hence the concept of Visa UPC. According to VISA, UPC will unite disparate blockchain networks by establishing private payment channels between them, connecting CBDC networks across countries, and connecting CBDC networks with trusted private stablecoin networks. The payment company also added that its UPC will increase the speed

[35] Visa introduced a blockchain system B2B Connect [Electronic resource] URL: https://happycoin.club/visa-predstavila-blokchejn-sistemu-b2b-connect/

of digital currency transactions and make CBDCs useful and attractive to consumers and businesses around the world.

As for the Mastercard, it can be said that they are actively exploring the possibilities of blockchain technology and how to use it, as they are confident that it will become part of the future of commerce that they are creating together with banks, merchants and other participants in the electronic payments industry. Working with blockchain, Mastercard aims to combine many years of experience and knowledge of local markets, as well as the expertise of partners, to continue to offer simple and convenient solutions for businesses and consumers.

Mastercard, according to the representative of the payment system, has already taken a number of practical steps in this direction.

«We have invested in the venture holding Digital Currency Group and applied for more than 30 patents related to blockchain technology. As part of our international program Start Path Global, we help startups that use blockchain technology to develop. Two Mastercard APIs on the blockchain are already available for developers: Blockchain Core API and Smart Contracts API, which allow working with smart contracts and a distributed ledger», explains the Mastercard representative[36].

The next example is IBM and its blockchain project IBM Blockchain World Wire. IBM Blockchain World Wire is a solution developed by IBM to provide real-time international payments.

In order to make a transfer using IBM Blockchain World Wire, financial institutions agree to use stablecoin, a central bank digital currency or other digital asset that will act as a linking asset between any two traditional currencies involved in the transfer. The introduction of digital assets greatly simplifies international transactions.

To start using the system, companies do not need to switch to new software, they can use their existing payment systems, which will be linked to World Wire via API (a description of how one computer program interacts with others). All transactions conducted through the

[36] Mastercard and Visa about blockchain and cryptocurrency [Electronic resource] URL: https://fomag.ru/news/mastercard-i-visa-pro-blokcheyn-i-kriptovalyutu/

system will be saved in the blockchain, which will simplify future audits.

World Wire already supports Stellar Lumens and USD stablecoin payments through its partnership with Stronghold, an infrastructure for networks that enable virtual payments. With the launch of World Wire, 6 international banks, including Banco Bradesco, Bank Busan and Rizal Commercial Banking Corporation (RCBC), have issued their own stablecoins on the platform, thereby providing functionality for transferring traditional currencies such as Euro, Indonesian Rupiah, Philippine Peso, Korean and Brazilian Real. Now World Wire provides money transfers in 72 countries, and includes 47 currencies and 44 banks connected to the system. Having analysed this project, we can say that World Wire uses blockchain technology and Stellar protocol, which allows to ensure reliability and high speed of payment transactions processing.

The largest US bank holding in terms of assets - J.P. Morgan, which belongs to the «Big Four» largest US banks, has created the Interbank Information Network (IIN) - an interbank information network based on blockchain technology. IIN is developed on the basis of Quorum, a private version of the Ethereum blockchain network. The system allows participating banks to exchange data related to compliance requests in real time. About 400 banks worldwide have already joined the INN.

When banking, compliance requests usually require three components: name, date of birth and address. Transactions are filtered against anti-money laundering blacklists. It happens that sometimes a payment is mistakenly marked as a «false positive» and this requires additional verification. With the help of blockchain technology, all parties involved in the verification can be connected, and thus they will not need to contact each other, as the necessary data is already in the blockchain. Thus, the solution to the problem takes not several days, but a matter of minutes. The analysis showed that the use of blockchain technology helps to solve the problem of interbank information exchange, minimize obstacles in the process of cross-border payments and speed up the receipt of payments by beneficiaries.

The American company Circle became one of the blockchain companies included in the list of the most innovative fintech

companies of 2019 according to Forbes. Circle develops P2P payment technology. One of the company's main products is the Circle Pay platform, which allows users to store, send and receive traditional funds. Circle Pay currently operates in 29 countries.

Along with Circle, Veem has become one of the most successful fintech companies of 2019. Veem uses blockchain technology to make payments. Veem is a P2P payment platform designed for small businesses. The company's goal is to simplify cross-border electronic transfers and payments to suppliers and contractors. Transfers are made in three ways: through the so-called treasury settlement (moving money between bank accounts that are under the control of Veem), the Swift system and the blockchain. Companies typically use Veem to avoid the complex processes associated with going to a bank. Customers can make payments quickly through the Veem website and the system decides which transfer method to use - the customer will never know if they are using the blockchain or another method.

At the moment, Veem solution allows sending funds to 98 countries. The platform is already used by more than 100,000 entrepreneurs.

German company “Connext” provides users with an infrastructure layer on top of the Ethereum blockchain and helps to provide processes related to instant P2P transactions. Connext was developed to help abstract away the complexities and costs that can arise in various scenarios that use P2P transfers on the blockchain. Thus, using blockchain technology, Connext helps various platforms to provide instant wallet-to-wallet transfers, enable P2P micropayments, support marketplaces, and create games on the Ethereum network.

Connext is designed using state channels - channels that allow blockchain users to group regular Ethereum transactions without the need to trust intermediaries. State channels do not require the use of any third-party services or the addition of functionality to the network, they simply allow existing Ethereum transactions to occur faster and at a lower cost by putting more transactions into each block. Using state channels, Connext scales Ethereum and gives users the ability to collect transactions into a single network transfer. Connext gives users access to nodes where they can create channels and send transactions to other channels on the network. Projects already using Connext

Network technology include Mosendo, Provide, Ujomusic, and Metamask.

Another example is the Italian blockchain project SAP, which uses blockchain for international banking transactions. SAP, together with Ripple, Canadian bank ATB Financial and Germany's ReiseBank, conducted an international bank transfer using blockchain that took only about 20 seconds - as opposed to several days when making a transfer using conventional technologies.

In addition to global companies, a number of countries have also taken the initiative to use blockchain technologies.

El Salvador became the first country in the world to recognize bitcoin as a means of payment on a par with the US dollar, the relevant law was adopted by the local parliament. It obliges all sellers in the country to accept bitcoin to pay for goods and services, and also allows paying taxes with this cryptocurrency.

This is not the first time El Salvador has carried out currency reform. Back in the early 2000s, the country abandoned its national currency in favour of the US dollar. It was still dealing with the consequences of the civil war, which dealt a serious blow to the economy. Measures were needed to curb inflation and attract foreign investors. The dollar was supposed to stabilize the situation, but the benefits of the reform turned out to be short-lived: according to Trading Economics, inflation continued to rise and the volume of foreign direct investment remained at the same level. In addition, the population remained extremely dissatisfied due to the widespread rounding up of prices during the conversion of columns and lower wage growth compared to price growth.

For many years, the country has lacked macroeconomic stability, and the situation has only worsened during the pandemic. There was a surge in inflation, GDP per capita fell, and economic growth slowed. Dollars have not become a panacea for El Salvador.

It is also necessary to solve the problem with cross-border transfers. Back in the late XX century, many Salvadorans emigrated abroad (primarily to the United States). Now, many financial transactions are made through international payment systems: approximately 70% of Salvadorans receive money from relatives abroad. In 2020, remittances from abroad from one and a half million Salvadorans working mainly in the United States amounted to $ 5.9

billion or 23% of El Salvador's GDP - the highest in the world. Banks charge a fee for such transfers, can take several days, and sometimes residents of the country have to come to collect the money in person.

According to the Salvadoran politician, the President of El Salvador, Nayib Armando Bukele Ortes, citizens will save up to $ 400 million a year thanks to the innovation.

However, most residents of the country do not approve of the decision to introduce bitcoin as a national currency. Surveys show that about 70% of the population of El Salvador does not understand how this cryptocurrency works and does not trust it, including because of the sharply changing rate[37].

The World Bank, IMF and global financial analysts also doubt the correctness of El Salvador's decision. Experts do not rule out that the legalization of bitcoin will slow down the provision of El Salvador with the planned IMF loan of a billion dollars. Moody's downgraded El Salvador's credit rating, which may affect the value of its dollar-denominated debt obligations.

In particular, financial experts fear that the use of bitcoin can help money laundering. They also talk about the high macroeconomic risks and legal uncertainty associated with it.

The Financial Times, an authoritative newspaper in the business environment, devoted its analytical commentary to the latest events in El Salvador - also extremely skeptical. The publication points out that since El Salvador switched to the dollar 20 years ago, the country has experienced low inflation and stable growth, interrupted only by the COVID-19 pandemic.

Thus, as early as January 2022, the International Monetary Fund called on El Salvador to withdraw bitcoin from legal tender status due to the high risks to financial stability, consumer protection, and financial liabilities. Some executive directors have also expressed concern about the risks that El Salvador's issuance of bitcoin-backed bonds could pose.

Also, the Central African Republic (CAR) legalized bitcoin as a means of payment along with the Central African franc in April 2022.

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[37] Bitcoin became the official currency in El Salvador. Financiers doubt it will end well. [Electronic resource] URL:
https://www.bbc.com/russian/news-58466367

Thus, the CAR became the first country in Africa and only the second in the world after El Salvador to do so.

CAR is an inland state rich in gold and uranium resources, but remains one of the poorest countries. The state has been torn by a civil war that has been going on since 2012, and only 11% of the 4.8 million people have access to the internet.

The official goal of accepting bitcoin and other cryptocurrencies is related to the desire of the CAR authorities to strengthen the country's economy and restore what has been destroyed in civil wars since 2007. The authorities also hope to attract international investors and provide citizens with access to faster, cheaper and more efficient money transfers. Cryptocurrencies can also help local businesses that buy goods abroad.

Obid Namsio, head of the country's presidential administration, called the adoption of bitcoin «a decisive step towards opening new opportunities for the country» that "puts CAR among the most courageous and visionary nations".

Several opposition deputies believe that the implementation of the law will facilitate money laundering, tax evasion and fraud, and may scare away international financial organizations. For example, they cite El Salvador, which has not received a loan from the International Monetary Fund (IMF), which strongly opposes the adoption of bitcoin in the country. The IMF also did not support the adoption of bitcoin in the CAR: the organization believes that the use of the first cryptocurrency as an official means of payment will turn into problems for the country's economy.

More recently, in July 2022, the President of the Central African Republic (CAR) Faustin-Arcange Touadera announced the launch of a national currency called the sango. So far, the authorities have not provided details on how the national cryptocurrency will work and when it will be possible to pay with it. The project website says that the national cryptocurrency "will tokenize the natural resources of the republic, which should attract international investors."

Ukraine entered the TOP 14 countries that occupy leading positions in the implementation of blockchain technology. In 2019, the Parliament of Ukraine signed a memorandum designed to give the "green light" to blockchain technologies in the country. The document was concluded between the Parliament's Committee on Digital

Transformation, the Ministry of Digital Transformation, the inter-factional parliamentary association Blockchain4Ukraine, the Better Regulation Delivery Office (BRDO) and other market participants. The signing of the memorandum was the first step that allowed Ukraine to reach a new level in the regulation of blockchain technology, as well as to act within the framework of recommendations for cryptocurrency market participants adopted earlier by the Financial Action Task Force on Money Laundering (FATF).

On September 8, 2021, the Parliament of Ukraine adopted a law legalizing the cryptocurrency market in the country. The initiative was supported by 276 deputies, six parliamentarians spoke against it, and 71 people abstained. On March 16, 2022, President of Ukraine signed the law «On Virtual Assets»[38].

After entry into force, the law will apply to legal relations arising in connection with the circulation of virtual assets in Ukraine. It will define the rights and obligations of virtual assets market participants, principles of state policy in the sphere of virtual assets circulation. The document provides for the solution of the following problems related to the functioning of cryptocurrency:

1) regulation of legal and regulatory framework in the market of virtual assets, participants;

2) determination of the legal status of virtual assets as objects of civil rights;

3) regulation of civil relations between individuals and legal persons that arise in the process of using virtual assets;

4) determining the legal status of market participants and users in the field of virtual assets;

5) establishing the basic principles and foundations of state policy in the field of virtual assets;

6) state regulation and control in the virtual assets market.

The authors of the draft law believe that its implementation will help to ensure openness and transparency of the terms of transactions concluded in the virtual assets market and prevent abuses in this market. In addition, the law will contribute to the development of the

[38] About virtual assets [Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/2074-IX#Text.

infrastructure of the virtual assets market, ensuring its openness and efficiency. According to the Minister of Digital Policy, the virtual asset market is an additional point for the growth of the digital economy in Ukraine.

On November 14, the inter-factional association of deputies Blockchain4Ukraine and the public union "Virtual Assets of Ukraine" (VAU) signed a roadmap for the implementation of blockchain and Web3 technologies in the country.

The main goal of the project is to implement innovative solutions for various sectors of the economy.

The roadmap envisages: Ukraine's integration into the European Blockchain Partnership, creation of a regulatory sandbox for launching blockchain and Web3 projects at the national level, launching a blockchain property register to implement a mechanism for tokenization of real estate and land in Ukraine, ensuring cybersecurity to protect state data in times of war, preparation of a blockchain plan for post-war reconstruction of Ukraine.

According to the coordinator of Blockchain4Ukraine, the chairman of the supervisory board of «VAU» Oleksii Zhmerenetskyi, the project sets itself ambitious tasks that have no analogues in the world.

It is worth noting that in June of 2022 Ukraine received observer status in the European Blockchain Partnership. The country was represented by Deputy Head of the Ministry of Digital Transformation for IT Development.

In September, Blockchain4Ukraine joined the Government Advisory Board of the International Association of Trusted Blockchain Applications.

Blockchain is the most promising tool for creating a transparent and secure public administration system. The analysis showed that for Ukraine this technology is gradually becoming the most powerful weapon with which to get rid of the problems associated with bureaucracy and corruption. The effectiveness of the technology has been tested in practice by the leading countries of the world economy. Therefore, Ukraine has already adopted their experience and started implementing blockchain, at least in those areas where corruption is most developed and flourishing. This will help save a significant part of public funds in the future and create favourable conditions for economic development.

The analysis of blockchain market development trends showed the following results.

The report of the analytical Indian consulting company Fortune Business Insights predicts that the global blockchain market will grow from 7.18 billion US dollars in 2022 to 163.83 billion US dollars by 2029, with an average annual growth rate of 56.3% in the forecast period (Fig. 4)[39]. A similar study was conducted by MarketsandMarkets, a company engaged in analytics and research in various industries, it is projected that the blockchain market size will grow from USD 4.9 billion in 2021 to USD 67.4 billion by 2026, with an average annual growth rate of 68.4% (Fig. 4)[40].

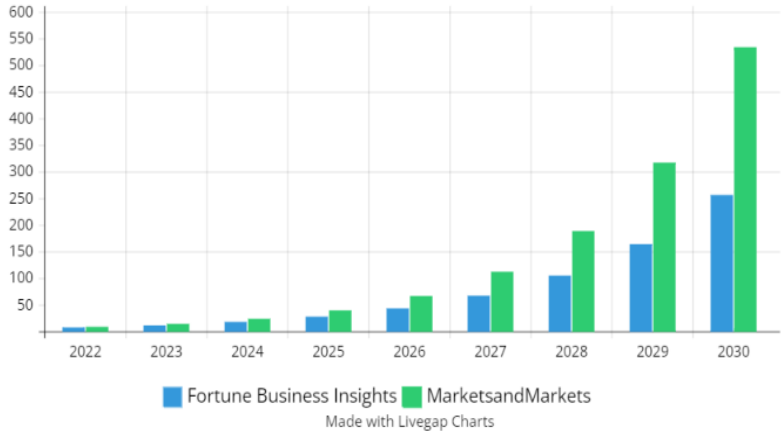


Fig. 4. **Dynamics of blockchain market growth, billion US dollars (version 1)**

In turn, Grand View Research reported that by 2030, the global blockchain technology market is expected to reach USD 1,431.54

[39] Blockchain Market [Electronic resource] URL: https://www.fortunebusinessinsights.com/industry-reports/blockchain-market-100072.

[40] Blockchain Market worth $67.4 billion by 2026. [Electronic resource] URL: https://www.marketsandmarkets.com/PressReleases/blockchain-technology.asp

billion, with an average annual growth rate of 85.9% from 2022 to 2030 (Fig. 5)[41].

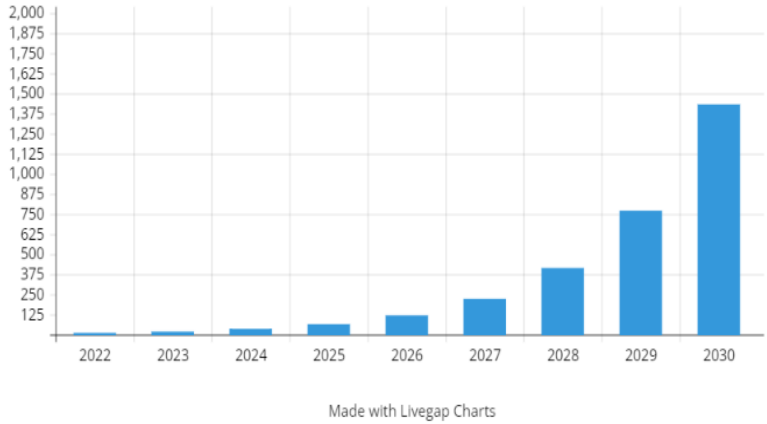


Fig. 5. **Dynamics of blockchain market growth, billion US dollars (version 2)**

In parallel, investments in this market by technology giants are growing. The presence on the American market of such giants as Microsoft, IBM, AWS or Oracle significantly affects the growth of the sphere in the next decade.

But as noted by the British analytical company Gartner, which conducted a survey of almost 300 leading information technology specialists: it became known that only 1% of organizations employing such employees use blockchain technology in their developments.

In addition, according to the survey, it became known that 8% of companies have experimented with blockchain and intend to introduce the technology in the near future, 77% are not interested in using the distributed ledger at all.

[41] By 2030, the capitalization of the global blockchain technology market will reach $1.4 trillion. [Electronic resource] URL: https://blockchain24.pro/k-2030-godu-kapitalizatsiya-mirovogo-rynka-blokcheyn-tekhnology-dostignet-14-trillionov-dollarov

According to Gartner vice president David Fahrlonger, the survey confirms that in fact the idea of the widespread use of blockchain is very hyped.

According to the survey, 13% of IT companies believe that a complete reorganization of the information technology department is the only way to start using blockchain technology, 14% are worried that the reorganization of the department will change the corporate culture, 23% believe that a lot of new skills are needed to use the technology, 18% noted that potential employees have little or no knowledge of how blockchain works.

The research also showed that in 2021, the volume of venture capital investments in crypto and blockchain startups exceeded $33 billion, according to Galaxy Digital Research. This is more than the total figure for previous years[42].

The graph below shows (Fig. 6) that only in the last three months of 2021, new and already relatively mature projects attracted $10.5 billion.

The share of crypto and blockchain sectors in the global volume of venture capital investments last year was 4.7%, thus 2021 was a record year in terms of the number of deals - 2018. This is almost twice as much as in 2020 and 18% more than in 2019 (1698).

Circle attracted more than others - the company issues USDC, a stablecoin pegged to the US dollar. The startup received $440 million from investors and also announced plans to go public through a merger with SPAC company Concord Acquisition Corp.

In second place was the manufacturer of hardware cryptocurrency wallets Ledger, which attracted $380 million of investments. The funds raised will be used to expand the product line, integrate transaction services aimed at decentralized finance into the Ledger Live program and develop its own operating system. Ledger also plans further international expansion. The startup emphasizes the adaptation of services for non-English speaking countries.

[42] Investment in blockchain. [Electronic resource] URL: https://www.tadviser.ru/index.php/.

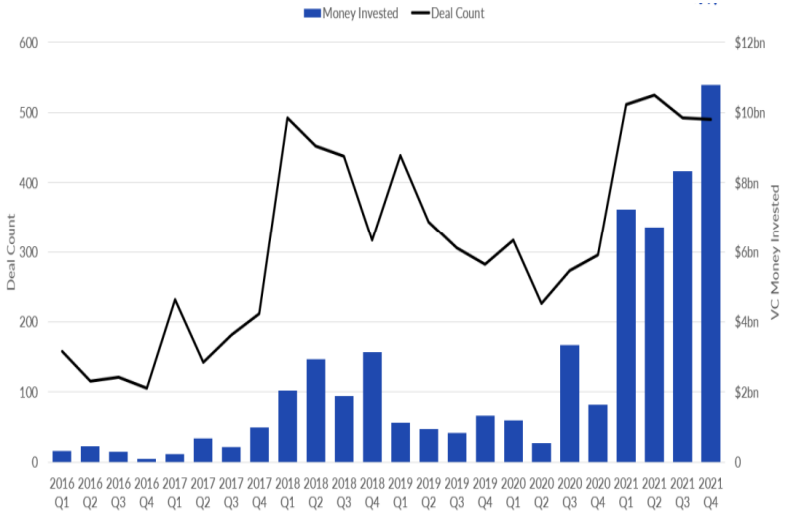


Fig. 6. **Quarterly dynamics of venture capital investments and number of deals (Galaxy Digital Research, Pitchbook)**[42]

Venture investments are a kind of fuel for the development of projects and the market in general. Given the trends of recent months, DeFi, Web3, smart contracts and other areas will become powerful drivers of blockchain industry growth in the near future.

In 2022, blockchain startups specializing in decentralized finance (DeFi) attracted the most venture capital. Thus, Messari notes that 40% of all investments of venture funds are invested in DeFi infrastructure. The most invested projects are the following: dYdX, Maker, Acala.

Investments in Web3 by venture funds over the next decade will amount to more than 20% of their total investments. At the moment, according to Messari, the most popular among venture investors are the following Web3 projects: Radicle, Mina, Filecoin, Mobilecoin, Handshake, Internet Computer, aelf [43].

[43] Messari Fund Analysis H1'22: Examining Portfolios of Crypto Funds/. [Electronic resource] URL: https://messari.io/report/messari-fund-analysis-h1-22-examining-portfolios-of-crypto-funds.

According to a Messari study based on data from 82 venture funds, 37% of investments are in smart contract platforms. The most funded asset is Polkadot, in which 29 investment companies have invested[19].

One of the main reasons why venture capitalists will continue to show interest in blockchain projects in the next 10 years is liquidity. While traditional funds make a profit only after 5-10 years, digital coins provide liquidity from day one, attracting more and more attention to the blockchain industry.

**Conceptual measures of foreign economic activity management based on blockchain technology**

The process of foreign economic activity is often not without pitfalls. The problem of international payments remains relevant, despite the development of Internet technologies. This is what intermediaries use. The presence of extra people in the chain increases the cost of transaction fees. In addition, due to the lack of the sender/recipient's ability to control the entire history of a particular transaction, fraud schemes flourish.

The process of foreign economic activity is complicated by the interaction between central authorities such as the government and banks. They control the movement of funds and provide most of the financial services. For example, money transfers, savings plans, insurance and stock markets.

Thus, typical problems of the foreign economy are multi-stage transaction chains and lack of transparency at these stages.

Such problems can be solved through the introduction of blockchain technology, the use of which allows for reliable, unchanging data storage and transparent access to them. Blockchain in English is a chain of information blocks built according to certain rules, continuous and consistent.

The above analyses and studies have shown that blockchain technology has recently begun to develop by leaps and bounds, capturing new areas of application. The solutions that blockchain can provide for foreign economic activity are as follows:

1. Reducing the time to work with documentation. Blockchain-based solutions can speed up the processing of numerous documents required for any financial transaction. Automation of the preparation

of various accounting documents, as well as other supporting documents, reduces the transaction time by several times.

2. Transaction processing speed. Data transfer within the blockchain is instantaneous. Therefore, it has gained popularity in the field of finance: cryptocurrencies within one ecosystem can be transferred to any of its users in a second. Therefore, blockchain finds serious application where speed and reliability of transfer are important. For example, when concluding contracts for the transportation of goods or in the field of banking and finance.

3. Transparency and availability of information. Platforms built on the basis of blockchain solutions allow free access to data based on access rights that depend on the role of the participant in the process and many other factors. This can significantly increase the security of money transfers, reduce the level of errors and potential fraud, as well as eliminate the need for third-party involvement.

The conceptual framework for managing foreign economic activity based on blockchain technology, first of all, should be formed using schemes for collecting and processing information through the digitalization of documents.

A component of the introduction of blockchain in the activities of international companies is the digitalization of documentation. Such a system combines numerous documents from different participants into a single database of documents based on the blockchain. Participants get direct access to the necessary documentation, which significantly reduces the time of various operations.

The blockchain system allows you to conclude transactions and be confident in the strict fulfilment of the agreed conditions of the economic process. Smart contracts operating within the system allow to automate the process of establishing the fact of fulfilling the terms of the contract.

Smart contracts automate the process of document flow, information exchange, transfer of funds. A smart contract itself is a computer algorithm for automatic exchange only at the level of digital certificates.

Smart contracts are an agreement between the parties that is encoded and uploaded to the blockchain. At the same time, the contract does not depend on a third party, public authorities, and all processes in resolving such contracts are automatically controlled.

Smart contracts are aimed at making the negotiation process and its implementation simpler and more efficient, thus ensuring the transparent implementation of contract processes and reducing the costs associated with the contract.

The effects that smart contracts related to blockchain technology can give are shown in Fig. 7.

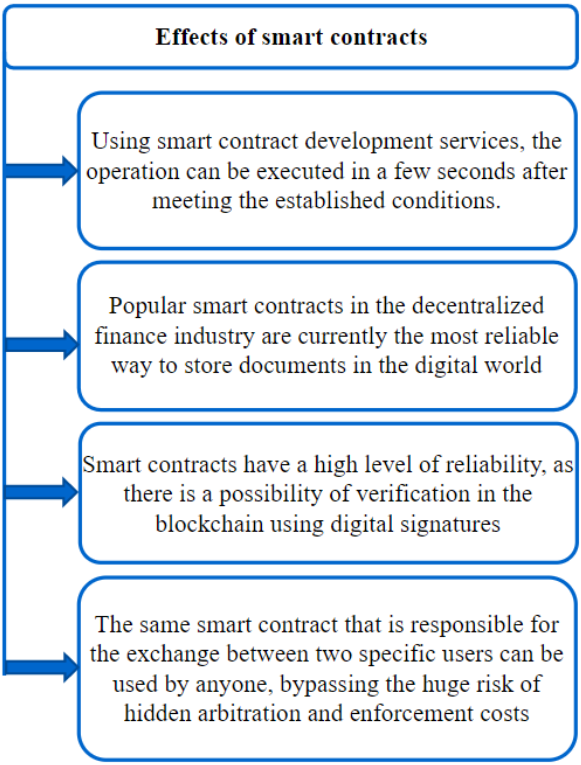


Fig. 7. **The effects that smart contracts can give related to blockchain technology**

However, unfortunately, today there are some legal restrictions that must be observed when using blockchain technology in the economy (Fig. 8).

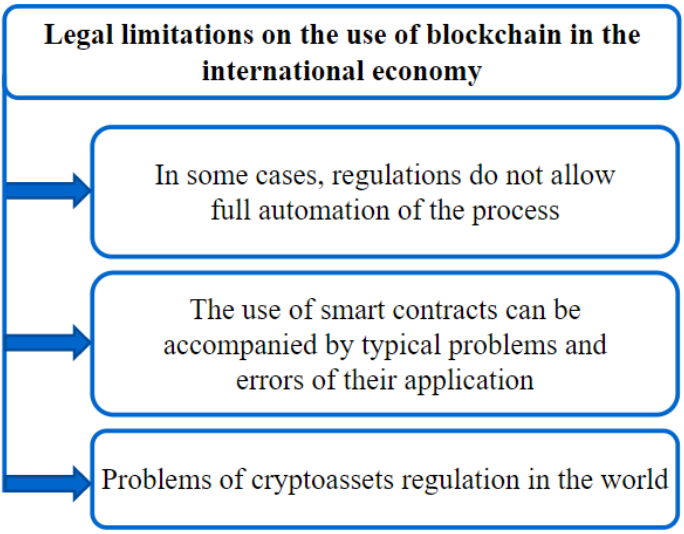


Fig. 8. **Possible legal limitations on the use of blockchain in the economy**

Despite this, more and more industries are exploring blockchain technology every day. Entrepreneurs are trying to use blockchain technology in various areas of their activities, and the possibilities of its use look impressive. The main advantage of blockchain is its transparency and ability to optimize digital information ecosystems.

First of all, blockchain offers many solutions for those who want to increase security and make digital data transactions more transparent, as well as comprehensive solutions for companies that want to work more economically, organized and efficiently. This technology allows companies to use proven smart contracts that automate the entire purchasing process, saving time and money. Distributed and decentralized registries also reduce the number of problematic moments and clerical errors.

The best way blockchain can help the global economy is by eliminating its inefficiencies. Right now, almost every element of the economic chain has multiple execution options to work with. All participants should focus on efficiency rather than getting bogged down in choosing the best way to implement. On top of that, there has

always been a mass of documentation that has to be handled. Documentation makes economic activity even more inefficient. In essence, it is the absence of a single source of truth and complex processes that bring the whole economic process to naught. There is a need for a decentralized organization that can process all transactions and also act as a hub to check and improve the whole process.

Blockchain is making the global economy more efficient and transparent. Blockchain's ability to act as a ledger makes it an ideal technology to simplify the tracking of transactions, global contracts and payment processing in the economic industry. It allows customers to track the entire chain from start to finish. Auditors can easily confirm or verify any transactions. The information stored in the blockchain cannot be altered by any third party, making this technology more secure than any existing solution. The technology can help program a fragmented and complex process so that the economy can become more efficient than ever.

For this, blockchain must act as the core of the economic network. It should handle everything, including providing funds to record transactions, creating an efficient and transparent system, and tracking assets with all the necessary documentation. Since blockchain is digital in nature, documentation must be done online, giving everyone access to data from any location. With its help, companies can improve the flow of transactions and make them more secure.

At the same time, this technology will help reduce fraud. Using smart contracts, it is no longer necessary to resort to the services of other third parties to perform tasks. Smart contracts allow global companies to enter into agreements that can be immediately terminated if all agreed conditions are not met. Such contracts increase transparency and profits by reducing transaction times and costly mistakes.

The industry is constantly growing, so new challenges arise that require a higher level of security. So, in order to cope with the growing needs, it is necessary to implement innovative solutions. And blockchain is the best solution for today. Because the protection is provided by advanced encryption methods, distributed ledgers and smart contracts.

These blockchain features allow international companies to fight theft, ransomware, corruption, surcharges and traceability issues.

When implemented correctly, blockchain technology provides better transparency in the global economy.

First of all, blockchain offers many solutions for those who want to increase security and make digital data transactions more transparent, as well as comprehensive solutions for companies that want to work more economically, organized and efficiently. This technology allows companies to use proven smart contracts that automate the entire purchasing process, saving time and money. Distributed and decentralized registries also reduce the number of problematic moments and clerical errors.

## 1.3. THE ANALYSIS OF MANAGEMENT SYSTEMS AND INVESTING MECHANISMS FOR STARTUP-PROJECTS IN UKRAINE

Startup-companies operate in terms that differ in the extreme measure of vagueness. The market situation is changing rapidly, terms are dictated by unexpected leaders and new technologies change values correlation at the market. Decisions appear that change base properties of products due to which they competed earlier. It is the so-called "disruptive innovations". Among the most perspective spheres of economy, where there is a possible development of such deep innovations, it is possible to mention nanotechnologies, energy, medicine, biotechnology and, certainly, a technological sector – which is a subject of our research – Internet-projects. Development of the last ones is unavoidable related to the growing requirement in a capital both for perfection of the most innovative product (services) and for realization of marketing events without them the rapid moving of a new product is impossible for a mass consumption[44]. But none of the experts will be able to give an exact prognosis, if a planned product will be completely realized and, if it will be accepted at the market that is whether the return of investors' investments will take place. As a

[44] TERESHKO, Y.V., TARDASKINA, T.M., BOGATYREVA, L.D. (2015): Specific features of interenrt-startap development in Ukraine: realia prostects. *Aktyalni problemy ekonomiky*, 12, 345-443 [in Ukrainian].

result of high risks of capital investment, similar investments are called as venture (risky).

The purpose of the article is to study the forms and methods of venture capital investment of innovative start-up projects, and to determine the main components of the investment attractiveness of Internet start-up projects in modern conditions of digital business transformation.

In this context, startups can be considered as options for reducing risk and increasing economic security [45]

1. Forms of the venture investing and organizational and legal support of startup-projects

Consequently, let us define the venture investing as a capital investment in an innovative project on the "sowing" stage and stage "startup", in an exchange on the fate of the company in order to receive profit from the sale of this fate in the future and due to hasty growth of company's capitalization. The nonlinear height of the company's value with time is represented on a chart that specialists call as "hockey-stick" (fig.1)[46].

More than 80% of business-angels capital and venture funds are the subjects of venture market and are realized in the field of high-tech[47]. Essentially, the venture investing becomes the base catalyst of small and middle enterprise development that makes basis of digital economy. Popularity of this investing depends on the fact that companies-beginners can refer to it when other sources of financing abandoned risky investments.

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[45] Mašľan M., Možnosti riadenia rizík ovplyvňujúcich ekonomickú bezpečnosť podnikateľaských subjektov [Risk management options affecting the economic security of business entities]. 1. vyd. – Košice (Slovensko) : University of Security management in Košice, 2022. – 210 pages. ISBN 978-80-8185-042-4

[46] ADIZES I. (2017). *Management styles: effective and ineffective*. Kyiv: *Alpina Pablishez.* [in Ukrainian].

[47] *Official site of Ukrainian Association of Venture Capital and Private Capital.* [Electronic resource]. http://uvca.eu/ua/news/investments-into-ukrainian-startups-in-2019-overview.

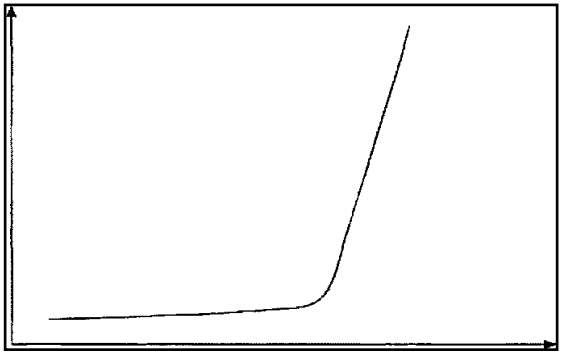

Fig. 1. **Non-linear growth in the value of a venture project over time ("hockey stick" graph)**

Actuality of the theoretical ground of the indicated problems, their application to Ukrainian reality does not cause doubts.

The history of venture investments begins in the middle of the 20th century in the USA. Silicon (Silicic) valley – is a place of modern telecommunication and IT development, as well as it became the point of cash infusion. Until now the USA was an absolute leader in the area of venture business. By the end of the 20th century the USA had had a half of all volume of venture investments in the world. A company Google became the most venture investment in history, due to it some venture funds made the milliards of dollars.

Business-angels and venture funds are the main players of venture capital market during "sowing", initial stages and the growth of startup-project. As a rule, the nature of their interaction can be defined as collaboration, but not as competition. They begin the activity with investing projects on the different stages of development: business-angels – on the stage of idea and business forming, venture funds work with an already existent company that undertakes the first steps at the market. Among general features in business-angels and venture funds activity let us distinguish the following:

– investing occurs in an exchange of the part in equity of company during the early stages of its development;

– investments finance the growth and development of the company, but not cover the losses of previous periods. The main task is to achieve a hasty growth of value and capitalization of business;

– active work or watching inferior objects activity;

– except financing, business-angels and venture investors offer additional services for startup-companies as: administrative and marketing consulting (tutorship), expansion of social and economic connections of the company, legal services, and others;

– desire to receive a high rate of profitableness in investments[48,49].

In connection with that these subjects have more differences than similar features, for the reflection of objective situation at the venture capital market it is necessary to analyse an activity of each indicated subjects.

A category of participants of venture market is interesting for the research such as business-angels. First of all, it is due to extreme heterogeneity of participants. Generalization of their descriptions is very difficult, and business-angels activity, as a rule, is non-public. Access to information about signed agreements is limited. One of the important features of these market subjects is not so much as desire to get super profits, but mission of enterprise support as the means of life.

Let us offer the following determination of business-angels: they are physical persons or corporations that use the limit personal funds in order to support business in the initial (including, "sowing") stage of development. If the question is to define the origin of investment capital of business-angel, then in most cases it is the result of their previous entrepreneurial activity, including the sale of its business. Work with new start-up-projects for business-angels – is recreation of already well-tested models of running business, reflections of requirement in self-realization, respect and confession of the young businessmen generations. If financing of venture funds can be named as risky, then the capital of business-angels specialists determines as extraordinarily risky. It is explained by that object for investing, as a rule, is a company without achievements, and more often it is just an

[48] LEDRE, E. (2016). *Startap. What else can we learn from Silicon Valley?* (V.N. Peregudova, Trans.). Kyiv: *Osnova* [in Ukrainian].

[49] BLANK, S., DORF, B. (2013). *Startap. Founder's handbook.* Kyiv*: Alpina Pablishez.* [in Ukrainian].

idea, sometimes even without the valuable professional command. The reason of similar investments with the highest risks is a very high profitableness of investments during investing exactly on this stage of business development. The researches of the American specialists testify the following difference in profitableness: having contributed financial resources during the "sowing"/initial stage of business development a middle of annual profitableness to the fifth year of existence reaches 65%, during contribution of financial resources on the late stage in the same period a middle of profitableness does not exceed 32%.

Let us mention that one of important reasons of positive development for the business-angelic financing is correlation "demand is suggestion" at the market of startup-projects. The amount of professional venture funds, especially in Ukraine, remains insufficient for financing of all quality ideas. The size of start-up capital is growing that considerably strengthens requirements to the projects. A significant number of projects is appearing with lower requirements to financing that first of all is due to the absence of professional knowledge for project preparation to the search of investments. Exactly in this area business-angels are considered as the best who work both with the function of financing and the function of tutorship[50].

In Ukraine statistics of the venture investing is limited enough having regard to short history of venture market development, however a process has positive changes: over 30 networks of business-angels operate in 2021, the National Association of Business-Angels (NABA) has been created[11].

In connection with the instant rise of technological companies of their rapid offer for the IPO, observed at the beginning of 2000th, was finished, the period of growth and requirement in a capital for companies is becoming more adequate during 3-7 years. In these terms the collaboration of two categories of investors – business-angels and venture funds – became an inalienable element and basis for the whole process of financing.

[50] PORTER, M. (2008). *Competition.* Harvard Business School Publishing Cooperation. Retrieved from: https://www.hbs.edu/faculty/Pages/item.aspx?num=184.

A base function of venture funds is placing of capitals for the investors in order to get the maximum profit. Thus, let us define a venture fund as mechanism of capital investing due to forming of general fund (partnerships of separate investors) in high-risk innovative enterprises. It is possible to call exceptional professionalism as the distinguishing feature of venture funds activity. It is a kind of industry related to the selection, to the quality estimation and analysis of projects, as well as to further support of their development, that is accompanied by the staff of highly skilled consultants – financiers, lawyers, marketing specialists. The standard chart of venture fund functioning is presented on a Fig. 2[51].

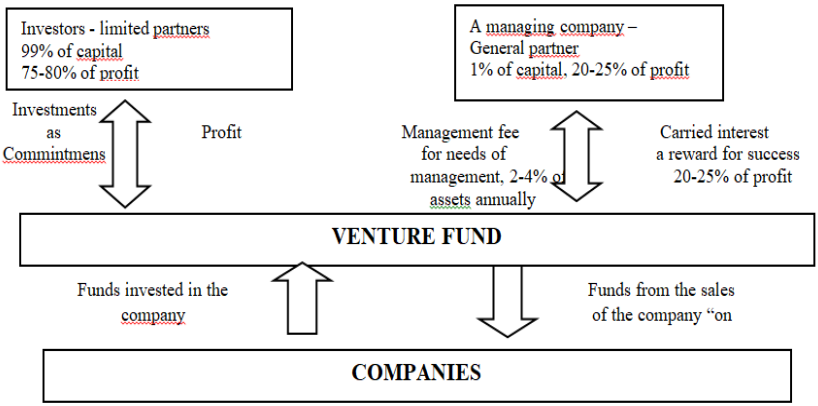


Fig. 2. **Chart of venture fund functioning**

In the given chart it is necessary to mention the considerable control degree of investors (limited partners) due to activity of managing company, where the control of state organs over companies' activity is limited (it is expected that investors have a corresponding level of qualification at the venture market and can protect the interests independently).

[51] BBC (2021). *Ukraine: The Home of Start-ups and Entrepreneurs.* [Electronic resource]. https://www.bbc.com/storyworks/future/ukraine-innovating-for-the-future/ukraine-thehome-of-start-ups-and-entrepreneurs.

We will analyse the information about the entities that form the structure of the Ukrainian venture market.

Today, the top 11 Ukrainian venture funds are formed by the following players[52].

USF (Director – Pavlo Kartashov). Since its establishment, the "Ukrainian Startup Fund" has financed more than 230 projects in the amount of more than 6 million dollars. The average check is $25,000 for the pre-seed and $50,000 for the seed round. Every second startup from USF's portfolio attracts additional investment. So far, the fund has announced a program to support the development of projects specializing in cyber security.

Startup Wise Guys (founders – Doug Ainsu, Cristobal Alonso, Gerti Tammo). Accelerator-record holder for the number of deals in the last 4 years – 25 of them. The company offers startups in the early stages a five-month development program. Among the portfolio startups of the accelerator are CallPage, Promo Republic, Jetbeep and StepShot, Finmap, Onboard and others.

U. Ventures (director – Bohdan Sviridov). The Western NIS Enterprise Fund (WNISEF), a venture fund created in 2017, finances startups from Ukraine and Moldova. In the portfolio of U. Ventures – DRESSX, Fintech Farm, OneNotary, 3DLOOK, Turnkey Lender, Mate Academy, Youteam and other startups.

SMRK (managing partner – Andriy Dovzhenko). It was founded in 2018 and specializes in financing projects at the seed and Round A stages. During this time, 10 deals were concluded. Portfolio companies include the Allset application, Ajax security systems, kitcast broadcast application, Competera and Apostera software, Seadora seafood delivery booking service, Esper Bionics and others.

AVentures Capital (founders – Andriy Kolodyuk, Yevhen Sysoev). Venture funds whose investment focus covers software development, ML, big data, virtual and augmented reality, SaaS, mobile, cloud technologies. The fund financed Petcube, CheckIO, Coppertino, Depositphotos, Ciklum, Influ2, Augmented Pixels and other startups.

[52] CAVICCHOLI, M., KOCOLLARI, U. (2021). *Learning from Failure: Big Data Analysis for Detecting the Patterns of Failure in Innovative Startups. Big Data*, 9, Number 2. DOI: 10.1089/big.2020.004779.

ICU Ventures (director – Roman Nikitov). An investment fund that finances startups in the seed and A+ rounds. The company focuses on technological startups of Ukrainian and Eastern European origin. Invested in Petcube, Hideez, Xelba, Smart Commerce, Good Money, 3DLOOK, Apostera, Augmented Pixels.

Digital Future (CEO – Oleksiy Vitchenko). The company invests in the digital economy. The focus is on projects at the seed and pre-seed stages that have graduated from the best accelerators, such as Y Combinator, TechStars and others. Investments include such projects as: SplitMetrics, YouTeam, FriendlyData, Attendify, Preply, Petcube, Serpstat, Rallyware and others.

QPDigital (managing partner – Mykola Shapovalov). Venture fund with a focus on artificial intelligence, blockchain, game development, logistics. We invested in Wareteka, doc.ua, ABM Cloud, Datrics, Raccoon, Wantent, Promin Aerospace.

Flyer One Ventures (CEO – Vitaly Laptenok). Before the rebranding, it was called Genesis Investments. An international fund with offices in London and Kyiv. Last year, he concluded 40 deals and increased his portfolio by $25 million. The fund's specialists help portfolio companies set up operations, develop a brand, hire staff and attract traffic. Among the fund's key investments are the online programming school Mate academy, the drug delivery service Liki24.com, the African unicorn Chipper Cash and others.

Adventures Lab (founder – Ruslan Timofeev). The fund started working in 2019. Funds startups at pre-seed, seed and early stages. The average check ranges from $100,000 to $500,000. Among the latest capital investments are agreements with American startups OneNotary and Narrative BI, Belarusian Salo and Ukrainian Pibox. In addition, the fund invested in the famous mobile application Reface, which was used by Elon Musk, Snoop Dogg and Miley Cyrus.

TA Ventures (founder – Victoria Tihipko). Launched in 2010. The fund's portfolio includes more than 160 investments for over 60 million euros, 35 exits. Among the startups that TA Ventures invested in are Liki24, Mate academy, RetargetApp, OVO. Industry priorities: digital health, mobile applications, logistics, software, etc. The average seed round check is about $250,000.

Venture financing is not a complete list of the fund's competencies. TA Venture can independently assemble a team to incubate a startup

from scratch using business models successfully implemented in Western markets. Three projects have already been implemented in Ukraine in this way:

1. TOPMALL online store of original goods of well-known global brands.

2. Search service for available housing options for tourists Hotel Scan.

3. Service for travel planning and reservation of related services for B2C and B2B segments of Tripscan Vostok Ventures. Vostok Ventures is constantly looking for new potentially successful projects and teams. The fund is ready to invest in Ukrainian companies at the seed and early (A) stages of development. In the first case, the team can count on $20,000 to $300,000, and in the second, from $300,000.

Table 1

**Top 11 leading Ukrainian venture capital funds, 2021**

| № | Information | Managing partners | Fund volume | Average check | Number of deals | Portfolio value |
|---|---|---|---|---|---|---|
| 1 | TA Ventures | Victoria Tihipko | $69 million | $0,25 million | 142 | |
| 2 | Almaz Capital | Oleksandr Halytskyi | $200 million | $3–7 million | 40 | $500million |
| 3 | S M R K | Andriy Dovzhenko | $12,5 million | $0,75 million | 16 | $33 million |
| 4 | Genesis Investments | Vitaly Laptenok | $10 million | $0,5 million | 15 | $20 million |
| 5 | Cascade Ventures | Pavlo Podolyanko | $150 million | $2-3 million | 14 | $100+ million |
| 6 | GR Capital | Max Filippov | $85 million | $5-10 million | 14 | $168 million |
| 7 | Aventures | Andriy Kolodyuk, Yevhen Sysoev | $20 million | $1,5 million | 14 | |
| 8 | ICU Ventures | Roman Nikitov | $25 million | $0,5 million | 12 | |
| 9 | CIG | Volodymyr Kryvko | $100 million | $1-5 million | 10 | $170 million |
| 10 | U. Ventures | Yaroslava Johnson, Olena Kosharna | $15 million | $0,5 million | 10 | |

The company is also satisfied with the first results of the Vostok Games studio, which is working on the creation of the computer game Survarium.

As a result of the author's comparative analysis, the peculiarities of the venture market subjects' work were evaluated according to a set of parameters and summarized in a single table (see table 2)[53,54].

Table 2

**Business angels and venture funds: criterion characteristics**

| Criteria | Business-angels | Venture funds |
|---|---|---|
| Source of capital | Personal (own) funds | Borrowed capital, as a rule, from institutional sources (private companies, state funds, corporations, etc.) |
| Investment size | Usual up to 1 million dollars | More than 10 million dollars |
| Flexibility in the amount of investment per 1 transaction | High<br>Possible investment size of $20,000 or less (considered to be a more affordable source of funding for young companies) | low<br>The average deal size of venture capital funds is increasing every year |
| Activity on the venture capital market | Low information availability | High level of activity publicity |
| Financial forecasting | Little attention is paid to financial forecasts, usually with a low level of financial literacy | Stable and working financial literacy tools are used |
| Motivation | Business angels are not under pressure from outside, so they tend to take more risks. Preference is given to start-up companies with the purchase of a larger share in the business. | Venture funds are under pressure from their partners. Preference is given to companies at later stages of development with proven business models |
| Possibilities of additional financing | Limited | Are available |

[53] ANDREYEV, V. (2018). *Problems of financing innovative development of Ukraine and ways of their solution*. Proceedings of the XI International Business Forum, Kyiv: Kyivnats Trade. Ekonom. un-t, pp. 15- 17.

[54] BIKSE, V., LUSENA–EZERA, I., RIVZA, B. (2018). *Innovative start-ups: challenges and development opportunities in Latvia. International Journal of Innovation Science,* 10(2), 261-273.

| Criteria | Business-angels | Venture funds |
|---|---|---|
| | | Venture funds provide additional financing during the development of the company, as well as when new capital needs appear. |
| Professionalism / experience | Availability of practical experience in managing companies. Limited opportunities in the due diligence process, the experience of trans-actions is significantly less. Knowledge of the industry is narrower. | The presence of significant experience in the process of selection, evaluation and development of projects. Availability of a large staff of qualified personnel to perform these functions. |
| The number of projects in the portfolio | A small number of projects | The portfolio is balanced due to the distribution of funds among a large number of venture projects |
| Volume and quality of additional services | The provision of additional services is limited by the temporary opportunities and connections of the private investor. | A high level of legal and consulting support is provided |
| Dependence on the investment climate | The greatest activity during periods of investment "boom", when the risks are minimal;<br>inactivity during periods of decline in activity on the stock markets | Less dependence on market fluctuations |
| Model of behaviour | The personal nature of the relationship between the investor and the entrepreneur prevails, the processes are less formalized | The procedures are formalized, since the management of other people's capital is carried out |
| Management model in financed companies | Business angels allow the founders of the financed company to build the necessary management system themselves, can perform certain management functions if necessary. Venture funds involve a professional team to manage the company. | It is possible to remove founders from management if they do not have the appropriate level of qualifications (venture investors do not participate in management) |

Despite the above-mentioned qualitative differences, both business angels and venture capital funds must objectively assess the conditions of the external environment. Below is the strategic REST analysis matrix developed by us, which reflects the factors that have a significant impact on the operation of the venture capital market and its participants (venture funds and business angels) in Ukraine (table 3). The defining parameter of the matrix is the object of investment – Internet projects.

Today, the majority of investment funds operating in Ukraine are registered in offshore zones to implement tax schemes that are more acceptable for business. According to the new law, the investment company borrows the English model of "Limited partnership" it operates without the formation of a legal entity, but on the basis of an investment contract, with a separate account and accounting.

Table 3

**Strategic REST-analysis Venture investment of Internet-projects in Ukraine**

| Political factors | Economic factors |
|---|---|
| 1. Current legislation (the Internet market is not sufficiently protected by legislation; reforming the legal framework governing investment activity).<br>2. Future changes in legislation (insufficiently predicted, but experts assume such trends as the development of legislation protecting the rights of investors and legal restrictions on the independence of Internet resources).<br>3. International legislation (possible legal restriction of the withdrawal of Ukrainian resources to the international Internet market).<br>4. Antimonopoly policy regarding Internet resources that monopolize the Internet space.<br>5. Trade policy, forced informatization of trade processes.<br>6. Strengthening legislation in copyright matters.<br>7. Growth of corruption in online activities. | 1. The taxation system in the country, tax benefits for the IT sector and innovative industries.<br>2. The level of inflation in the country.<br>3. Currency exchange rates (important for Internet resources related to trade and electronic currency exchange systems).<br>4. Dynamics of the refinancing rate.<br>5. Average level of profitability offline industries.<br>6. Solvency of the population.<br>7. The needs of the population in information and entertainment services.<br>8. Business needs in the development of information infrastructure.<br>9. The level of competition in offline and online markets, the degree of monopolization of industries.<br>10. Main external costs:<br>– energy carriers;<br>– software development;<br>– equipment;<br>– the salary level of programmers, managers; |

| | |
|---|---|
| 8. Elections at the state, regional and local levels, their coverage in mass media, including in electronic editions.<br>9. Grants and financing of Internet startups from the state.<br>10. Lobbying / political pressure during the development and promotion of certain Internet resources. | – rent and other<br>11. Seasonality of a specific Internet business / influence of weather conditions. |
| **Sociocultural factors** | **Technological factors** |
| 1.Demographic composition of the population (age, gender, education, social level).<br>2. The structure of income and expenses of the population, their dynamics and redistribution.<br>3. Basic human values: the need for communication, recognition, respect, self-realization, creativity.<br>4. People's way of life, structure of working and free time.<br>5. Brand, reputation, image of the Internet resource and its competitors.<br>6. Fashion, including the use of certain Internet resources and tools.<br>7. Models of people's behaviour in Internet communities, on various information resources, etc. (both private individuals and representatives of organizations).<br>8. Events of socio-cultural life and their presentation in mass media, including electronic ones.<br>9. Consumer preferences (visit of Internet resources, frequency and density of use, etc.).<br>10. Religious / ethnic factors. | Possibilities of financing complex capital-intensive research.<br>2. Development of technological innovations among competitors, in particular, among the leaders of the Internet market.<br>3. Legislation regulating technological innovations.<br>4. Development of information points and technological and scientific hubs in the country ("GrowthUP", etc.).<br>5. Technological potential of development of Internet resources (in parallel with functional development).<br>6. Adaptation of innovative technologies to the possibilities and needs of Internet resources.<br>7. The needs of clients (consumers) in technologies.<br>8. Level of access to technologies, licensing and obtaining patents.<br>9. Problems of intellectual property, copyright.<br>10. Possibilities of protection against copying of unique ideas (as a basic condition for start-up projects).<br>11. The level of production of high-tech software and equipment. |

Future changes in the existing legislative framework may significantly affect the development of the Ukrainian Internet environment. Today, the legal framework regulating the online environment does not provide the necessary level of trust in Internet resources, especially related to the processes of online sales and online payments. If the specified processes are clearly regulated by legislative instruments, investors can count on the active development of relevant resources – online stores, electronic payment services, exchange systems, online lending systems, and others. Investments in

these areas will become safer with a greater guarantee of profit due to the wide distribution and mass use of resources related to electronic commerce. In connection with the fact that a significant part of highly profitable Internet resources is related to the creation and distribution of various types of information (video, audio, photos, texts, etc.), the problem of copyright protection is likely to worsen. Investors participating in the development of similar projects need to pay attention to the legalization of information and compliance with copyright, which will inevitably lead to an increase in financial investments.

It is also necessary to note the following trend. The general informatization of economic and social processes, the mass introduction and support of innovative technologies are the basic directions of state policy in Ukraine. Therefore, such Internet resources related to the provision of public services, conducting auctions, illuminating political and economic processes (for example, election campaigns at all levels) will receive development. In this regard, the appearance of pressure groups that regulate the Internet environment is inevitable. This can lead to lobbying and monopolization of certain Internet resources.

In the framework of this study, economic factors are also of particular interest, as they directly affect the financial results of the startup. Let's pay attention to the following changes. An important component of the development of start-up companies in the Internet environment is the formation of tax policy, in particular, in the area of special taxation for companies in the IT sector. In connection with the priorities of state policy, tax incentives were provided for companies operating in the field of information technologies for 2018-2022. Insurance premiums for IT companies have been reduced from 30% to 14%, and IT companies have the right to recognize the costs of purchasing electronic computing equipment as material costs and write them off once the equipment is put into operation, without depreciating it. E-commerce is inevitably associated with payments (for goods, services, information), moreover, part of the payments are expected in foreign currencies, so currency exchange rates are one of the factors of project profitability. Any investor's decision is primarily related to the choice of industry for investment, accordingly, the analysis of the profitability of offline industries is an inevitable stage.

Since most Internet resources are aimed at the population or business structures, it is necessary to monitor the solvency of demand, both among private individuals and among organizations. In times of crisis, spending on information technology by organizations decreases, as this area is considered non-core for many. Undoubtedly, a significant factor is the level of competition in specific industry niches, which affects the development potential and possible profitability of the Internet project. Summarizing, let's note the main directions of venture investment development in our country:

1) the need for globalization of the innovation sphere due to the attraction of international "smart" money and integration into global technological processes;

2) growth of investment attractiveness of innovative companies in Ukraine;

3) infrastructure development to support start-up companies;

4) development of professionalism of venture market participants;

5) improving the quality of innovative projects, stimulating the consumption of innovative products;

6) popularization of innovative and entrepreneurial activities in society, creation of interest in venture and business angel activities.

Therefore, the study of investment models inevitably requires a detailed analysis of entities operating in the venture market. Business angels and venture capital funds take a direct part in shaping the business processes of young companies. In fact, they can be called donors for innovative processes that create the growth potential of the national economy.

2. Analysis of startup project implementation systems

Despite the development of many innovative ideas, especially in the information technology environment, only a few of them acquire a commercial form and are able to generate wate profit. Quite often, a breakthrough idea attracts significant amounts of investment, but the use of the received funds does not bring a positive effect: the startup supports life through financial infusions, after which it slowly dies. The reasons may be different: unprofessional work of the team, low level of motivation, lack of demand for the innovative product, wrong choice of the target audience, etc. As a rule, most of them are related to inefficient management at various stages of the innovation project. Let's consider the three most important aspects of innovation

management: criteria for evaluating the team, the method of distributing shares between the founders of the company, basic problems in the process of project implementation.

Investors determine the assessment of the team of the innovative company (qualifications, personal capabilities, personal characteristics) as the most important aspect when selecting and analysing projects for investment. At the same time, if entrepreneurial experience (knowledge of the market, work experience, previous achievements, projects, leadership, impeccable reputation) can be evaluated with a large degree of objectivity, other characteristics are related to the behavioural and mental characteristics of specific entrepreneurs and often become decisive in the choice, which the investor makes.

Optimal teams of innovative projects (according to the methodology of I. Adizes[2].

Based on the experience of leading venture investors and business angels, it can be noted that a project receives investment when it is managed by a team (at least two or three people). In this regard, it is reasonable to evaluate the Internet project team, guided by the theory of RAE1 (P – production of results, A – administration, E – entrepreneurship, I – integration), which is proposed by an expert in the field of effective business management, Yitzhak Adizes. Favourable functional combinations within the startup team are presented by us in Table 4.

So, the table shows the features of the functional implementation of management skills by the founders of innovative projects. However, experts recommend taking into account the personal qualities of entrepreneurs when assessing the potential of a startup team.

1. Investors consider the following mental criteria:

• aspiration to achieve better, ambition, purposefulness, efficiency – evaluated on the basis of experience, achievements of past years, through recommendations;

• striving for independence, autonomy and control;

• confidence in oneself and one's actions, responsibility for the decisions made;

• tolerates uncertainty and changes;

• preference for moderate rather than high risks.

Table 4

**Optimal teams of innovative projects (according to the methodology of I. Adizes)**

| Combination of management functions | Description of the innovation project team |
|---|---|
| (Paei) & (pAei) & (paEi) &(paei) | Founder 1 – has an excellent command of technology and knows in which direction to develop it, focusing on the needs of the market. |
| | Founder 2 – performs analytical and administrative functions (conducting research, control over documentation, registration of patents, etc.)<br>Founder 3 – engages in business planning, development of the startup's marketing strategy, search for new markets and development directions, etc.<br>Founder 4 – ensures conflict-free interaction of all team members, quite often is the main ideologist and leader of the team. |
| (Paei) & (pAei) & (paEI) | In the startup team, management functions are supported by the leadership and unifying potential of each participant. This combination appears to be the most effective for the successful development of an innovative project, as participants understand and accept the need for teamwork. At the same time, each of them performs other necessary management functions as best as possible. |
| (PaEi) & (pAei) | This variant defines real, most often emerging startup teams. This is due to the fact that, as a rule, at the beginning of the company's journey, the composition of managers / participants is limited (no more than 2-3 people). With such a combination, one of the participants in the innovation project is responsible for what the team will do (a product that meets market demands, technology development, search for target markets and new categories of customers, strategy formation), and the other for how to do it (formalization production and marketing processes, implementation of legal and financial aspects of the project, ensuring the interaction of all team members to achieve common goals). |

2. As necessary behavioural criteria, investors single out:

• ingenuity when difficult situations arise;

• acute perception of time frames and punctuality;

• objectivity in assessing reality.

Among other qualities important for a startup project manager are the following: energy and the ability to work productively, a high level

of intelligence, developed communication skills, honesty and openness.

It should be noted that the average age of startup founders is from 21 to 30 years old. This is primarily due to two factors:

1. An employee of a startup is more likely to be listened to than an employee of a large company. Often, this factor is the main factor for people who are tired of being "screws" in large corporate structures, where each manager seeks to realize his interests, and not the interests of his subordinates.

2. In a startup project, the career growth of a qualified employee is much faster than growth in a large company. There are many examples when employees who in the past held ordinary positions in large corporations and went to work in a startup company, after 3 years returned to the corporation, but already having 2-3 levels higher qualification data (normal growth 3 levels higher in the corporation - this is 12-15 years of work).

Experts in the field of development of innovative technologies disagree on who should be considered the founders of a start-ups?. The judgment that the founders of an innovative project should be considered to be those who invested in it at the stage of creation, seems to us to be insufficiently accurate. We adhere to the following definition: founders of a startup project are a group of participants who have jointly identified themselves as founders and are shareholders of the company since its creation.

A key issue for an Internet startup is the distribution of shares between the founders. There are different systems of distribution of share in the project. In the opinion of the authors, the simplest and effective distribution system is the technique proposed simultaneously by several researchers of innovative processes, in particular, Frank Demler, Hervé Lebre. A short algorithm of this method includes the following steps:

1. The basic criteria for assessment are determined. Usually 5-6 criteria are distinguished: idea (primary authorship), preparation of a business plan, competence and reputation (determined by work experience, connections, etc.), expertise (knowledge), interest and commitment (in the future), taking risks.

2. The significance (weight) of each criterion is distributed. Note that the found ratio will be different for different industries, depending on the specifics of a particular business.

3. An assessment of the personal contribution of each participant is given according to the criteria specified in clause 1. A 10-point system is usually used (that is, the sum of participants' points for one criterion must equal 10).

4. Next, the participant's score on each parameter is multiplied by the weight of this parameter, the data on all parameters for each participant are summed up.

5. Shares are distributed according to the total amount of points received by startup participants.

The method proposed by the author for the distribution of shares of the company between its founders is the "share calculator", which synthesizes the elements of the system for calculating the shares of the founders of the company, developed by E. Lebre, and the position of the RAE1 theory of I. Adizes[2]. An example of the distribution of shares in an Internet startup is presented in Table 5. The author made the assumption that the startup project team consists of three founders who implement management (Pae1), (pAe1), (paE1) – according to the methodology of I. Adizes. Based on the expert evaluation, the values of the weight of the criteria and the score are determined, which may change depending on the specifics of the project and the composition of the team.

In the calculation example given, the option is considered, when 100% of the company's shares are distributed among the founders of the innovative project. The actual practice of distributing company shares assumes:

• allocation of a certain share of shares for the company's investors (often in the form of preferred shares) – if external financing of the project is necessary;

• reserving part of the shares for the implementation of the employee participation program in the company's ownership (i.e., the option program).

Table 5

**Distribution of weighting criteria among the founders of the innovation project**

| Criterion | Criterion weight | Founder (PaeI) | Founder (pAeI) | Founder (paEI) |
|---|---|---|---|---|
| Idea | 8 | 7 | 0 | 3 |
| A business plan | 2 | 1 | 6 | 3 |
| Experience / reputation | 3 | 2 | 5 | 3 |
| Knowledge | 3 | 4 | 3 | 3 |
| Interest / commitment | 7 | 4 | 2 | 4 |
| Risk | 6 | 5 | 1 | 4 |
| % | 100% | 46% | 19% | 35% |

As a result, the shares of the founders of the startup project are proportionally reduced, and in total they may amount to less than 50% of the shares. This situation is very common in the venture market, especially when investing in Internet startups. This is explained by the peculiarities of investments when starting a company: from the side of the founders, the main investments are ideas, time, labor, and not material assets.

In the most general form, the process of finding and receiving investments in the Internet business can be presented as follows:

1) brainstorming, formation of an original idea, selection of basic options ("minimum possible product"), which form the uniqueness of the product;

2) presentation of the idea at competitions, startup presentations. Such presentations are regularly organized by venture funds and business angels (In Ukraine it is GrowthUP, CIG group, Dekarta Capital and others);

3) attraction of the first minimal investments (if there are no own funds). Usually, funds, investors ready to finance projects at the idea stage, provide limited investments (up to $100). The purpose of the first round of investment in this case is to create a project prototype;

4) creating a project prototype with limited functionality. In most cases, this stage is carried out at the expense of the owners of the

Internet project, since a small range of investment funds and incubators consider projects at the idea stage for investment;

5) bringing the project to the market and gathering an audience. At this stage, the approval of the business model of the Internet project is required, that is, users must demonstrate behavior that brings income to the owners of the resource. It is possible to adjust both the product itself and the method of monetization of the resource, its general strategy;

6) conducting a new round of project investment. As a rule, at the stage when the prototype of the project is created and the primary audience is gathered, the interest of investment funds (venture funds, direct investment funds) in investing increases significantly.

Analyzing the spectrum of organizational problems in the implementation of innovative projects, we will highlight four important areas: idea, human factor, product, implementation process. So, experienced entrepreneurs, investors and experts offer the following recommendations:

1) related to the idea and vision of the business:

• objectivity in the evaluation of the significance of the idea by the founders of the project;

• solving a serious problem of potential clients as the basis of the project idea;

• provision of quick feedback to project users, flexibility in transforming the idea;

• the need to pay attention to the user's key problem due to the limitation of the number of functions;

• quick implementation of the test version of the project, limitation of planning processes;

2) related to people:

• seriousness when concluding basic agreements between the founders: the size of shares, the purpose of participation, the possibility of leaving the project, etc.;

• mandatory selection of a balanced team, dismissal of inefficient employees;

• the need to work together with business mentors;

• formation of a competent corporate culture;

3) related to the product:

• improvement of the product by the ideologues of the startup only on the basis of the real needs and wishes of customers;

• finding one's own niche in the market, highlighting clear competitive advantages;

• constant measurement of product performance criteria;

• the possibility of radical changes in the product when the market situation changes;

4) related to the implementation process:

• mandatory acceleration of all processes within the project;

• the need to recognize errors when they appear;

• decisiveness in actions, implementation of exclusively useful functions;

• maintaining a small size of the company until the stability of the business model and technology is achieved[55].

Therefore, the creation of innovative Internet projects requires the attention of investors and entrepreneurs to various aspects. First of all, the high quality of the team, honesty and objectivity in reaching the main agreements, attention to the key needs of customers and to the basic function of the product (service). The formalization of the specified processes, the development of algorithms and work methods ensures high efficiency both in the process of selecting innovative projects for investment and directly in the course of their further implementation.

3. Assessment of competitiveness and investment attractiveness of Internet projects

The constant growth of the number of Internet projects that require financial support leads to the need to develop clear and effective tools for the selection and evaluation of projects by investors.

The use of various methods of "deal flow" can be considered mandatory and justified.

For venture capital funds and business angels, the loss of an interesting project for investment, as well as investing in an unpromising project, represents a significant danger for the effective investment process of capital placement.

[55] European Commission *(2020).* Peer Review of the Ukrainian Research and Innovation System. Horizon 2020 Policy Support Facility.

By investment attractiveness, we understand the total assessment of the investment object (project, business, etc.) from the perspective of development prospects, the level of investment risks and investment profitability. A number of researchers highlight the following aspects of business investment attractiveness:

- attractiveness of the product/service;
- informative attractiveness;
- personnel attractiveness;
- innovative attractiveness;
- financial attractiveness;
- territorial attractiveness;
- ecological attractiveness;
- social attractiveness.

In this case, researchers understand the attractiveness of a product/service as its competitiveness, which consists of several indicators (level of prices and quality, level of product diversification, etc.). Innovative, personnel and financial attractiveness are also of particular interest for Internet projects. For greater clarity, let's group the components of business investment attractiveness as follows:

- 1st level: innovativeness, advantages in technology;
- 2nd level: product competitiveness, business model;
- 3rd level: advantages for the investment process (high profitability, rapid growth, guarantees of preservation and return of investments).

Let's present the specified levels visually in fig. 3. Note that each level is the basis and significant factor for the next level.

Innovativeness and competitiveness of the company are interrelated values: innovativeness is one of the factors of competitiveness. In turn, the quality of innovation will be determined to a large extent through the assessment of competitiveness.

The method of evaluating each of these values is implemented according to a general algorithm: determination of factors affecting innovation and competitiveness; determining the weight of each factor; score of each factor; creation of a matrix for the purpose of visual display of the obtained values for a startup project. Within the framework of this study, we will pay attention directly to the first stage of the algorithm.

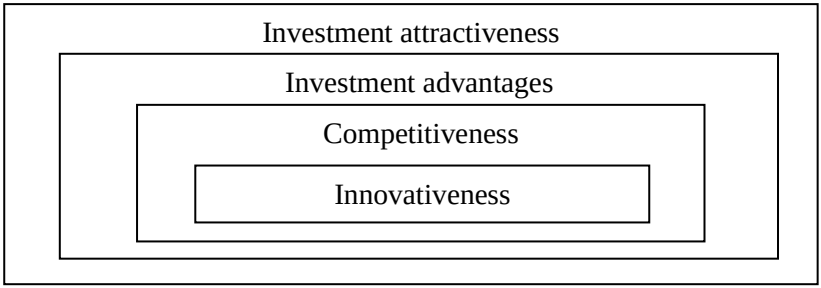


Fig. 3. **The main components on the investment attractiveness of the project**

So, let's highlight the innovativeness criteria of a young company (project) in order of priority for the investor:

1) relevance and uniqueness of the project (for an Internet company, there are no analogues on the national Internet market);

2) the possibility of project commercialization (a unique product/service without monetization opportunities is not of interest to an investor);

3) compliance of the project with priority directions in the investor's strategy. In general, if we talk about the attractiveness of certain industries for investors, there are several categories. Retail and wholesale trade can be called unattractive for investors, even in the presence of innovative distribution schemes. Some industries are rated by investors as neutral for investment. These are mining industry, real estate, sale of services, entertainment industry, etc. Usually, these companies have a share of no more than 20% in the investment portfolio. High technologies, biotechnology, information technologies, oriented primarily to business (B2B), and not to the end consumer, stand out as attractive areas for investment;

4) use of new technologies (for Internet projects – mainly in software, information presentation, marketing);

5) scientific novelty of the project, i.e., new knowledge, methods and ways of solving tasks, means and algorithms of implementation. In the Internet environment, the concept of scientific novelty is applied to projects with a strong technical component (for example, intelligent search systems, etc.);

6) advantages compared to existing analogues / competitors in the world. Despite the fact that often venture funds (for example, the Fast Lane Ventures venture fund) choose to copy foreign resources as their ideology, for the success of an Internet company in the long term, it must search for and implement new solutions and technologies, along with proven ones. Special attention should be paid to available substitute services. Even if an innovative Internet startup is unique, there are other resources that serve similar user needs.

Thus, innovativeness becomes the foundation of a promising young company and largely determines the interest of venture funds and business angels in it. It should be noted that the founders of innovative projects often pursue other goals other than commercial ones (public recognition, scientific activity, personal ambitions, etc.). As a result, potential financial results may be underestimated or, on the contrary, excessively overestimated.

The company's competitiveness is also determined by a whole range of factors. Their systematization according to various features allows you to objectively and fully evaluate the project and minimize the number of possible inaccuracies in the evaluation. We will present a brief overview of approaches and their application to the evaluation of startup projects in the form of a table compiled by us (table 6).

According to the analysis of the main approaches to the classification of competitiveness factors, it can be concluded that the method of 5 levels of the hierarchy of competitiveness factors by T. Kono is the most popular for evaluating innovative Internet startups. This method reflects the most significant indicators for the Internet resource: market volume, financial results, management potential.

The last and most important level of assessment of the investment attractiveness of an innovative business structure is the assessment of investment advantages, based on such financial indicators as profit, growth rates, risk level, etc. There are several features of young companies that, in one way or another, make it difficult for potential investors to evaluate them, and as a result, affect the investment process:

1. Financial statements are available for a short period of time (at best, several years, at worst – for part of a year), as a result, there is no basis for forecasts of the company's financial condition in the future.

Table 6

**Classification of factors for assessing the competitiveness of startup projects**

| The name and description | Application in startup projects |
|---|---|
| The approach related to production factors (author – M. Porter).<br>All production factors are presented in the form of the following groups:<br>– human resources;<br>– physical resources (including natural, as well as geographical);<br>– knowledge resources;<br>– financial resources;<br>– infrastructure (within the country)[47] | Priority factors for Internet startups are:<br>– completeness of the team: managers, marketers, designers, programmers (all must have a high level of education and qualifications), the minimum team composition is from 3-4 people;<br>– a low degree of dependence on natural resources, but the proximity of the location to the investor / investment fund is desirable (necessity of consultations during the implementation process);<br>– a high level of knowledge and specialization in the field of information technologies, access to current marketing research data, educational training in investment process issues;<br>– availability of equity capital from the founders of the startup company (preferably), venture capital of business angels and other investment funds;<br>– a high level of development of the company's logistics system (especially important for online stores), electronic payment systems, the degree of distribution and use of bank cards, etc.) |
| The approach related to the level of development of factors (author – M. Porter)<br>Basic factors:<br>– exist objectively, or do not require significant investments (for example, natural resources, other).<br>Modern high-tech factors:<br>– require significant and often long-term investments of capital and human resources, availability of high technologies for their creation.<br>Some modern high-tech factors are based on basic factors of an appropriate level of quality. | Internet start-up companies represent a high-tech business in which modern high-tech factors come first:<br>– information exchange infrastructure;<br>– logistics and payment infrastructure;<br>– research units of universities;<br>– system of professional training of young entrepreneurs on issues of venture investing, creation and development of start-up companies on the Internet;<br>– legal support for the activities of young innovative structures;<br>– the infrastructure of copyright protection, licensing and patent registration. |
| Polygon competitiveness enterprises.<br>The approach is to determine the points | The assessment of the competitiveness of an Internet startup using the construction of a competitiveness polygon includes the analysis of the following factors: |

| The name and description | Application in startup projects |
|---|---|
| assessment of the company according to the following criteria<br>competitiveness:<br>– the concept of the product / service / service;<br>– quality level;<br>– the price of the product/service/service;<br>– equity and loan capital;<br>– sales policy, distribution of services;<br>– quality of relations with clients, service;<br>– PR strategy (relationships with the authorities, mass media)<br>– marketing policy, pre-sale preparation. By displaying the scores for each factor on the corresponding axes, you can see a polygon, the area of which determines the level of business competitiveness. | – innovativeness and technology of the service, presence/absence of analogues in Ukraine and abroad, as well as the level of their development;<br>– quality of service implementation (following modern trends in design, business logic literacy, absence of programming errors when operating the service, use of usability principles);<br>– the main business model of the service, pricing policy and stability of income;<br>– resource promotion policy, main methods of audience formation, promotion costs in the overall cost structure of the Internet company;<br>the presence of a developed customer service infrastructure at all stages of using the service (first of all, the need for communication tools, feedback, high reaction speed, etc.), for online stores – the formation of a logistics system, the level of development of payment systems, etc.;<br>– the level of relations with potential investors, mass media, opinion leaders, other interested persons, mandatory participation in public events (Tesshranch conferences, Ukrainian Internet Forum, StartRoint, etc.);<br>– attention to the needs of service customers, careful research of individual target audiences, formation of an assortment of offers for different categories of users. |
| An approach based on a five-level hierarchy of factors.<br>Level one – market share as a basic goal for company management.<br>The second level is the enterprise's production and sales capacity, innovation potential.<br>The third level is the company's strategy in the fight for market share. The fourth level is the management of the company and its decisions. The fifth level – the results of the company's activity in the previous period (the amount of profit). | 5 levels of factors for an innovative Internet project:<br>Level one. Preference is given to companies focused on the global and not only the local Ukrainian market. Investors are interested in markets with an annual sales volume of more than 100 million dollars.<br>Level two. Available labour resources (first of all, software developers), the size of the potential audience at the start-up and development stage, the innovativeness of the service compared to other Internet startups.<br>Level three. Investors are attracted by an offensive strategy aimed at the constant growth of the market share, the advantage of which is new services and products.<br>Level four. The level of qualification of the management of the startup company in the main areas of work (technology, marketing, finance, personnel management), experience of previous activities, distribution of roles among the founders of the startup. |

| The name and description | Application in startup projects |
|---|---|
| | Level five. In the presence of financial statements for previous periods of activity (for example, the stage of development and launch of the beta version of the Internet service) – data on income and expenses, profits and losses.<br>In the absence of financial statements – information on the financial indicators of projects previously created by the team (if similar experience is available). |

2. The operating profit of the company has a negative value due to the fact that the revenues at the first stages are insignificant, and the expenses are significant.

3. The share of young companies that close before the third year of existence is more than 50% (in the Internet environment it can reach 80-99%).

The reasons for this can be various: bankruptcy, merger, takeover, withdrawal from the market, etc.

4. Young companies have a low market capitalization, little popularity in the market.

5. Part of the investors who financed the project at the earliest stages of the life cycle have preferential rights, as a result, the prospects for new investors appear unattractive.

When evaluating young Internet companies using multiples by comparing them with other companies, investors face the following challenges:

• difficulty in determining the parameter with which value is compared, since net profit and EBITDA have a negative value, revenues and book value are minimal;

• difficulty in finding companies for comparison, especially in segments dominated by mature companies, or there are no comparable companies;

• the difficulty of assessing the survival potential, as a result, the probability of growth in the company's relative value (multiplier of income or profits).

We remind you that all models of business evaluation (at any stage of the company's life cycle) are reduced to two types. The first is an absolute estimate of the company's value, which is related to cash flows from assets throughout the company's lifetime and directly

depends on the probability of receiving these revenues. Another assessment – relative – is made on the basis of comparison with the market prices of similar assets.

Both evaluation methods when used simultaneously will give the investor more objective information [52]

The absolute assessment of the future cash flows of a young Internet company is connected with the analysis of the following indicators:

• the volume of the entire market in this segment of the Internet, the fate of the evaluated company in this segment in the short and long term and its growth potential;

• the level of the target profit margin of mature companies on the Internet market, as well as the forecast of the operating profit of a young company and the volume of profit reinvestment.

In conditions of constant change in the cost of raising capital, as well as the short history of the company's existence, investors are recommended to use the average value on the Internet market, adjusted for high risk, as a discount rate. Due to the high risk, the cost of attracting equity and debt capital of the startup will be higher than similar parameters for an Internet company that has already established itself in the market. With the development of the startup, the cost of raising capital will decrease, approaching the average value for the Internet market. Estimating the present value of an Internet startup inevitably needs a number of adjustments. The relative assessment of an Internet startup is an even more difficult task due to a number of reasons:

1. Internet companies, which are at different stages of the life cycle, have different values of such parameters as the degree of risk, growth rates, market volume.

2. All other things being equal, mature companies are quoted on the market more expensive than young companies, which are characterized by a low probability of survival.

3. The use of multipliers based on profit, revenue and book value of Internet companies for evaluation by means of comparative analysis leads to incorrect results. At the stage of forming the audience of the Internet resource, the income is minimal, the losses are maximal.

4. There is a high liquidity of the equity capital of publicly quoted companies compared to the liquidity of the capital of young companies, and as a result, an excess of the cost of an Internet startup.

Minimizing the error in calculations is possible if the following methods are used: forecasting the economic results of the company's activities at the final stages of the life cycle and using these forecasts for calculations; adjustment of multipliers for future periods taking into account the parameters of large Internet companies; assessment of the probability of the collapse of the company and changes in value over time.

Therefore, the difficulties described above that may arise in the process of company evaluation, however, can be compensated if the investor pays attention to the following characteristics of startup projects:

• significant market potential, able to ensure continuous growth of income in the long term;

• effective management of expenses in the company, which maintains the level of the profit margin at an acceptable level for the investor;

• a high share of capital availability, that is, the presence of a sufficient supply of working capital or their sources;

• the possibility of quick replacement of key employees of the startup project in case of their departure from the company, or such a composition of the team in which other participants can take over their functions;

• exclusivity of the product, technology or brand, which minimizes the possibility of copying. This is a particularly significant characteristic for Internet projects, when the service can be reproduced as quickly as possible by other large resources and spread among an already formed multi-million audience in the shortest possible time.

So, taking into account the above, the following conclusions can be drawn.

The investment attractiveness of the project is a derivative of its commercial attractiveness (that is, competitiveness), which, in turn, is determined by the technological advantages and uniqueness of the innovative business project. Investors should take into account and objectively evaluate all the above factors of investment attractiveness in order to avoid a wrong decision in the process of selecting projects

for investment. Without a preliminary general evaluation according to the system "innovation – competitiveness – investment advantages", the very conduct of the time-consuming due diligence procedure cannot be considered expedient.

The activity of entrepreneurs in the field of the Internet economy and investors in the venture market today is higher than ever before, new trends have emerged in the development of both Internet resources and high-risk investments:

1. Mass involvement of the population in the use of Internet technologies leads to the growth of competition in this market and – as a result – requires a special level of quality of services and products.

2. The process of creating an innovative project becomes iterative, where hypotheses and constant adaptation of products to the real needs of users play a leading role.

3. Venture funds increase professionalism, focus on specialization, thus increasing the efficiency of capital allocation and management. Formation of innovation and venture infrastructure at the state level ensures a favorable investment climate in the country.

4. The role of state structures in the development of a unified strategy for the development of the national Internet economy and assistance in the formation of real infrastructure (logistics and payment systems, hardware and software) is increasing.

The main components of an innovative digital ecosystem – ideas, teams, venture capital, business models – are laid today in Ukraine, but it is necessary to concentrate on solving existing problems in order to approach world standards and become leaders at the global level.

## 1.4. CLOUD TECHNOLOGIES AS A DIGITAL TREND IN THE DEVELOPMENT OF TELECOMMUNICATIONS COMPANIES IN THE CONDITIONS OF DIGITAL BUSINESS TRANSFORMATION

The global pandemic has shown us that in the modern world, the most useful skill of an enterprise is its ability to quickly grow its own digital presence in order to successfully function in conditions where, due to the need for social distancing, physical presence is impossible.

The mass transition to online activity has become a kind of litmus test for cloud technologies and other tools that have been tested in extreme conditions this year. Most of the problems that arose at the beginning of the transition were not so much related to the issue of the ability of cloud services to meet the volume and complexity of the tasks that arose, but to issues of convenience, adaptability and fear of users before unfamiliar work tools.

It should be noted that despite certain problems that arose, cloud services helped to satisfy the need for tools to work in new conditions. But it should be noted that the existing situation was not the only reason for the rapid popularity of cloud services, it only acted as a catalyst for changes that were already taking place, there was a need to increase the volume and efficiency of service provision while manoeuvring in conditions of complete instability and uncertainty.

Despite this, the popularity of providing cloud services among telecommunications operators is growing, they, on the one hand, note the growth in demand, and on the other hand, understand that this is a new market for them in which they need to find their niche and gain suitable development strategies.

Analysis of recent research and publications. In the scientific works of Kononyuk A., Odarenkova O. [5657585960] and others. the main advantages of using cloud technologies in the activities of the telecommunications sphere are revealed, and the theoretical aspects of the organization of the cloud services market and its main players are also investigated. Cloud computing is a new concept that requires the

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[56] Odarenko O.V. (2014). Cloud computing as an actual risk-trend of telecommunications companies. *Ekonomika. Menedzhment. Biznes*, No1(9), pp. 34-41 [in Ukrainian].

[57] Kononyuk, A.E. (2018). General scientific approaches to the formation of cloud technology systems (Vol.1) Kyiv: Osvita Ukraïni [in Ukrainian].

[58] Tardaskina T.M., Man'ko M.P., Tereshko Yu.V., & Bohatyr'ova L.D. (2018). Features of the development of virtual operators in Ukraine. *Scientific Journal «ScienceRise»,* 2 (43), 22-26 [in Ukrainian].

[59] Bilova T. H., Yaruta V. O., Pobizhenko I.O. (2014). Risk analysis of the reference structure cloud computing. *Nauka i tekhnika povitrianykh syl Zbrojnykh syl Ukrainy.* 3, 144-147.

[60] Kononyuk A.E. (2018). Fundamental theory of cloud technologies, Kyiv:: Osvita Ukraïni, 620s. [in Ukrainian].

unification and standardization of basic concepts and the definition of optimal interaction scenarios. The analysis of scientific works indicated that the model of behavior of Ukrainian telecommunications operators in the cloud market has not been sufficiently studied.

The purpose of the article is to study the market of cloud technologies in Ukraine, to determine the features of the development of cloud technologies and the role of telecommunications companies in the development of this market in the modern conditions of digital business transformation.

Research results**.** Currently, the telecommunications industry is entering a new stage of development. The penetration of communication as a part of basic services is completed and additional services in the field of data transmission with their specific monetization are beginning to play an increasingly important role. The main competition for telecommunications operators in this area is made up of large platforms presented on the global Internet. Given the current situation and the rate of penetration of data transmission services in the domestic market, it can be said that the market for services based on data transmission is at the initial stage of its development. In order not to become a simple addition to the big players in the market of value-added services, operators should increase the list of services they provide and actively work in the direction of finding, creating, attracting and developing these services.

The market is quite specific in terms of cloud services consumption model, so it is easier for local players to create an offer that will be in demand among the audience. In conditions where the task of increasing revenues from basic services seems practically impossible for a communications operator, the issue of entering neighbouring regions with higher added value is becoming increasingly urgent. The Internet and communication will be increasingly integrated into our everyday life, and already many manufacturers of various high-tech products, based on this trend, are seeking to turn their products into services.

Having taken the next step in development, technology is being improved and is already successfully mastering new tools that allow it to communicate with each other, creating so-called «smart» houses, production lines, enterprises. This direction of development was named «Machine-to-Machine» (M2M). Services providing and

servicing M2M communications will become the main generators and consumers of data network traffic in the near future. The Internet is a huge platform for innovation, opportunities to create fundamentally new businesses, Internet services with high added value, and the Internet for more than 50 billion devices is a new market for a communications operator.

But speaking about the new developing market, which is interesting to the communication operator, we should not forget about the existing tasks and problems in the field of IT. So, for example, one of the key tasks of a telecommunications operator in modern conditions is the need to reduce costs for IT support and development without loss of quality.

In recent years, it has become increasingly clear that cloud computing technologies occupy a significant market share and, gaining wide recognition, are expanding their sphere of influence. Enterprises that have tried to work using cloud infrastructure are moving from testing such systems to full-scale use and placing a significant share of operations and calculations in the cloud. Such services allow you to access content and services from any point, from any, most convenient device.

Cloud services have become one of the main systems to support the manufacturing industry. They make it possible to change the traditional business model and create smart production networks that make a significant contribution to promoting effective cooperation.

In the scientific works of Odarenko O., Bilova A., Kononyuk A., etc. the main advantages of using cloud technologies in the activities of the telecommunications sphere are revealed, and the theoretical aspects of the organization of the cloud services market and its main players are also investigated. The novelty of the technology determines the need for standardization of its central concepts, as well as research and identification of directions of interaction that would have maximum effectiveness.

Cloud computing (from the English cloud computing) is usually understood as providing the user with computer resources with certain capabilities in the form of an Internet service. That is, computing resources are provided in a «pure» form, the user may not know exactly which computers are used during the processing of his requests, which operating system is used, and so on.

The National Institute of Standards and Technology (NIST) defines cloud computing as a model that enables widely available, convenient, and on-demand access to a common array of configurable computing resources (e.g., networks, servers, storage, applications, services) that can be rapidly provisioned and issued with minimal, on the part of the manager, costs for this [61].

In accordance with the Law of Ukraine «On Cloud Services», we have the following definitions[62]:

Cloud computing technologies are the technology of providing remote access at the request of the user to the cloud infrastructure through electronic communication networks.

The cloud (cloud infrastructure) is a set of dynamically distributed and configurable cloud resources that can be quickly provided to the user of cloud services and released through global and local data transmission networks

Cloud services – a service for providing cloud resources using cloud computing technology.

Cloud resources – any technical and software means or other components of an information (automated) system, access to which is provided by cloud computing technologies, in particular, processing time (computing power), space in data stores, computer networks, databases and computer programs.

Cloud computing technologies are the result of the evolution and combination of modern virtualization tools, technical capabilities, as well as the use of the modern concept of service-oriented architecture (SOA). This concept is built on the principle of interoperability of services and allows the user to abstract from the technical side of service provision and concentrate on its use.

For the first time, the idea of such calculations was proposed by John McCarthy in 1961. It consisted in the fact that computing can be sold, accordingly, computing power can be provided like any other

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[61] Mell P., Grance T. (2011). NIST. *Cloud Computing Reference Architecture. Recommendations of the National Institute of Standards and Technology*, USA: U.S. Department of Commerce, 7s.

[62] Law of Ukraine «On Cloud Services» *Ofitsijnyj portal Verkhovnoi rady Ukrayiny* [Electronic resource].
URL:https://zakon.rada.gov.ua/laws/show/2075-20#Text [in Ukrainian].

service. It is believed that this was actually the first attempt to describe cloud infrastructure. In 1963, research into the possibility of global access to a computer network began. They were performed by Z.S.R. Licklider, he believed that this would enable a person to access computer programs and data from anywhere on the globe. It was he who formulated the first ideas of a global computer network, which resulted in the emergence of a modern network space, within which cloud resources exist. Cloud infrastructure is a paradigm that involves remote data processing and storage. This technology provides users of the Internet, access to computer resources of the server and the use of software as an online service. That is, if there is an Internet connection, you can perform complex calculations, process data using the capabilities of a remote server [63].

The term «cloud» is used as a metaphor to denote certain elements of information technologies that are located on the Internet and refers to both software and its technical component and that are used to provide services using the Internet.

There are a number of reasons that led to the emergence of cloud infrastructure. Firstly, it is the impossibility of «gadgets», smartphones, tablets, etc. perform all the functions of a regular personal computer. However, in modern conditions, manufacturers strive to make the equipment as small, compact and simple as possible. But sometimes for this it is necessary to neglect some functions.

Secondly, the emergence of cloud infrastructure is related to the desire to receive the benefits of the synergistic effect of using the same programs and standards. Thus, the user will have no other choice but to use resources already existing in the cloud, he will not choose among programs from different manufacturers. This leads to increased profit levels through increased customer loyalty, and it also has a significant impact in terms of security.

Thus, cloud services can be considered as a new approach that will give a powerful impetus to the further development of information technologies and computer sciences. Note that distributed and parallel computing in Europe and America has been widely supported. Currently, the VENUS-C project is being developed in Europe, its

[63] Blaisdell R. A Brief *History of Cloud Computing. Risk Cloud* [Electronic resource] URL:https://rickscloud.com/a-brief-history-of-cloud-computing-2

goal is to study in more detail the possibilities of using cloud computing for research, as well as in industry.

Cloud computing technologies help in solving a number of problems in various fields. For example, it can be semantic search, social networks, knowledge bases, search for sequences in DNA, etc.

One of the examples of use can be the task of finding spam pages on the Internet. To perform this task, it is necessary to use a significant amount of computing power, which is why cloud resources are a good helper in solving this issue. The situation is similar with the search for information, here also the capabilities of the cloud infrastructure help to speed up the process, as well as make it more accurate.

The attractiveness of cloud services is related to both organizational and economic aspects. It is certainly important for a small and medium-sized business that it cannot create its own structures that provide the necessary calculations, but can use cloud resources that will make it possible to reduce capital costs (creating data centres and purchasing hardware and software solutions).

As for large companies, they, keeping their own structures, can transfer the performance of certain functions to a cloud service provider (for example, archive storage, spam filtering, etc.).

Entrepreneurs are no less interested in the backup and storage of archives, which the service provider can also undertake. By transferring certain functions to the service provider, the user frees himself from the need to perform a number of additional procedures (for example, software updates).

If, under standard relations, the provider receives a fixed fee for using (or providing the opportunity to use) its computing resources for a certain period of time, regardless of the amount and time actually used, then in cloud services, a fee is applied exclusively for actual use, when the user pays only for the amount that they really were consumed in a certain period of time.

Server farms are an association of servers connected by a data transmission network that works as a single entity. One type of server farm is defined by meta computer processing. In all cases, the considered farm provides distributed data processing. It is carried out in a distributed data processing environment. A server farm is the core of a large data processing centre and has enormous capacities for data

storage[64].

An example of this would be the free e-mail services available on the Internet. One of the main advantages of such a service is the prevention of data loss. By managing them through multiple networked computers, the probability of data loss becomes less likely. Companies providing cloud services position the possibility of providing such a service for their potential customers as a significant advantage.

Preliminary estimates of savings on cloud solutions indicate the possibility of reducing, with their help, the costs of IT operation by an average of 60-70%. According to Gartner researchers, global end-user spending on public cloud infrastructure will grow from $270 billion. in 2020 to 323.3 billion dollars. in 2021[65]. Such savings open up the possibility of redirection, thanks to which significant financial and personnel resources are released for solving new tasks and the corresponding modernization of the economy. However, cloud computing technologies also have a number of disadvantages. Yes, it is obvious that the user depends on the service provider and the Internet provider.

Also, cloud infrastructure clearly requires an assessment of additional risks in the field of information security. In order to provide a safe and reliable service, providers must constantly work on improving their own infrastructure and, for example, have duplicate communication channels to change to them if necessary, as well as ensure the inaccessibility of information and its security. It should also be noted that cloud computing technologies cannot be used at enterprises related to state or military secrets.

The primary goal of enterprises and providers that embrace cloud

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[64] Server farms. The open Internet is an encyclopedia [Electronic resource]. URL:https://uk.wikipedia.org/wiki/%D0%A1%D0%B5%D1%80%D0%B2%D0%B5%D1%80%D0%BD%D0%B0_%D1%84%D0%B5%D1%80%D0%BC%D0%B0

[65] Gartner Forecasts Worldwide Public Cloud End-User Spending to Grow 23% in 2021 [Electronic resource].
URL:https://www.gartner.com/en/newsroom/press-releases/2021-04-21-gartner-forecasts-worldwide-public-cloud-end-user-spending-to-grow-23-percent-in-2021

solutions is to provide enterprise IT infrastructure as a service. Today, the experience gained in the integration and provision of corporate applications as separate services is also being applied in the organization of infrastructure levels. Software and physical infrastructure, as well as applications in Service-Oriented Architecture (SOA), are supposed to be discoverable, manageable and adjustable.

Global data center traffic will grow and be optimized with architectural innovations that offer new levels of optimization for data centers, according to CISCO research.

The study also examines the importance of the cloud as a phenomenon. Based on an analysis of regional average upload, download and latency speeds for mobile and fixed networks, for business and consumers, all regions have made significant progress to achieve a capable level of support for core and intermediate cloud services. The focus is now on further improving network capabilities to support the advanced cloud applications that organizations and end users expect and rely on.

Thus, it is possible to distinguish four areas that must be developed to ensure the security of cloud data center construction:

- secure data storage in cloud storage;
- safe execution of tasks;
- secure data transfer;
- safe access to information.

The creation of new standards, including for ensuring the security of cloud infrastructure, is currently a priority task, and the further development of cloud resources will be carried out together with the emergence of new, more reliable methods of data protection.

Among the key tasks of business automation of any communication enterprise, significant costs for support and development of customer relationship management and sales systems (CRM), automated payment systems, technical accounting systems, and others can be singled out. Such systems require the creation and maintenance of a data center for efficient operation.

There are the following features of the use and development of cloud computing technology in the digital economy:

1. Cloud computing technology helps to optimize operations, thanks to its parameters such as scalability and flexibility, which, combined with the ability to reduce capital costs and administration

costs, ensures its relevance. Consumers get the opportunity to quickly and cheaply deploy the necessary digital infrastructure and enjoy the benefits of the digital world [[66].

2. The digital transformation of business contributes to the growth of the spread of cloud services, companies begin to understand in practice the advantages of their use.

3. There are no more operators - there is only a redistribution of market shares. The national cloud services market is growing, and domestic operators are beginning to gradually reduce the share of foreign operators in the Ukrainian cloud market.

4. Digitization leads to the fact that we suffer from cybercrime more and more often, and therefore the issue of data security becomes more acute. Security issues are one of the main barriers that lead to the refusal to start using cloud infrastructure. ISPs are starting to use artificial intelligence and machine learning for security purposes, and cybercriminals continue to evolve and invent new forms.

It should also be noted that there are certain barriers to development: lack of legislation on cloud computing technologies, lack of strategies for the development and implementation of cloud services at enterprises and in the public sector, not all local service providers have high-level security certificates. The growing demand for the use of cloud infrastructure is due to the ongoing digital transformation, and they cannot exist without each other.

Note that cloud infrastructures are becoming so popular and widespread that we do not pay much attention, but we use them in almost all areas of activity for [67]:

- remote use of estimated capacities;

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[66] Ukraine 2030. E-country with a developed digital economy. Ukrainian Institute of the Future. [Electronic resource].
URL:https://strategy.uifuture.org/kraina-z-rozvinutoyu-cifrovoyu-ekonomikoyu.html [in Ukrainian].

[67] Machuha R. (2018). The current state of the use of cloud computing at enterprises in Ukraine, Poland and other countries of the European Union. *Sotsial'no-ekonomichni problemy i derzhava*, 2 (19), 37-49. [Electronic resource].
URL:http://sepd.tntu.edu.ua/images/stories/pdf/2018/18mrikjs.pdf [in Ukrainian].

- constant accumulation of information and storage of files;
- use of online software (accounting, office, CRM, etc.);
- dissemination of information and provision of access to it;
- use of e-mail;
- database hosting
- new opportunities for knowledge transfer: online lessons, webinars, etc.

Many companies are striving to implement cloud computing technologies in their own enterprise and are moving towards this goal, but due to the pandemic, this process has significantly accelerated, giving impetus to certain trends [68]:

- the popularity of the hybrid cloud, which combines private and public cloud solutions that are connected, is increasing. This is an opportunity, in the period of significant loads, to use external resources to go beyond the capacity limits;
- the use of multicloud is growing in popularity. Consumers «collect» an ideal set of services from the services of different providers, each of which has certain specific features regarding their configuration and management, and therefore it is necessary to create systems that will become a tool for simplifying the interaction between the consumer and the multi-cloud;
- The Internet of Things (IoT) is developing faster and faster, and cloud resources as its component are a convenient tool for transferring large data sets, as well as a place where data is processed and accessed. Cloud infrastructure allows processing big data in real time;
- cloud computing technologies revolutionize education, encourage all participants in the educational process to self-education and self-improvement. New forms of organization of the educational process appear;
- modern conditions require new automation technologies, companies are investing in machine learning, artificial intelligence. With the help of cloud computing technology, artificial intelligence becomes more efficient;
- the problem of data security, unfortunately, remains unchanged, and therefore companies continue to search for new and improved

[68] 5 main cloud computing trends in 2021. NT (2021). [Electronic resource]. URL:https://nt.ua/blog/2021-cloud-computing-trends [in Ukrainian].

solutions that will help ensure maximum protection;

- edge computing aims to solve certain problems that arise when using cloud technologies, for example, to reduce delays that result from the process of computing and transferring data to the processing center.

Summarizing the issue of cloud computing technologies, the following should be noted. First, it is a truly revolutionary technology that incorporates the basic principles of consolidation and virtualization, but with an adjustment for time.

Secondly, it should be mentioned that at the moment this technology is poorly standardized, especially in matters related to security. In this regard, it still has a long development ahead of it, and to understand what it already has now and how it can use it.

Having analyzed the main concepts, problems and trends in the development of cloud computing technologies, let's move on to the analysis of the main properties of cloud computing technology.

The National Institute of Standards and Technologies in its document «The NIST Definition of Cloud Computing» defines a number of the following characteristics of cloud computing technologies:

- Self-service on demand;
- Combining resources into pools;
- Broad network access;
- Measured service;
- Instant elasticity.

On-demand self-service. The consumer has the opportunity to access computing resources unilaterally as needed, automatically, without the need to interact with employees of each service provider. Broad network access (Broad Network Access). The provided computing resources are available through networks using standard mechanisms for various platforms, thin and thick clients (mobile phones, tablets, laptops, workstations, etc.) Resource pooling. Computing resources of the cloud service provider are pooled to serve many consumers in accordance with the multi-tenancy model. Pools include various physical and virtual resources that can be dynamically assigned and reassigned according to consumer requests. It is not necessary for the consumer to know the exact location of the resources, but it is possible to specify their location at a higher level

of abstraction (eg, country, region, or data center). Examples of this kind of resources can be storage systems, computing power, memory, network bandwidth. Resources can be easily allocated and released, in some cases automatically, to quickly scale in proportion to demand. For the consumer, the possibilities of providing resources are seen as unlimited, that is, they can be assigned in any amount and at any time. Measured service. The cloud infrastructure automatically manages and optimizes resources with the help of measurement tools implemented at the abstraction level in relation to various kinds of services (for example, management of external storage, processing, bandwidth or active user sessions). Used resources can be tracked and controlled, which provides transparency for both the provider and the consumer using the service[69].

Having analyzed the main properties of cloud computing technology, we will move on to consider the development models of cloud computing technology and their features.

The world market of cloud technologies is constantly growing, including its Ukrainian segment, which is why more and more new players are appearing on it (Fig. 1). Telecommunications operators have everything they need to become successful players in the cloud technology market, they have a developed infrastructure, as well as a large customer base. New opportunities for telecommunications operators are opening up due to the provision of innovative services that can be combined with basic telecommunications services, which is why operators are increasing their own presence in the market of cloud technologies of Ukraine.

In 2019, the total volume of the Ukrainian market for cloud technologies grew by 47% and amounted to $45.1 million. The majority of this revenue is the result of the combination of IaaS/PaaS segments, but SaaS showed faster growth. It should be noted that this is largely due to the fact that the use of cloud technologies and services has increased in the conditions of quarantine and remote work/learning. But the decrease in business activity leads to a decrease

[69] The role of cloud computing in telecoms. Insidetelecom. [Electronic resource]. URL:https://www.insidetelecom.com/the-role-of-cloud-computing-in-telecoms/

in the volume of the IaaS/PaaS segments, but this only leads to a decrease in its growth rate compared to the planned indicators.

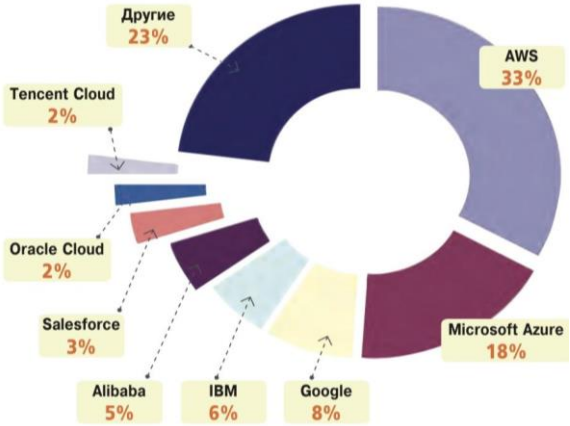


Fig. 1. **The world market of cloud technologies**
*Source: presented in* [70]

In the first quarter of 2020, the market grew by more than 50%, but in the second quarter of 2020, due to the quarantine, it showed a decline. In the third and fourth quarters of 2020, the decline will stop and perhaps even gradual growth will begin again.

It should be noted that in the last few years it was possible to observe a tendency towards the dominance of foreign operators over domestic ones in the national market of cloud services, but in 2019 the situation began to change. Thus, domestic operators still occupy a smaller share compared to foreign operators, but it has begun to increase (Fig. 2). This is due to the fact that the domestic market is growing and there are more and more offers and solutions for users, and they often prefer domestic operators, because it is more comfortable to work with them.

The paper analyzed the representatives of the Ukrainian market of cloud services. Companies for which the provision of cloud services

[70] Kyrylov Y. (2020). Levitation over the crisis - the cloud market continues to grow. *Sety y Byznes. Oblachnye tekhnolohyy*, 3, 20-35 [in Ukrainian].

is the main activity, as well as those for which it is an additional field of activity, were selected for analysis.

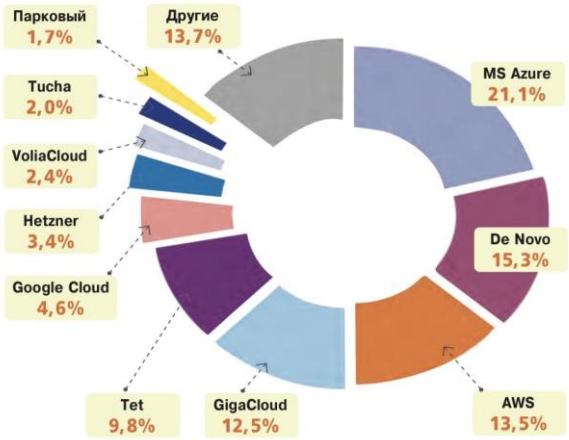


Fig. 2. **Ukrainian market of cloud technologies**
*Source: presented in*[70].

PJSC «Kyivstar» is a newcomer to the Ukrainian market of cloud services and has not yet managed to occupy a significant share of it. Thanks to the «Azure Stack from Kyivstar» service, users of the domestic cloud market can use the same services provided by the global Azure platform to the same extent. The company provides users with the «Azure Stack from Kyivstar» service, which is a unified cloud platform, services that are available to users of the global Azure platform are available to Kyivstar users to the same extent. To this set of services and solutions from itself, «Kyivstar» adds the capabilities of its own infrastructure, a data center on the territory of Ukraine, and a number of its own innovative services [71].

PJSC «Kyivstar» gives users the opportunity to use services provided by Microsoft. Based on its own infrastructure, a data center located in Kyiv, the company helps users to understand the complex

[71] Azure Stack with Kyivstar. [Electronic resource].
URL:https://kyivstar.ua/ru/business/products/azure [in Ukrainian].

system, provides personal service, convenient tariffs and adds its own services to the list.

Since July 2018, LLC «Lifecell» has been offering its own cloud services. It is a solution for data storage («Business Cloud Storage») and backup («Data Security in the Cloud»), focused on the business sphere. The company also confirmed the status of an official partner of Google in Ukraine for the sale of the «Google G-Suite for Business» service - a set of cloud services for productive business work. Since July 2018, LLC «Lifecell» has been offering its own cloud services. It is a solution for data storage («Business Cloud Storage») and backup («Data Security in the Cloud»), focused on the business sphere. The company also confirmed the status of an official partner of Google in Ukraine for the sale of the «Google G-Suite for Business» service - a set of cloud services for productive business work. The package includes such popular corporate web services as: mail server, file storage, video conferencing, messenger, notepad, calendar, site designer, online editing of documents, tables and presentations, application designer, tools for user administration within companies and much more. On the one hand, the company takes care of the support and configuration of its own services, and on the other, it acts as an intermediary between users and a popular business solution[72].

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On the one hand, the company takes care of the support and configuration of its own services, and on the other, it acts as an intermediary between users and a popular business solution.

PJSC «Vodafone Ukraine» provides computer virtual computing resources based on equipment located in its own data center. «Office 365 from Vodafone» is a complete set of tools for business. It is possible to choose different package configurations. The company's clients can transfer their existing solutions to the cloud and get access

[72] Cloud services. Lifecell. [Electronic resource]. URL:https://www.lifecell.ua/uk/malii-biznes-lifecell/hmarni-servisi/ [in Ukrainian].

to them, order ready-made tool sets, set up remote access to their business. PJSC «Vodafone Ukraine» offers its clients a wide range of corporate data protection services from leading providers, as well as backup and recovery services for any infrastructure elements. «Backup from Vodafone» provides reliable data protection, minimizing the risks associated with software failures, technical equipment malfunctions, and employee errors. PJSC «Vodafone Ukraine» provides computer virtual computing resources based on equipment located in its own data center. «Office 365 from Vodafone» is a complete set of tools for business. It is possible to choose different package configurations. The company's clients can transfer their existing solutions to the cloud and get access to them, order ready-made tool sets, set up remote access to their business. PJSC «Vodafone Ukraine» offers its clients a wide range of corporate data protection services from leading providers, as well as backup and recovery services for any infrastructure elements. «Backup from Vodafone» provides reliable data protection, minimizing the risks associated with software failures, technical equipment malfunctions, and employee errors[73].

Having studied the Ukrainian market of cloud technologies, as well as the role of telecommunications operators in its development, we will try to determine the peculiarities of the use and development of cloud technologies in the conditions of the digital economy:

1. The relevance of cloud computing is related to cost reduction, scalability and flexibility of the model, they are a convenient tool for optimizing activities. Moving to the cloud reduces capital and administration costs. Consumers get the opportunity to quickly and cheaply deploy the necessary digital infrastructure and enjoy the benefits of the digital world.

2. Digital transformation of business contributes to the growth of cloud technologies; companies begin to understand in practice the advantages of their use.

3. There are no more operators - there is only a redistribution of market shares. The national cloud technology market is growing, and

[73] Move to cloud. Vodafone. [Electronic resource]. URL:https://www.vodafone.com/business/cloud-and-hosting/cloud-ready-it/move-to-cloud [in Ukrainian].

domestic operators are beginning to gradually reduce the share of foreign operators in the Ukrainian cloud market.

4. Digitization leads to the fact that we suffer from cybercrime more and more often, and therefore the issue of data security becomes more acute. Security issues are one of the main barriers that lead to refusal to start using cloud technologies. Cloud providers are beginning to use artificial intelligence and machine learning for security purposes, and cybercriminals continue to evolve and invent new forms.

It should also be noted that there are certain barriers to development: lack of legislation on cloud technologies, lack of strategies for the development and implementation of cloud technologies at enterprises and in the public sector, lack of a sufficient number of local service providers with certificates of a high level of security of service provision. However, the global digital transformation is in full swing, and until it subsides, the increased demand for clouds will not go anywhere.

We note that cloud technologies are becoming so popular and widespread that we do not pay much attention, but we use them in almost all spheres of activity for [74]:

- remote use of estimated capacities;
- constant accumulation of information and storage of files;
- use of online software (accounting, office, CRM, etc.);
- dissemination of information and provision of access to it;
- use of e-mail;
- database hosting
- new opportunities for knowledge transfer: online lessons, webinars, etc.

According to experts, cloud technologies will become a solution without which no business can, and will not want to, function. Many companies are moving towards this goal, but due to the pandemic, this process has significantly accelerated, giving impetus to certain trends[56]:

- the popularity of the hybrid cloud, which combines private and public cloud solutions that are connected, is increasing. They make it

[74] De novo is a benchmark provider of cloud infrastructure. [Electronic resource]. URL:https://denovo.ua/ [in Ukrainian].

possible, in the case of peak loads, to use external resources in order to go beyond the cloud's cloud capacities;

- the use of multi-clouds is growing in popularity. Consumers «collect» an ideal set of services from the services of different providers, each of which has certain specific features regarding their configuration and management, and therefore one of the issues facing manufacturers is the need to create certain systems to simplify the consumer's interaction with the multi-cloud;

- the Internet of Things (IoT) is developing faster and faster, and cloud technologies as its component are a convenient tool for transferring large data sets, as well as a place where data is processed and accessed. Cloud infrastructure allows processing big data in real time;

- cloud technologies revolutionize education, encourage all participants in the educational process to self-education and self-improvement. New forms of organization of the educational process are emerging;

- modern conditions require new automation technologies, companies invest in machine learning, artificial intelligence. With the help of cloud technologies, artificial intelligence becomes more efficient;

- the problem of data security, unfortunately, remains unchanged, and therefore companies continue to search for new, more advanced solutions in order to provide their own and customer data with the most reliable protection;

- edge computing aims to solve certain problems that arise when using cloud technologies, such as reducing the delays that result from the process of computing and transferring data to the processing center.

Based on the analysis of the Ukrainian market of cloud technologies, the most appropriate model for the development of cloud technology market entities was developed (fig. 3).

A is the service provided

B+C is a combination of the service of a foreign provider and a domestic TLC operator

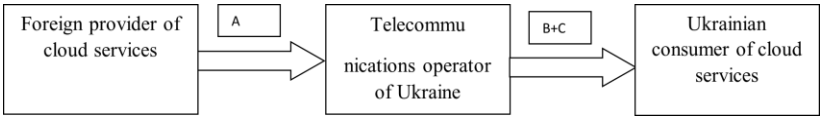


Fig. 3. **Model of development of cloud technology market entities**

*Source: developed by the authors*

It is easier for large telecommunications companies that already have a developed infrastructure in Ukraine to add cloud segment services to their portfolio of services. They become mediators between providers and users, contributing to a comfortable interaction between them. This is round-the-clock expert customer support throughout Ukraine in an understandable language and with representation in almost every corner of our country, this is the execution of contracts in accordance with Ukrainian legislation, in the national currency, data is stored in reliable data centers of the provider, most often on the territory of the country.

Such interaction allows the foreign provider to expand the circle of potential customers, because most often the mediators are large and well-known operators in Ukraine, which have their own base of loyal customers, as well as a recognizable brand whose quality is trusted by consumers.

The services they provide do not differ from those provided by the provider directly, but in such a situation, one of the reasons why the company chooses an intermediary is that its data center is located within the state. There are a number of laws that oblige companies to store personal data of citizens on the territory of the country.

However, entering the market, they compete not only with each other, but also with foreign providers, as well as with national providers who have been in this market for a long time, for whom this activity is the main one. They already have a certain reputation and better understand the specifics of the market, they are more trusted by large enterprises and government structures, and this is especially important when we are talking about cloud technologies, in which our trust is still not absolute.

Cloud computing technologies as a digital trend in the development of telecommunications companies in the conditions of digital business transformation

Analysts predict an increase in investments in cloud computing technologies in the coming years due to new business goals. «Fear of the unknown» has long been one of the strongest factors preventing the mass transfer of customer infrastructure from their own platforms to the cloud. Faced with an unfamiliar technology, companies simply did not trust it. Time passed, irrational worries subsided, they were replaced by well-founded fears. But in general, fears on the market have decreased, and they have significantly changed their character.

A few years ago, customers were mainly worried about data security, the reliability of the provider's infrastructure, the unpredictability of costs (which was a consequence of the operators' misunderstanding of pricing), and the possible loss of control over their own IT systems. Cloud resources, virtualization, user orientation significantly increase business risks, because the single environment of personal computers is replaced by various platforms with their own user interface, operating system and, accordingly, the security model.

Thus, the latest IT strategy of Great Britain provides for open-source software, open standards and cloud computing technologies, in particular, the development of a national cloud strategy with the aim of increasing the efficiency of the state IT complex, reducing costs, and creating high-quality interoperable systems. However, the development of cloud computing technology is hindered by both conservative business guidelines, in particular distrust of online products, and the imperfection of the legal framework in this area, which leads to the transformation of cloud resources into a potential risk area[56].

Telecommunications operators have everything they need to become the most successful player in the «cloud» market. They have a developed physical infrastructure for providing services: trunk networks, modern data processing centers, communication channels, promotion and billing mechanisms, as well as a large client base.

Compared to other providers who can extend their cloud solutions by reselling network services, telcos have a number of advantages. They have already established cooperation with large enterprises in

the field of delivery of business-critical services, have experience in providing services over the network, ensuring the quality of service, security and compliance with the service level agreement. Thus, an increased level of reliability of both the services themselves and access to them is achieved.

New opportunities for operators are opened up due to the provision of innovative services, in addition to basic telecommunication services - this is an effective tool for reducing outflow and increasing the operator's share in the corporate customer's telecom budget. There is a rule: if a corporate client has purchased only one service from the operator, the probability of his departure is quite high, usually 30%. But if the same client has already purchased 3 services, this probability drops to 3% [65].

Providers clearly understand this and do not want to lose such a financial stream. Customers, in turn, are used to the fact that telecommunications companies are constantly developing their services and are ready to add new services.

The organization of cloud services for a communications operator is extremely simple. Due to the presence of already created communication lines, the provider only needs to assemble the software and hardware complex, deploy the virtualization system on it and allocate the necessary turnkey resources to customers. For the client, in turn, ordering additional services from the operator avoids concluding separate contracts with new contractors and developing its own IT infrastructure. At the same time, there are no additional costs for renting channels - because they are already used by the client. Instead, there is an opportunity to implement the necessary services on demand without additional capital investments.

The effectiveness of solutions at the junction of telecommunications and information technologies fuels the market's interest in cloud environments, stimulates and activates the development of this line of business based on the infrastructure of communication operators.

In the spectrum of publications on the topic of cloud computing technology, the analysis of the technical and technological aspects of this phenomenon prevails. Emphasis is placed on applied aspects. However, cloud service providers are forced to work in an imperfect

legal field with variability in information security standards. Companies must protect intellectual property and commercial information.

Focusing research on the security of cloud computing technology on technical and technological aspects is considered insufficient, because cyber security experts consider cloud computing to be a new trend in cybercrime. Cloud services, developments of the Internet of Things are changing the classic views on information security in general and the risks of telecommunications companies.

Ensuring data security is becoming a central link in the marketing strategy of cloud service providers, forcing them to invest heavily and engage professional expertise to improve security. However, the understanding of cloud computing technology as a new risk trend for companies in the telecommunications market is not reflected in analytical materials. Therefore, the analysis of markets related to cloud services is one of the urgent issues of IT business development and legislation in the field of telecommunications and information security.

Therefore, the development of a comprehensive approach to managing risks that arise both at the technical and technological, as well as at the financial, economic, marketing, and legal levels of the implementation of cloud computing technology is considered relevant. By the risk-trend of cloud computing technology, we understand the set of risks produced by the cloud infrastructure and having a potentially threatening effect on the profitability and profitability of the telecommunications business. The risks of cloud computing technology should be attributed to the category of «new risks», that is, those that are implemented on the latest innovative business strategies and to some extent have a deterministic nature[56] As the use of cloud infrastructure proliferates to support digital business efforts, risk managers are wary of the emerging risks of data management in the cloud. Cloud computing technologies are becoming increasingly popular and have become the solution to problems that have plagued organizations and overwhelmed IT departments for years. Although executives are eager to make cloud services an integral part of their digital business initiatives, there are concerns.

In particular, risk management professionals monitor emerging risks related to the possibility of unauthorized access to confidential or restricted information – or the possibility that the cloud service provider will be unable to provide access to information as a result of a breach in their own operations.

The identification of the main risks for companies is realized by clarifying the conceptual aspects of different risk-trend levels of cloud computing technology. The analysis of current trends in the development of the telecommunications market, both at the global and regional levels, proved the presence of significant differences in the risk-trend structure of cloud computing technology. Based on the analysis of cloud computing technology as a current business model of telecommunications companies, risks were identified that are significant for both cloud service providers and users of these services.

Technical and technological level relevant from the point of view of implementation of the security policy. This level is conventionally divided into topical issues of the modern level of information security of cloud computing technology (for example, the problem of data backup when SaaS platforms are connected to many users; antivirus support, because clouds are already called «virus repositories»; user authorization problems, etc.) and prognostic aspects related to the further development of cloud infrastructure (introduction of models/distribution of responsibility for information security depending on the levels of cloud service models; analysis of information security problems in the context of conceptual views on ensuring the security of modular and social software, integrated services)[56].

These cloud threat levels leave cloud service providers (telecoms) vulnerable to financial and reputational risks. This level is also characterized by the search for new conceptual foundations of cryptographic protection of information located in the clouds (for example, the possibility of using end-to-end encryption, ideas related to the creation of a cable computer). At this level, an increase in the number of various solutions aimed at providing various cloud security services (Security as a service) and increasing the level of security of virtual and cloud infrastructures prevails. These trends are

distinguished by analysts as long-term [75].

Innovative level. For telecommunications companies, cloud infrastructure is now an important element of innovative business strategies. The world's leading telecommunications companies are showing interest in cloud computing technologies. The biggest risk for telecommunications companies at this level is the need to rebuild the network and significant pressure from vendors (Amazon, IBV, Microsoft, Oracle, etc.). This situation develops by analogy with content providers in the case of implementation of the principle of net neutrality in the telecommunications market. The tendency to form innovative conglomerates increases this level of risk. Economic level. The problem lies in the defined roles of the ecosystem of cloud infrastructures and their costs in the business structure of telecommunications companies, the forecasted demand for cloud services, and the formation of the client base. In order to reduce the costs of this innovative type of business and reduce the risks of its implementation, telecommunications companies can initiate the creation of innovative divisions or startups through venture financing. For consumers, for example, one of the risks lies in incorrectly determining the size of the company for the implementation of SaaS-platforms and the cost items for the implementation of this idea[56].

Reputation level. This level of risk-trend correlates with the level of information security of cloud services provided by the telecommunications company/provider, primarily with the level of preservation of commercial secrets and compliance with the terms of the contract[56].

It is also necessary to highlight the level of cybercrime in the field of providing cloud services. Cloud services are already being used for criminal purposes. For example, a new technology for attacking clients of payment systems is spreading, based on the use of cloud computing technologies (malicious code is placed in the clouds).

Legal and regulatory levels. These levels of threats are characterized by the lack of a comprehensive legal framework regarding the activities of cloud service providers, primarily regarding the provider's responsibility for preserving the customer's information.

[75] Cloud services and solutions for business. Tucha Cloud Solutions. [Electronic resource]. URL:https://tucha.ua/uk [in Ukrainian].

An urgent security issue at this level is the development of regulatory and licensing standards in the field of cloud computing technologies; regulation of paid cloud services, normalization of the use of private, public and hybrid clouds, first of all, preservation of commercial secrecy when processing information in private clouds. As well as the adaptation of the international practice of regulating the field of cloud computing technologies to domestic legislation; translation of research and standards to such organizations as NIST, CSA, ISACA, ENISA[56].

Cloud computing technologies should become the subject of regulation in the telecommunications market in order to ensure competition in this field and to form a new class of operators that provide cloud services and do not overlap with traditional operators.

Cloud computing technologies are essential for modern companies, in particular telecommunications. There are opportunities to flexibly transform infrastructures to business needs. New marketing strategies of companies in the telecommunications market of cloud services can be based on a fundamental emphasis on guarantees of a high level of security of cloud computing technologies. Solutions that combine cloud computing technology and telecommunication services provide an opportunity to attract new customers and increase business demand, and this leads to the fact that telecommunications companies have new opportunities for development.

The implementation of cloud infrastructure in the business processes of telecommunications companies will make it possible to reduce the IT budget, correlate the range/volume of services, for example, will ensure the optimization of purchases, data management and their storage; equipment management; adjustment of marketing policy thanks to a platform for control and analysis of marketing companies, talent management; improvement of project development; analysis of personnel competencies; minimize «personnel risk», that is, the risk of information theft by employees, etc.

Cloud infrastructure is shaping a new type of IT specialist and the image of IT activities in general, creating a new segment of the telecommunications market. At the same time, they determine new risk management strategies within the corporate risk management system, requiring conceptually new approaches to risk analysis and

organization of risk management services in telecommunications companies.

Each quarter, Gartner surveys senior risk executives at leading organizations to identify the top risks to their company that are new and unanticipated and whose potential for harm or loss is not yet fully known or has not yet become a matter of serious concern. If a risk appears in four consecutive quarters, it is no longer considered «emerging», so it is removed from the risk list.

In the latest Emerging Risks Report and Monitor, the majority of risk managers reported that they are most concerned about the likelihood and impact of potential data risks associated with cloud computing technology.

To properly assess whether cloud computing technologies pose a risk and better inform security decisions, risk managers should pay particular attention to the following key risk indicators:

- growing share of data stored in the cloud;
- changes in offers or contract terms from cloud providers;
- a growing percentage of third-party providers that do not have cloud environments that have access to data in the cloud;
-unauthorized use of cloud services by an employee.

The essence of cloud computing technologies boils down to the fact that instead of purchasing and using one's own computing equipment, it is rented (and not only computing equipment) from a company that provides services based on cloud infrastructure. By replacing users with their own information infrastructure or a specific software-hardware platform or software.

Users use the rented capacity via the Internet, while paying only for their actual use. At the same time, do not be tempted, «clouds» are not a panacea for all problems, cloud computing technologies also have serious drawbacks, which are primarily related to the transfer of a number of functions to a cloud provider and, as a result, to the loss of control over one's own data. The key point when using cloud resources is the problem of ensuring information security.

The user does not have sufficient and reliable information to assess the security of the cloud services used by the provider, the degree of guarantee of the preservation of his information. Of course, either the user must be provided with a means to delete his own data, or the cloud service provider must do so at his request.

There are other problems associated with personal data in the case of transferring their processing to cloud service providers. So, if the operator of personal data wants to process personal data not on his own, but to use the services of a cloud service provider, then for this he needs to obtain the consent of the subject of personal data for the processing of his data by a third party - a service provider.

The more popular and widespread a cloud service is, the more difficult it is to ensure data security for it. Despite all the robust security systems used by cloud service providers, there are still plenty of leaks every year. As a rule, the users who neglected the basics of information protection are to blame for this, but if the service is really massive, then the reputational (and sometimes financial) losses are still borne by the operator.

But if you look at the situation more broadly, it is obvious that the clouds are becoming more and more reliable year by year. Every major failure or leak becomes public knowledge and is widely reported in the media. As a result, one gets the impression that problems occur very often. In fact, this is not quite the case - in percentage terms, the number of incidents is constantly decreasing, but at the same time, in absolute terms, it may even increase, since the number of clouds in the world is increasing very quickly, as well as the totality of their users.

However, there are two main issues related to ensuring information security:

- how to assess the risk for data security before starting to work in the «cloud»?

- how to convince customers that their data and programs are safe in the provider's data processing center?

If the user of the cloud service is able to assess the risk of data security, then he can determine the level of trust in the service provider. If there is a high risk of data security, then this leads to a decrease in trust. It is very difficult to find a suitable unit of measurement for defining trust, because trust is a certain level of subjective perception of the probability with which an agent will perform a certain action, while we can control such actions and in the context in which it relates to our own actions. Based on this definition, we can say that trust is a subjective assessment and depends on those actions that can hardly be controlled.

However, there are several derived variables (e.g. cost data) that

can be used to describe it. Based on significant security factors, a trust matrix is built and data security risks are analyzed. To build a trust matrix, some heuristics can be used to select security parameters.

According to the data provided by the international research and consulting company (International Data Corporation (IDC), only cryptographic means of protection are still used to ensure the integrity and consistency of data stored in the «clouds». The technical description on Amazon Web Services considers physical security, backup and use of appropriate certificates. Similarly, other providers are considering alternative security mechanisms in the «cloud»[76].

The work analyzed general concepts related to cloud computing technology, tasks and trends in their development. Cloud computing is usually understood as providing the user with computer resources of certain capacities in the form of an Internet service. That is, computing resources are provided in a «pure» form, the user may not know exactly which computers are used during the processing of his requests, which operating system is used, and so on.

A number of properties characteristic of cloud computing technology are defined, namely: self-service on demand, wide network access, pooling of resources, instant elasticity, measurable service.

Three main cloud technology service models were considered: Infrastructure as a service (IaaS), Platform as a service (PaaS), Software as a service (SaaS).

And also considered various forms of cloud computing technology, corresponding to the generally accepted cloud deployment model, namely private, public (public) and hybrid. They allow you to use a variety of software, platform and infrastructure services.

We analyzed five main actors interacting within the cloud infrastructure: cloud consumer, cloud provider, cloud broker, cloud auditor, cloud communication operator and established their relationships.

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[76] Cloud services of Microsoft, SAP, Amazon, Oracle. Vega telecom. [Electronic resource].
URL:https://vega.ua/ukr/for_office/cloud_service_com (data zvernennia: 7.12.2022) [in Ukrainian].

The current state of the Ukrainian market of cloud technologies has been studied, based on the research we can see that Ukrainian telecommunication operators have a very small share in the market of cloud technologies, provider companies (De Novo, Tucha) are unlikely to weaken their positions and give the opportunity to traditional operators to win most of the market. Therefore, we consider it expedient to reformat the form of their work from mediation between foreign providers and users to cooperation with the former. The paper proposed a model for the development of cloud technology market entities.

The world-famous provider of cloud technologies Google Cloud and the major telecommunications brand AT&T have decided to cooperate in order to combine their own efforts to ensure the possibility of providing next-generation cloud services. This co-innovation aims to offer a variety of 5G and edge computing solutions to meet a variety of needs, driving real business value in industries such as retail, manufacturing, gaming and more.

Edge computing is the process of analyzing data where it is generated before sending it to the cloud, but these solutions require fast, wireless communication to be effective. With the convergence of Google Cloud computing and AT&T capabilities, companies can move infrastructure from centralized locations to the so-called «edge» and run applications closer to end users, thereby minimizing latency, streamlining operations, providing more robust security, and delivering engaging, innovative end-user experiences. users.

Combining AT&T's extensive network infrastructure with Google Cloud computing technologies can unlock the true potential of the cloud. This work brings us closer to a reality where cloud and edge technologies give businesses the tools to create new experiences for their customers.

The main categories of business models are considered: intermediary, advertising, information, trade, production, partnership, community or community business models, subscription, by consumption. Entering the new market of cloud services, the telecommunications operator must first of all highlight the task of choosing the appropriate business model. In cases where the telecommunications operator uses its own resources, models from the categories: «production», «prepaid», «by consumption» are more

suitable. When choosing one or another model, it is necessary to note the problem of the necessity and adequacy of the resource base of the telecommunications operator for the purposes of quality provision of «cloud» services.

It was established that cloud computing is of significant importance for modern companies, in particular telecommunications, because there are opportunities to flexibly transform infrastructures to business needs. New marketing strategies of companies in the telecommunications market (providers of cloud services) can be based on a fundamental emphasis on guarantees of a high level of security of cloud computing technology. Solutions that combine cloud computing technology and telecommunication services provide an opportunity to attract new customers and increase business demand, and this leads to the fact that telecommunications companies have new opportunities for development.

## 1.5. STATISTICAL INDICATORS OF THE DEVELOPMENT OF THE TELECOMMUNICATIONS SERVICES MARKET IN THE CONTEXT OF THE DIGITALIZATION OF THE ECONOMY

The development of digitalization, which has significantly accelerated in the 21st century, required the solution of many problems of measuring this process in its various manifestations. The information and communication technology (ICT) sector has been in the focus of economic statistics since the early stages of the formation of the digital economy. This interest remains throughout the evolution of the concept of "Information Economy" - "Digital Economy".

The methodology for statistical assessment of the ICT sector is being formed within the framework of a broad international partnership, which includes the Organization for Economic Cooperation and Development (OECD), Eurostat, a number of organizations under the auspices of the UN, among which the United Nations Conference on Trade and Development (UNCTAD) should be noted. Trade and Development - UNCTAD), as well as the International Telecommunication Union - ITU (International Telecommunication Union - ITU).

In the early 2000s, during research by the OECD Working Party on Information Society Indicators (OECD Working Party on indicators for the Information Society - WPIIS) conducted a study of the role of ICT in the formation of the "new" economy [77]. It was noted that while information and communications technology has been a major source of ongoing economic and social change, the formation of official statistics in this area was at that time still in its infancy. The OECD working group proposed a system of indicators for assessing the ICT sector of the economy. Her subsequent efforts were aimed at further developing indicators and classifications in the ICT sector [78], and in 2011 the OECD released a detailed Guide to Measuring the Information Society[79]. This document provides detailed recommendations on how to measure the ICT sector, defining the information society as a society in which information and communication technologies permeate all aspects of people's lives - economic, social, political, cultural and others - and are of great interest from the point of view of assessing their actual and potential impact [79].

The published results of work carried out within the framework of the United Nations ICT Task Force show that the focus in the early 2000s was on methods for statistically assessing the state of ICT and its use in production and consumption, based on predominantly simple indicators of volume, value or share [80]. Such an approach first of all made it possible to move towards the development of internationally comparable descriptive indicators characterizing the degree of ICT development. For groups of countries in which statistical accounting

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[77] OECD. *Measuring the Information Economy*. Paris: OECD Publ.; 2002. 93 p. Available from: https://www.oecd. org/sti/ieconomy/1835738.pdf.

[78] OECD. Information Economy Product Definitions Based on the Central Product Classification (Version 2). Paris: OECD Publ., 2009. 20 p. URL: https://www.oecd. org/science/inno/42978297.pdf.

[79] OECD Guide to Measuring the Information Society 2011. Paris: OECD Publ., 2011. 209 p. doi: https://doi. org/10.1787/9789264113541-en

[80] Core ICT Indicators. Partnership on Measuring ICT for Development. Beirut: UN ESCWA, 2005. 53 p. URL: https://www.itu.int/en/ITU-D/Statistics/Documents/coreindicators/Core_ICT_Indicators_E.pdf.

is underdeveloped, recommendations have been developed on the compilation of ICT statistics at a basic level [81].

Since 2009, the International Telecommunication Union has periodically published reports on the measurement of the information society[82], which provide a detailed description of the ICT sector.

In general, for all countries of the world, the formation of such a system of indicators ensures the transition to a unified accounting of the state and processes of ICT development.

The rapid growth of opportunities and availability of digital technologies made it possible to use them in the production of a large number of products, and also significantly expanded the range of services provided in the sphere of consumption, which led to a significant increase in attention to measuring the entire set of processes occurring in the digital economy.

In 2011, UNCTAD presented a report on the state of the information economy[83], in which the ICT sector is considered as the core of the digital economy, determining the possibilities for its functioning and further development. It should be noted that starting from 2018, the term "digital economy" is used instead of the terminological phrase "information economy" in the title of UNCTAD annual reports[84].

The content of the latter is revealed through a general definition, according to which the digital economy includes all economic activities carried out through or with a significant participation of

[81]Measuring ICT: The Global Status of ICT Indica-tors. New York: UN ICT Task Force, 2005. 184 p. URL: https://www.itu.int/ITU-D/ict/partnership/material/ 05-42742%20GLOBAL%20ICT.pdf.

[82]Measuring the Information Society Report 2018. Vol. 1. Geneva: ITU, 2018. 204 p. URL: https://www. itu.int/en/ITU-D/Statistics/Documents/publications/ misr2018/MISR-2018-Vol-1-E.pdf

[83]UNCTAD. Information Economy Report 2017: Digitalization, Trade and Development. Geneva: UNCTAD, 2017. 130 p. URL: https://unctad.org/system/files/ofi-cial-document/ier2017_en.pdf.

[84]UNCTAD. Digital Economy Report 2019: Value Creation and Capture: Implications for Developing Countries. Geneva: UNCTAD, 2019. 194 p. URL: https://unctad.org/ system/files/oficial-document/der2019_en.pdf.

digital technologies, digital infrastructure, digital services and data. It covers all producers and consumers, including the government, who use these digital resources in their economic activities [85].

Thus, the very existence of such a phenomenon as the digital economy is due to the presence of digital, that is, information and communication technologies. The main interest for researchers is the assessment of the role of ICT in the functioning and development of the digital economy, which requires the development of a wider set of indicators that measure the state and various aspects of the ICT sector, as well as their integration into the system of macroeconomic statistics to obtain statistical data consistent with the SNA.

At the same time, the definition of the concept of "digital economy" is still the subject of discussion. Three main approaches are used to describe the structure of the digital economy, which can be designated as “bottom-up”, “top-down” and “multi-level (flexible)” methods [85].

The bottom-up method is traditionally used to identify industry sectors of the economy. In a narrow sense, the digital economy is a set of industries (or activities) that are directly involved in the production of digital products or are directly dependent on their use. Accordingly, industry indicators, such as gross value added or the number of employees, should be used to measure it. With this approach, it is possible to form a set of statistical indicators for certain groups of industries, for example, for the ICT sector. Therefore, the bottom-up method can be used at the initial stage to determine the functional structure of the digital economy.

Its main disadvantage, by all accounts, is the significant difficulty in measuring the digital economy beyond its core components. In addition, if this approach is adopted, then the digital economy will cover all activities that use digital data. In the long term, as noted in the IMF report[86], this will lead to the fact that the entire economy will

[85] OECD. A Roadmap Toward a Common Frame-work for Measuring the Digital Economy: Report for the G20 Digital Economy Task Force. OECD, 2020. 123 p. URL: https://www.oecd.org/sti/roadmap-toward-a-com-mon-framework-for-measuring-the-digital-economy.pdf.

[86] IMF. Measuring the Digital Economy. Washington DC: IMF, 2018. 48 p. URL: https://www. imf.org/en/%20Publications/Policy-Papers/Is-sues/2018/04/03/022818-measuring-the-digital-economy.

be included in the digital economy, as a result of which the concept becomes unclear.

From the point of view of the top- *down method,* not only the set of companies or industries in the digital economy is taken into account, but also the degree of penetration of digitalization into all production and social processes. This view is summarized in a World Bank publication on digital dividends. Thus, it notes that the digital economy goes beyond the ICT sector, covering most sectors of the economy and society. However, many governments continue to view it as a sector that focuses exclusively on ICT infrastructure development and information technology workforce development[87].

As such, top-down definitions are not fully applicable to economic valuation, as they describe a "digitized" rather than a digital economy[85]

It should be noted that the measurement results based on the top-down definition can be used as a summary of the country's total digital activity in the form of an integral quantitative indicator obtained from a set of indicators. An example is the Digital Economy and Society Index (DESI), with which the European Commission monitors the digital economy, a composite index calculated on a number of indicators, such as human capital or digital public services, that determine key trends in the country's economic development. At the same time, while characterizing the digital economy in a generalized way, DESI does not provide information either on the amount of value added created by the digital economy, or on the number of people employed in this area. Evaluation of the activity of the ICT sector with this approach can also be only indirect.

With a multi-level (flexible) approach, the digital economy is defined as a group of sectors whose units in their production activities are completely based on ICT, that is, their very existence depends on the availability of digital technologies. Thus, it does not include sectors where digital technologies are used only to increase productivity (they can exist without the use of ICTs).

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[87] World Bank. World Development Report 2016: Digital Dividends. Washington DC: World Bank Group, 2016. 359 p. doi: https://doi.org/10.1596/978-1-4648-0671-1. p. 251

In accordance with this approach, R. Bucht and R. Hicks [88]define the digital economy based on the concept of intensive and extensive use of ICT. The authors give the following definitions of these concepts: “The intensive use of ICT implies the intensification - in some way improvement - of existing types of economic activity. Extensive application increases the diversity of economic activities [89].

The introduction of the principle of intensive and extensive use of ICT, of course, brings more certainty to the distinction between types of production activities in the digital economy, although its practical application may be difficult due to different interpretations of the concepts of "new type of activity" or "new product". In accordance with this principle, the digital economy is divided into three levels:

*Level 1* (“digital”) covers only the ICT sector, including the production of components, software and IT consulting, information services and telecommunications;

*Level 2* (“digital economy”) includes the entire first level, and also extends to digital services and the platform economy;

*Level 3*, defined by the authors as " digital economy", includes network business, e-commerce, Industry 4.04, precision agricultural technology, algorithmic economy; as borderline with the 2nd level, the economy of "sharing consumption" (Sharing economy) and the economy of "free earnings" (Gig economy) [88]. In general, a flexible approach based on structuring the composition of the digital economy by classifying units according to the level of dependence of their production activities on ICT is currently embedded in the definition of the digital economy proposed by the OECD for the Group of Twenty (G20).

In accordance with it, three levels are distinguished in the composition of the digital economy based on the basic, narrow and broad approaches to its understanding (see Fig. 1).

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[88] Bukht R., Heeks R. Defining, Conceptualising and Measuring the Digital Economy // The Development In-formatics Working Paper No. 68. Manchester: University of Manchester, 2017. 26 p. URL: http://hummedia.manchester.ac.uk/institutes/gdi/publications/workingpapers/ di/di_wp68.pdf.

[89] Cit. by R. Bucht, R. Hicks. Definition, concept and measurement of the digital economy. S. 153.

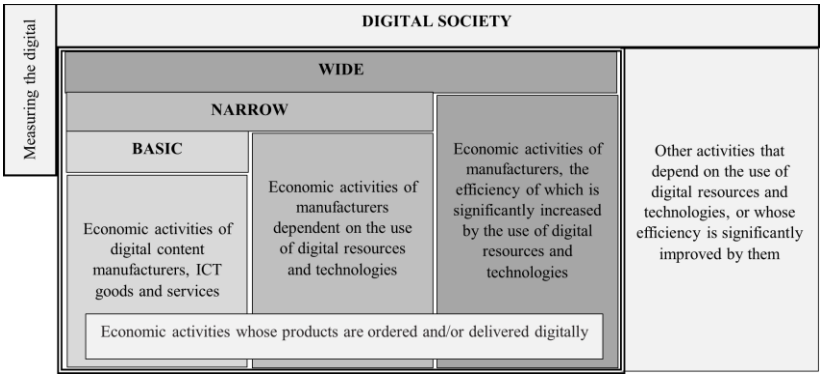


Fig. 1. **A multilevel approach to defining the digital economy**

The base level is the ICT sector itself. The second level is formed in accordance with a narrow definition as an activity that exists due to the presence of digital technologies, which generally corresponds to the concept of "extensive" use of ICT. Accordingly, the 3rd level (identified on the basis of a broad understanding) is production activity based on the principles of “intensive” (according to the concept of R. Bucht and R. Hicks) use of ICT.

All three sectors of the digital economy are engaged in activities included in the production boundary of the SNA. Other activities that depend on the use of digital resources and technologies, but do not fall within the boundaries of the production scope of the SNA, are included in the concept of the digital society. The results of such activities are not taken into account in the formation of macroeconomic indicators of the SNA, for example, GDP.

So, almost all available options for defining the digital economy designate the ICT sector as its key link, and in a number of cases they practically reduce this concept to its limits. In other words, all diverse economic activities related to the sphere of the digital economy are somehow conditioned by the use of digital technologies, the function of which, according to the laconic definition of A. Goldfarb and K. Tucker, is “representation of information in bits”[90].

[90]Goldfarb A., Tucker C. Digital Economics // Journal of Economic

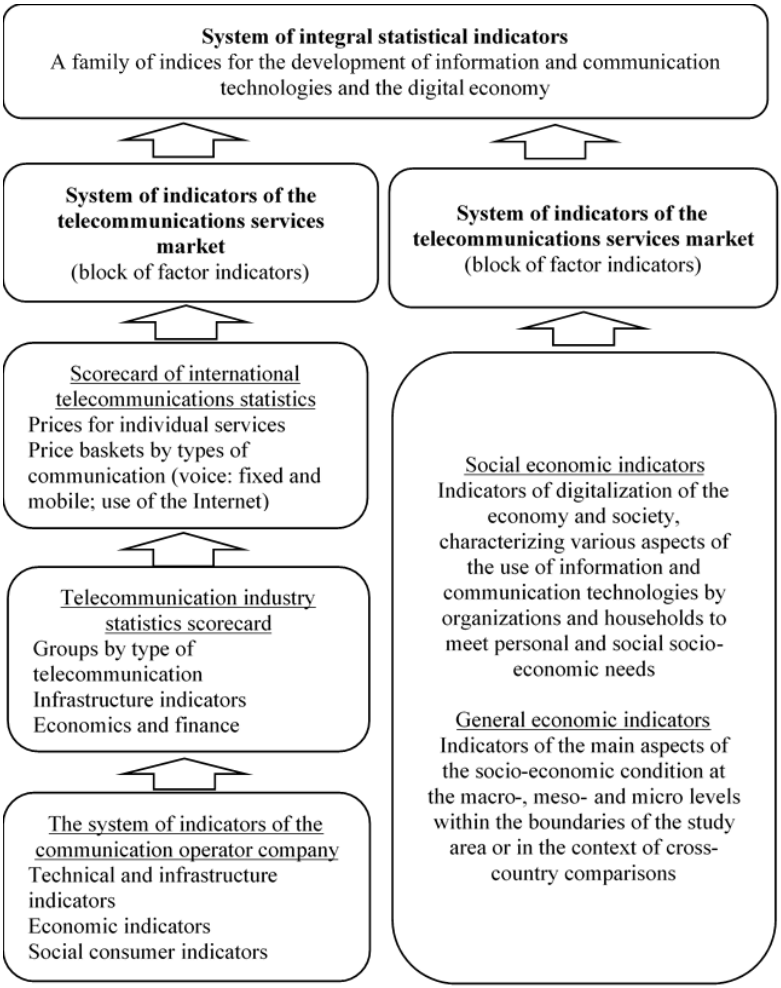


Fig. 2**. Decomposition of the hierarchical system of statistical indicators of the telecommunications services market in the context of the digitalization of the economy**

Literature. 2019. Vol. 57. No. 1. P. 3–43. doi: https://doi.org/10.1257/jel.20171452. p. 3.

It is the rapid growth in the need for technologies for the transmission, processing and storage of information (data) in digital form (in bits) has stimulated their development since the middle of the 20th century. The introduction of ICT provided digitalization - the transition "from atoms to bits", in the figurative expression of N. Negroponte [91]. Currently, as a result of the ongoing digital evolution and the introduction of products such as the Internet of things, 3D printing, virtual reality, etc., there is a transition "from bits to atoms" at a new technological level[92].

So, the economic assessment of the activity of the ICT sector is determined by the needs of the society, and taking into account its functions and a full-fledged statistical measurement can be implemented when it is considered within the digital economy as a whole, determined on the basis of a multi-level approach. It should be noted that the application of this approach makes it possible to form, based on the construction of supply and use tables, which are an integral part of the system of national accounts, an integrated representation of the sectors of the digital economy within a single model.

The existing approaches to managing national digital strategies of various states include such areas as improving the quality of e-government services, developing and improving the information and telecommunications infrastructure, promoting the skills and competencies of employees related to information and communication technologies, increasing the level of security, promoting scientific and research, innovation and entrepreneurship, providing wider access to the Internet, e-services and information

The telecommunications market has grown at a rapid pace. This area, together with the field of information and communication technologies, is the backbone of the development of the digital economy. The convergence of the telecommunications services market and the information technology market served as the basis for

[91] Negroponte N. Being Digital. New York: Alfred A. Knopf, 1995. 243 p.
[92] Schmitt B. From Atoms to Bits and Back: A Research Curation on Digital Technology and Agenda for Future Research // Journal of Consumer Research. 2019. Vol. 46. Iss. 4. P. 825–832. doi: https://doi.org/10.1093/jcr/ucz038.

creating a new type of economy based on digital products and services. The development of the infrastructure of the digital environment, including high-speed telecommunications networks of the latest generations, remains a key factor in digital development, ensuring the unhindered "movement" of an unlimited amount of data, the introduction of end-to-end digital platforms and technologies.

The state program "Digital Europe" was adopted until 2027. It provides funding for the digitalization of European countries in various areas. The goal of Digital Europe is to accelerate economic recovery and digital transformation. Participation in the Program will bring Ukraine closer to the EU single digital market.

The Program notes that “modernized and new forms of state statistical monitoring of the development of digital infrastructure and digital transformation of business, state and municipal government, education, healthcare, the use of digital technologies by the population and households” will be required, as well as the preparation of methodological recommendations on the procedure for applying new tools monitoring"

Despite the importance of a statistical study of such an important factor in the development of the digital economy, today there are practically no comprehensive studies. given spheres. Modern state statistics the telecommunications industry does not meet the challenges of the digital economy and international standards. In this connection, it is necessary to refine and improve this statistical methodology.

In addition, in a report by the UK National Infrastructure Commission, the system production and dissemination official statistical data recognized a new important element of the national infrastructure, a public good that ensures the emergence efficient, competitive services, high-quality information products while minimizing time and other costs.

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However, the relatively small age of the information age

objectively determined the fact of the almost complete absence of fundamental scientific research on the stated issues. Scientific research industries telecommunications in mainly focused either on the analysis of its technical component, or on the development of methodology for the study of statistics of the information society.

Thus, it seems relevant to analyze the indices and indicators that characterize both the sphere of information and communication technologies and reflect the changes taking place in the digitalization of the economy.

The basis of modern statistical methodology is the development of international professional and public organizations that have arisen in the process of solving practical problems of quantitative assessment and analysis of global and regional processes of informatization of society and the economy.

To determine the level of development in the countries under study of the digital economy, relevant international indices and ratings have been developed that indicate the place of the country under study in the global coordinate system, allow you to identify problems that hinder the processes of digitalization of the economy, develop measures aimed at eliminating problems and assess the country's development potential in building a digital economy, and are also taken into account in the process making managerial decisions.

The level of development of the digital economy and the country's rating are measured on the basis of various composite indices that integrate individual sub -indices that are responsible for the digital transformation of individual sectors of the economy and society. The best-known ratings are based on the following indices [93]:

− index of development of information and communication technologies (ICT Development Index - IDI);

− index of digital economy and society (Digital Economy and Society Index - DESI);

− world digital competitiveness index (IMD World Digital Competiveness Index – WDCI);

− Digital Evolution Index (DEI);

[93] OECD Guide to measuring the Informational Society - https://unstats.un.org/unsd/EconStatKB/Attachment546.aspx?AttachmentType =1

− index of digitalization of the economy Boston Consulting Group (e - Intensity); − index of network readiness (Networked Readiness Index - NRI);

− e-government development index (The UN Global E-Government Development Index - EGDI);

− e-participation index (E - Participation Index – EPART);

− Global Connectivity Index (GCI, "Huawei"); − Global Innovation Index (GII).

All of these indices are an aggregation of their constituent sub-indices (by the arithmetic mean method with expertly determined weights), which reflect various indicators that affect the formation of the digital environment. At the same time, the indicators included in the calculation differ from index to index [93].

Thus, the development of telecommunications infrastructure takes into account all of these indices. The provision of public services in electronic form is included in all indicators, other than IDI.

The affordability of the information and communication sector is taken into account in the DESI, e - Intensity and NRI indices.

Such an indicator as the institutional framework for the development of the digital economy is taken into account in the WDCR, DEI, NRI and GCI indices.

Skills in the use of information and communication technologies take into account three indices: WDCR, IDI, EDGI.

The level of use of digital technologies by the population and business is assessed by WDCR, DEI, DESI, e - Intensity and NRI. The development of state electronic

The development of the ICT sector is presented only in the GCI. The impact of ICT on the economy and society is analyzed only by NRI, the consequences of the development of leading digital technologies are also analyzed by GCI.

So, everybody indices evaluate in toy or different degree development of telecommunications infrastructure, its affordability, the quality of services provided by telecom companies.

Let us consider in more detail what indicators are used by statistical authorities to assess the development of the telecommunications services market.

To date, the telecommunications sector is considered at various levels (micro-, meso-, macro), which implies the existence of various

international standards for its analysis.

First of all, it is necessary to consider the methodology of the OECD (Partnership Scorecard for the Statistical Measurement of the Development of the Digital Economy). The cellular communication services sector as the main component of the digital economy is represented in this methodology by a number of indicators.

The OECD methodology distinguishes three blocks that characterize the telecommunications sector: first of all, this is the so-called "industrial sector", followed by the classification of products of the cellular communication services sector, and finally, the classification of the manufacturing sector and products of information content (content) and media.

The manufacturing sector covers the activities of organizations in their respective fields; its boundaries and structure schematically form the following configuration:

1) Manufacture of communication equipment

2) Wholesale trade electronic and telecommunications equipment and accessories

3) Telecommunications

4) Data processing, hosting and related activities; web portals

5) Repair of computers and communication equipment.

The “Revised and Expanded Core List of Information and Communication Technology Indicators prepared by the Partnership for Measuring Information and Communication Technology for Development” is one of the main outputs of the Partnership and, as of 2013, included more than fifty statistical indicators.

Key indicators of ICT infrastructure and access to ICT:

− Number of fixed telephone lines per 100 inhabitants.

− Number of mobile cellular telephone subscribers per 100 inhabitants. − Number of fixed Internet access subscribers per 100 inhabitants.

− Number of fixed broadband Internet access subscribers per 100 inhabitants.

− Number of mobile broadband users per 100 inhabitants.

− Bandwidth of international Internet traffic per inhabitant (bps/person). − Percentage of the population covered by a mobile cellular telephone network.

− Tariffs for fixed broadband Internet access (per month), in US

dollars, as a percentage of monthly per capita income.

− Mobile-cellular prepaid tariffs, in US dollars, as a percentage of monthly per capita income.

− Percentage of localities with Public Internet Access Centers (PIACs), grouped by population.

Thus, the indicators of this methodology allow us to assess the development of the market telecommunications services in terms of increasing the availability of these services for different regions, individuals and organizations, in terms of improving the quality of services provided to the population, as well as in terms of developing telecommunications infrastructure. In addition, this list of indicators is constantly being reviewed, which allows it to remain relevant enough to assess the contribution of telecommunications to the development of the digital economy.

The examples we have considered of indicators of the development of the digital economy, as well as indicators of the telecommunications services sector, allow us to conclude that it is necessary to create some kind of integrated approach to their statistical analysis, which will consist in considering these indicators and indicators in their direct relationship.

On fig. 2 shows the proposed scheme of statistical indicators and indicators for the development of the telecommunications services market in the context of the digitalization of the economy.

The implementation of this approach in practice will identify the main factors affecting the economic efficiency of the telecommunications services market at all three levels (micro, meso, macro), a same influence development this area on process digitalization of the economy.

Thus, such an integrated approach will allow both the state and and directly to mobile operators to make better management decisions based on more complete statistical information.

In conclusion, it can be noted that today in the world there is no single definition of the concept of the digital economy, since its explosive dynamics mutually exclude the static definition of this term. As a rule, the digital economy does not mean economic relations as such, but the process of applying high breakthrough information technologies and artificial intelligence in the life of society.

In our opinion, digitalization is a process of transition to the use of

a new way of storing and processing large digital databases, opening up new opportunities and prospects for humanity.

The key factor in the digitalization of the economy is the use of end-to-end technologies (robotics and artificial intelligence). Based on digital data, information and communication technologies, communication and development of ecosystems, digitalization makes it possible to transform the domestic economy and society by changing the way people interact economically, including innovations in the technological process, as well as effective political decisions. The use of the capabilities of the global network through its intangible, machine-coded nature and software facilitates the creation of value, transactions and interactions across borders. For a single country, the digitalization of the national economy becomes a factor in increasing the level of competitiveness in the global market and ensuring rapid economic growth. The formation of national digital strategies is the basis for the development of the digital economy and the information society.

## 1.6. FORMATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES FOR MANAGEMENT NEEDS: ACCOUNTING AND STATISTICAL DATA

One of the main factors influencing scientific and technological progress on the formation of a sustainable development society is the widespread use of information systems and computer technologies. Among the most important environments in which information systems play a decisive role, the sphere of management occupies a special place. The impossibility of the management system to provide timely real information about the economic condition, and, accordingly, the presence of effective company management, negatively affects the economic situation and complicates the possibility of growth. The experience of managing foreign companies in a market economy has proved that the most reliable way to improve the state of accounting and management is the introduction of our information systems. information systems in terms of functionality, significance and value of use should provide the management services of the enterprise with complete, reliable and operational information,

for the practical implementation of a set of management processes for financial accounting, management accounting, control and analytical processes, internal audit tasks and modeling of economic activity, the solution as an integral and an integrated information system. The priority and main information base of such a management system at an enterprise is an accounting information system with a deepening of effective functions, development and branching in individual specific subsystems by types of management activities at an enterprise.

If in the past the accounting paradigm was based on fixing the facts of economic activity in the system of accounts, characterizing the turnover and balance of certain types of property and the sources of its origin, using the double-entry method, then from the beginning of the 20th century. a paradigm shift began, driven by increased demand for dynamics and content to receive information from operational management. The complication of the business environment due to low risks and force majeure, globalization and digitalization forced business leaders to conduct their own search and find optimal solutions, receive and analyze an increasing array of information about internal and external factors of business development, the onset of traditional accounting and available statistical data could satisfy their requests through outdated communication channels and limited content and data processing methodology.

Carl S. Young pointed, that the variability of IT environments coupled with the sheer number of elements preclude assessments of every element and aggregating the individual results. Therefore, a statistical approach is perhaps the only recourse if the objective is to develop a macroscopic view of cybersecurity rick[94], as new technologies initiate the emergence of new trends and areas of the economy, and companies that analyze technological development trends, invest in their digital growth and create their own technologies will be able to develop their strategies based on new sustainable competitive advantages.

Business ecosystems are dynamically shaping now, driving out lagging competitors from the market, and statistical analysis and application of emerging advanced technologies to improve the value

[94] Carl S. Young, Cybercomplexity: A Macroscopic View of Cybersecurity Risk DOI: 10.1007/978-3-031-06994-9_5

chain can help businesses remain competitive and have sustainable advantages in the long term.

The term "accounting institute" is worth mentioning relate all components of information support - statistics, management information support in the financial and economic aspect, reporting. This is an institute at the junction of systems - accounting and statistics, since the preparation of statistical reporting is the competence of an accountant, accordingly, an accountant also produces a statistical information product.[95]

The determining factor today is the information field as a multi-object environment of the enterprise, which has significant features - a set of information units and a design that are generalized in the processes and models of business practice. the content of the digital transformation of the economy at the micro level exists in the introduction of the latest digital technologies and business processes by business entities. At the macro level, digital transformation will ensure a change in the management system by revising the strategy, model, goals of national economic development based on the use of the latest digital technologies.

The basis of these radical transformations is the deployment of Industry 4.0, the essence of which exists in the fact that smart devices are interconnected, sensors and sensors, without erroneous capture of a person, are connected to an Internet platform that analyzes information coming from outside.

The fourth industrial revolution also affected the development of the financial sector.

- almost all enterprises use electronic payments;
- distribution of the use of cryptocurrencies, ICO (Initial Coin Offering) or initial placement of tokens;
- advertising of goods and services using "big data" analysis technologies (extensive data).

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[95] Bezdushna Y., Zamlynskyi V., Zamlynska O., Shchurovska A. (2022) The role of reporting and statistics in the capitalization of enterprise assets and national wealth. Innovation and Sustainability, no. 3, pp. 103-109. https://www.researchgate.net/publication/365174361_The_role_of_reporting_and_statistics_in_the_capitalization_of_enterprise_assets_and_national_wealth_Innovation_and_Sustainability

With the help of this technology, it is easier for the subjects of market relations to anticipate the needs of a well-known consumer and respond in a timely manner to the improvement of their market offer.

They have already confirmed their effectiveness and proved that enterprises using such technologies increase their efficiency, and providing suppliers and partners with access to databases of operational information about commodity stocks of complications in the effectiveness of sales management in real time and provides a basis for the formation of relevant statistical and marketing information.

Information for business needs to be created on the basis of a certain number of facts about the functioning of business entities that are found in the information field, which will ensure the process of studying this field and applying new data collection methods for the purpose of converting them into information for managers.

The importance of statistics grows in proportion to the entry of each state into the global market, significantly influences the formation of social dominant values, and forms the attitude of people to the ongoing state policy.

The significance of statistics increases in proportion to the entry of each state into the global market, significantly affects the perception of dominant values by society, and forms the attitude of people to the ongoing state policy. At the same time, the understanding of statistical information (figures, data) and the lack of simple and effective analytical tools in some cases make it difficult to adequately assess the current situation and the possibility of long-term planning, which is associated with an insufficient level of statistical literacy of the population, officials and specialists in various fields of activity. Statistical calculations at any level (global level, state, region, enterprise, household, family, individual) are used to assess the current situation and make the right management decisions. If they are executed illiterately and with errors, then this leads to negative consequences, which manifest themselves in social, industrial, financial, personal, moral and other losses. Moreover, in this case, a lot depends on the statistical literacy of people, that is, how professionally they can operate with statistical indicators, including them in certain calculation algorithms. Sometimes only the correct result of statistical calculations can save its author not only from disgrace, but also from a clear failure of professionalism. In addition,

even if any statistical calculations are made correctly, a lot depends on the ability to present and correctly illustrate the results. The choice of optimal forms, type, scale of a tabular and graphic image, a platform for the presentation of statistical information sometimes plays a much greater role than the calculations themselves, no matter how complex they are. For example, intentional or unintentional "play" on the scale of the graph makes it easy to level out the fast (or slow) growth (or fall) of the indicator in question, giving the outline of well-being to the trouble.

These miscalculations, related specifically to low statistical literacy, also lead to social imbalance, causing sharp contradictions in the assessment of the socio-economic situation and mutual accusations of bias and competence.

And, finally, the ability to analyze and interpret statistical information does not guarantee the presence of a specialized statistical education. Analysis and interpretation are two interrelated but markedly different elements. Analysis is an algorithm for sequentially carrying out certain operations, the result of which is then submitted for discussion by experts of different levels. Interpretation is the pinnacle of analytic activity, because it is not aimed at the process, but at the final conclusion that explains the economic feasibility. However, in recent years, with the direct participation of the media, interpretation has become a competition for dilettantes demonstrating their subjective vision of reality. Interpretation is an individual intellectual product that requires not only specialized statistical education, but also deep mathematical training, and most importantly, knowledge of the subject area. Even if you have a very good command of the mathematical and statistical methods of applied analysis, this is still not enough to draw objective, correct and meaningful conclusions in the field of socio-economic activity. The ability to interpret statistical data, to form the necessary public opinion on social platforms, and not to understand the real content, mechanisms, problems and consequences of sustainable development or another socio-economic process, has become in demand and profitable business.

In order to create a uniform economic model of the digital space on a comparable basis, it is necessary to formulate recommendations

regarding the collection of accounting, analytical and statistical data, consistency and availability.

Quality requirements are all institutional and organizational conditions that affect the quality of statistics.

The elements of this quality criterion include the legal basis for compiling the data; the adequacy of data exchange and coordination among statistical compilation agencies; guarantees of confidentiality of data provided by units;

sufficiency of information and communication, financial and technical resources for the implementation of accumulative programs of statistical data, development of a strategy for their effective use in accordance with the real growth of user needs. As a result, relevance assessment requires an analysis of user groups, related software to meet their needs. Statistical companies must balance the differing needs of existing and potential users in order to design a program that best satisfies both the scope and content of statistics given resource constraints.

Relevance indicators are user requests, user satisfaction surveys conducted and their results, and gaps identified between key areas of user interest and compiled statistics in terms of scope and detail.

Reliability (called integrity assurance in the IMF's Data Quality Framework) of statistical data is the degree of trust that users have in the data and in the statistical office or agency that produces the data. User trust is built over time. One important aspect of reliability is trust in the objectivity of the data, which implies that the data will be perceived as professionally compiled according to appropriate statistical standards and that policies and practices in this area are transparent. For example, the data should not be manipulated in any way and released in response to any political pressure.

Accuracy of statistical data refers to the extent to which the data correctly evaluate or describe the quantities or characteristics that they are intended to measure. This concept has many facets, and in practice there is no single summary indicator or common measure of accuracy. Typically, this criterion is characterized in terms of errors in statistical estimates and is traditionally subdivided into the elements of error (systematic error) and variance (random error), but also includes a description of any procedures carried out by statistical offices to reduce measurement errors. For estimates derived from sample

surveys, accuracy can be measured using the following metrics: coverage, sampling errors, non-response errors, response errors, processing errors, and measurement and model errors.

Reliability is measured through periodic reviews and revision studies of industrial statistics. The timeliness of industrial statistics data is a function of the elapsed time between the end of the reporting period to which the data relates and the date of publication of the data. The concept of timeliness applies equally to short-term and structural data, since the only difference between them is the time interval. Timeliness is closely linked to the timing of the release of statistics. The release schedule may consist of a list of planned release dates, or it may be a commitment to release the data within a specified period of time after it is received. This factor usually represents a trade-off in terms of data accuracy. The timeliness of information also affects its relevance. Another measure of timeliness is punctuality, which reflects the amount of time elapsed between a given publication date and the actual distribution date.

Statistics data. Methodological soundness is a criterion that includes the application of international standards, guidelines and best practices in the compilation of industrial statistics data. The adequacy of the definitions and concepts associated with such data, target populations, variables and terminology, as well as information describing the limitations of the data, largely determine the degree to which a particular data set complies with international standards. The most important role in assessing the methodological soundness of the data is played by the metadata provided along with the statistics. They inform users how close to the variable they are looking for (for example, any of the data positions) are the input variables used to calculate it. If there are significant differences, an explanation should be given of the extent to which this may cause an error in the calculations. Methodological soundness is closely related to the interpretability of the data, which in turn depends on all the characteristics of statistical information mentioned above and reflects the fact that it is easier for a particular user to understand and properly use and analyze this data.

Consistency of statistical information reflects the extent to which the data obtained are logically related and mutually consistent, in other words, the extent to which they can be successfully combined with

other statistical information within a broad analytical framework, as well as over time. The use of standard concepts, classifications and target populations promotes consistency, as does the use of a common methodology across surveys. Consistency, which does not necessarily imply complete numerical compatibility, is characterized by four criteria:

Consistency within the data set. This means that element-by-element data items are based on comparable concepts, definitions and classifications and can be meaningfully combined. For statistics, such a sub- criterion reflects the fact that all data items have been compiled in accordance with the methodological basis of the recommendations presented in this publication;

Consistency between datasets. This means that data in different populations are based on common concepts, definitions and classifications. Consistency between statistics and national accounts will be ensured if all data sets are based on common concepts, definitions, valuation principles, classifications, as well as if there are explanations for any differences and the admissibility of such differences;

Consistency over time. This means that the data is based on common concepts, definitions and methodology over a period of time. This sub- criterion is fulfilled, for example, if the entire set of statistics is compiled on the basis of international recommendations.

Consistency between countries. This means that the data are based on common concepts, definitions and methodologies in different countries to the extent that international recommendations are followed.

Availability. The accessibility of statistical data refers to how easily these data can be obtained from the statistical office and how easily confirm the availability of the information and the acceptability of the form or medium by which the specific information can be obtained. Aspects of accessibility can also include the presence of metadata and the presence of services for user support. Availability involves setting up an advance release calendar so that users know well in advance of release where and when the data will be available and how to access it.

These quality criteria are superimposed on each other and are interrelated, and in this regard, there is a complex interdependence

between them. Measures taken to address or change one or another aspect of quality may affect other aspects. For example, some compromise may be found between the goal of achieving the most accurate estimate of total annual production and the timely release of such information while it is still of interest to users. If other countries, when compiling any particular set of statistics, are not able to simultaneously meet the requirements of accuracy and timeliness, then such countries should make a preliminary assessment, which will be available shortly after the end of the reporting period, but will be based on less detailed data.

This assessment will be supplemented later with information based on more detailed data, but not as up to date as its preliminary version. In the absence of contradictions between these two quality criteria, the need for such assessments, of course, disappears.

Since problems arise both in terms of quantifying the levels of individual criteria and combining the levels of all criteria, it is not possible to develop a single quantitative measure of data quality for industrial statistics. Countries may also develop their own quality frameworks based on the approaches and criteria mentioned above and the particularities of their economies, and may also publish quality reports regularly as part of their metadata. The Quality Assessment Framework offers a practical approach to providing data that meets the needs of different users, while providing quality information allows users to judge for themselves whether a given set of data meets their specific quality requirements. A statistical data quality review is recommended every four to five years, or more frequently if there are significant methodological or data source changes.

Quality measures are defined as items that provide a direct measure of some particular aspect of quality. For example, the time interval between the date of the end of the reporting period and the publication of certain data is a direct measure of quality. However, in practice it may be difficult to develop such measures for each criterion/aspect of data quality. Instead, quality measures can be used to measure quality. Quality indicators are summary quantitative data that provide factual information about the quality or standard of data compiled by national and international statistical agencies. They are linked to the achievement of specific goals or objectives.

Quality indicators usually consist of information that is a by-product of statistical procedures. They do not directly measure quality, but they can provide enough information to evaluate quality. For example, in terms of accuracy, it is almost impossible to measure non-response error, as it can be difficult and expensive to characterize non-responders. In this case, the response rate is often used as a measure of quality to measure the possible magnitude of the non-response error. All quality criteria are not intended to apply to all data. Instead, countries are encouraged to select quality measures/indicators that together provide an assessment of the overall strengths, limitations and appropriate uses of a particular data set. Certain types of measures and quality indicators will be compiled for each data item; for example, the share of responses by total turnover will be calculated for each new estimate. In contrast, some other quality measures and indicators are compiled for all data items and only recalculated if there are any changes. An example of the latter case would be a description of data collection approaches used in surveys that would be applicable to all analytical data items.

The quality indicators used for statistics should be easy to interpret and the methodology for compiling them should be well developed. They may cover some or all of the quality criteria defined above. Quality indicators can be classified as follows:

Key indicators: These are indicators that provide a direct measure of data quality, such as the coefficient of variation, which measures the accuracy of industry statistics obtained through sample surveys, and the time interval between the end of the reporting period and the date of first publication of data, which measures the timeliness of statistics.

Ancillary metrics: These are metrics that provide an indirect measure of data quality, such as the average amount of adjustments made between preliminary and final estimates of a particular data set that measures accuracy.

Indicators for further analysis, which require further study and discussion by the statistical offices. Countries may decide to conduct a user satisfaction survey and calculate a user satisfaction index to measure the significance of the statistics.

It is important to maintain a proper balance between the various quality criteria and the quantity of its indicators. The purpose of

quality measurement is to provide a limited set (minimum number) of indicators that can be used to measure and track the quality of statistical data produced by a particular statistical office over time and to ensure that users are provided with a useful summary of data on the overall level of quality without being overburdened. respondents with requirements for additional quality metadata.

Thus, statistical literacy is objectively a complex, multifaceted category, each facet of which is capable of bringing both positive and negative aspects to the process of achieving social consensus. Therefore, ignoring this feature is not only harmful, but also dangerous when statistics are increasingly being used not to meet the needs of a wide variety of users for reliable information, but to manipulate public opinion in a strictly specified direction.

Strategic planning usually provides for the growth of a number of socio-economic characteristics: an increase in the welfare of the population, an increase in labour productivity, an increase in the export competitiveness of products, an increase in the investment attractiveness of the economy, and an increase in the country's defense capability. At the same time, priority areas for the development of the economy should be justified, taking into account its real state and geopolitical situation, and its “points of growth” should be identified. In addition, additional requirements must be specified.

There must be at least two such additional requirements: maintaining a state of equilibrium between supply and demand during a given period;

maintaining a certain pace of development at the end of this period. The fulfilment of these conditions makes it possible to accurately determine the necessary investments in fixed assets.

The incentive for increasing the investment activity of domestic companies and attracting foreign investment is the use of a sound tax policy by the state, and the provision of favourable conditions for the functioning of the domestic economy.

Evaluation of the efficiency of the economy and the calculation of other economic indicators are possible only through the full and systematic use of statistical data. Today, managers of various levels, politicians, specialists, experts, representatives of the business community and ordinary people use statistical information. In this regard, the need for openness of statistical data is determined.

However, there are a number of obstacles and difficulties on the way to the development of the process of openness of statistics, the analysis of which is of great scientific and practical interest.

The Open Data Charter, was adopted at the G8 summit in Northern Ireland. The Open Data Charter sets out 5 strategic principles that all G8 members will act on. These include an expectation that all government data will be published openly by default, alongside principles to increase the quality, quantity and re-use of the data that is released. G8 members have also identified 14 high-value areas – from education to transport, and from health to crime and justice – from which they will release data. These will help unlock the economic potential of open data, support innovation and provide greater accountability.[96] From the standpoint of statistics as a type of social activity associated with the collection, processing and publication of information, it marked the international official recognition of a new development trend, which is focused on consciously ensuring the principle of accessibility to a wide variety of information based on the free access to the maximum possible amount of statistical data in all possible formats.

Some economically developed countries of the world started moving in this direction somewhat earlier, anticipating at the national level the importance and relevance of the total availability of any information (including statistical information) as a determining factor in the transformation of public consciousness. For example, in 2011, the United States of America, within the framework of the Open Government Partnership initiative, adopted a state plan for the wide-scale availability of any information to society using a centralized open data platform.

Strengthen OGP thematic coalitions on key topics such as anti-corruption, democracy and participation (including civic space), and digital to especially encourage action at the country/local level, as well as spur learning and inform the global agenda. Digital transformation and governance: OGP national and local members continue to demonstrate interest and action on using an open government lens to advance conversations on governance of digital technologies

[96] Open Data Charter https://www.gov.uk/government/publications/open-data-charter

(including algorithmic accountability, online political advertising, data governance, prevention of internet shutdowns) and use of digital technologies to promote open government (including development of national and local digital transformation strategies, civic technology, inclusive digital technologies). Convene OGP's informal Open Algorithms Network (at least two meetings), bringing in more OGP national and local members that are advancing their artificial intelligence and algorithmic accountability agenda through OGP.[97]

In this context, the countries that adopted the charter actually assumed certain obligations for the practical implementation, so to speak, of a kind of concept for disclosing government data and educating the population about the possibilities of obtaining the necessary information free of charge. It is necessary to pay special attention to the fact that all of the above principles in relation to statistical information, on the one hand, work only in combination, since openness and accessibility are easily "zeroed out" for data users, if for some reason the latter are not clear, they are outdated. character or do not adequately reflect the social situation. On the other hand, many aspects of achieving openness are meaningless without the wide dissemination and popularization of statistical data, where an important role belongs to competent advertising, which is a valuable tool for achieving market balance, including in the field of information technology.

Following in the wake of the "Open Data Charter" usually includes several key areas, among which there are mandatory:

a) adoption of international and national legal and administrative acts regulating activities in the field of open data;

b) development of projects and programs to implement the concept of open data;

c) the practical implementation of activities to ensure the openness and accessibility of data for the general population.

True, in the aspect under consideration, it is extremely important not to miss the fact that the movement within the framework of general trends in the openness of statistical data does not remove a whole

[97] THE OPEN GOVERNMENT PARTNERSHIP'S 2022 WORK PLAN https://www.opengovpartnership.org/wp-content/uploads/2022/04/OGP-2022-Work-Plan_Approved_20220325.pdf

group of problems from the agenda. Among them, first of all, it is necessary to name:

1) an unambiguous definition of the maximum possible boundaries of the openness of statistical information;

2) ensuring the actual, rather than declarative, availability of statistical data for various strata of society;

3) reaching a consensus between paid and free information services in the context of different understandings of the openness of statistical information, etc.

From a theoretical point of view, the maximum can be recognized as the complete absolute openness of any statistical information. However, it is necessary to soberly assess the situation. Its specificity lies in the fact that any state has its own national interests, has its own secrets, and some digital data directly or indirectly lift the veil over them. To prevent this from happening, some of the information is deliberately closed, and access to it is limited. The need of this kind does not contradict international agreements at all and is recognized by the world community and individual countries. The problem is that it is almost impossible to draw a clear and unambiguous boundary between openness and closeness of data, especially in cases where the information has a dual purpose.

Ensuring the real availability of absolutely any quantitative data almost always runs into a serious problem of modern society, namely, the statistical literacy of its members. At present, it is with great regret that we have to state that the vast majority of not only ordinary residents of each country, but also some representatives of government, business, etc. are poorly versed in the content of even the simplest statistical indicators that are published in the public domain and submitted to the public. Moreover, along with the incomprehensibility of statistical information, difficulties arise simultaneously in an adequate interpretation of the state and ongoing changes in socio-economic phenomena and processes. As a result, it turns out that the openness of statistics should correspond with the possibilities of society in terms of its perception, understanding and correct formulation of conclusions.

It should also be noted that the set of users of statistical information is not homogeneous, and therefore they have their own approaches and requirements for data openness. For example, what satisfies ordinary

citizens may not satisfy business and government representatives, as they require more detailed and detailed information. For this reason, the problem of the level of detail of the data that is made publicly available rises to its full height. Moreover, this circumstance is associated with additional financial costs for statistical agencies, which voluntarily or involuntarily face the question of who, in fact, will pay for more detailed information? In this regard, it is not at all easy to make a dividing line between the free nature of open data and the definition of boundaries beyond which specific customers of the necessary statistical information bear the costs.

In conclusion, it should be emphasized that new trends not only open up new opportunities, but also make us take a fresh look at those problems, the solution of which makes it possible to make modern society more perfect, including in the field of openness and accessibility of statistical information. The requirements for statistical literacy dictate the main provisions of the fourth industrial revolution ("Industry 4.0"), projected onto the sphere of managing socio-economic phenomena. "Industry 4.0" means a way of activity that is formed on the basis of a single digital ecosystem as a system of cyber -physical complexes (KPS) created by "connecting the material world with the virtual one".

The basis of the virtual component of such a complex is a digital copy of a real object as a system of functions that accurately reproduces everything that happens to its physical clone, including on the basis of data collection from the entire set of sensors and sensors. KPS technical support is based on computer systems that provide, through the collection, analysis and visualization of all this information, the finding and adoption of an effective management decision and control over the processes of its implementation. We consider the determining factor here to be the position that, as for KPS, the entire set of management information support problems can be successfully solved only if a highly efficient virtual information model of the managed object is created. In the case of social phenomena, such a model can be built and maintained only by a statistically highly literate specialist.

Statistically literate can be considered one who is aware that a social phenomenon is given to us as a statistical aggregate of a large number of facts of its manifestation. The individuality of facts, due to

the presence of the individual along with the general, does not allow one to cognize the general, and under certain conditions even the particular, using the example of a single fact. Therefore, an understanding comes that, firstly, the image of a phenomenon can be built only on the basis of a generalization of the entire set of facts, when in the process of generalization, the individual, acting as random, is extinguished, and, secondly, the model of the phenomenon can be built on the characteristic of the general, which represents the action of objective laws of the behavior of a phenomenon in specific conditions of place and time.

A system of indicators is a set of indicators limited by the essence of a phenomenon, on which the established relationships, as a reflection of objectively existing relationships between phenomena and their properties-qualities, receive a rigorous mathematical description in the form of connection equations. Reflecting the nature of the manifestation of laws and patterns, the system of indicators acts as a model of a specific phenomenon. Moreover, the latter, built on the values of indicators that reflect the activity of a particular object, becomes a model of the real one.

From the foregoing, it follows that the requirements of Industry 4.0 determine, first of all, the level of statistical literacy in relation to indicators and their systems.

Satisfying the need for assessments of the real by calculating indicators should be regulated by the understanding that it is not allowed to calculate fictitious indicators that reflect something that does not exist in reality. This is ensured when high requirements are met for such properties of the indicator as objectivity - strict correspondence to the essence of the phenomenon that is reflected, accuracy - the calculation of the value strictly corresponds to the measure of the real in the form of a qualitatively defined quantity, concreteness - represents what really exists in specific conditions.

The requirements of "Industry 4.0" in terms of statistical literacy relate to other aspects of management information support. Without a serious understanding of the nature of statistical information, it is impossible to correctly perform such procedures on information models that allow answering the following questions: why in reality a certain level of efficiency in the functioning of economic objects has been achieved; how the parameters of the dependence of the

properties-qualities of phenomena change due to changes in the conditions of activity; what will happen to the efficiency of the functioning of the economic object when the factors of behaviour change as a result of carrying out certain activities.

In the era of mankind's transition to an information civilization, statistics as a way of structuring the information space around us becomes, like philosophy, a metascience that explains the general patterns and logic of work in information flows of any content, as well as a science that offers data analysis tools for various target user groups. Therefore, the new requirements imposed by the rapid digitalization of all spheres of life inevitably change the methods of teaching statistics in universities, and above all in economics. And along this path, a number of problems naturally arise that require urgent solutions.

At the same time, statistics is a subject that most graduates use constantly and everywhere. The basis of digital literacy of a graduate of an economic university should be, first of all, the basics of probability theory and statistics, allowing him to understand the essence of uncertainty and randomness, risk. It is statistics that is the compass in the economic informational chaos. Statistics today is mathematics for economists, because it allows you to switch mathematical education from analog to digital. The task of economic universities is to produce statistically literate specialists who can read and understand data, perceive them critically, who are able to involve in the analysis those numerical data that give unambiguous answers to the questions posed, who are able to collect, organize and analyze numerical data, to attract a wide range of tools for analysis information in all spheres of human activity, including for risk assessment, which is especially important in a market, competitive environment.

The word "statistics" is of Latin origin (from status, which means "a certain state of affairs" - a state). In the Middle Ages, it was used to characterize the political state of the state and was used in the sense of the word " government " (Gottfried Achenwal, 18th century, Germany). Statistical accounting already existed in ancient times, but statistics emerged as a science only in the 17th century, when the governments of various Western European countries began to collect various kinds of information about their citizens. Statistics and the expansion of its scope in the political space of the country and its

regions is of decisive and essential importance for its management and development. As far back as 5 thousand years BC. censuses were carried out in China, the property of citizens in Ancient Rome was kept, the use of the average was well known during the life of Pythagoras. In the Middle Ages, the military potential of different countries, their population, household property, and lands were compared. Two schools stood at the origins of statistical science - the German descriptive and the English school of political arithmetic.

Under the statistics understand the branch of practical activity, which has as its goal the collection, processing, analysis and publication of massive data on various phenomena of social life. statistics are digital materials that serve to characterize some area of social phenomena or the territorial distribution of some indicator, published in periodicals, reference books, collections, both in individual regions and in Russia as a whole, for certain periods of time.

Which, in a broad sense, develops methods for collecting, systematizing, analyzing, interpreting and displaying the results of observations of mass random phenomena and processes in order to identify the patterns existing in them. For example, studies of the relationship between the quality of labour resources and economic growth. When considering statistics as a tool for studying socio-economic phenomena and processes, its subject is the study of the size and quantitative ratios of mass social phenomena in specific conditions of place and time, and also, a numerical expression of the regularities manifested in them.

Statistics studies its subject with the help of certain categories, i.e., concepts that reflect the most general and essential properties, signs, connections and relationships of objects and phenomena of the objective world. The pattern revealed on the basis of mass observation, i.e., which manifests itself only in a large mass of phenomena through overcoming the randomness inherent in its individual elements, is a statistical regularity. Its properties are manifested when generalizing data over a sufficiently large number of units and are reflected in the law of large numbers (as the number of observations increases, the action of the main factors appears, which determine the pattern). For example, the characterization of the ecological situation involves studying the patterns of the dynamics of emissions of pollutants into

the atmospheric air of the regions and the country as a whole over the period under review.

Cognition of regularities is possible only when not individual phenomena are studied, but aggregates of phenomena, i.e., the object of statistical study is a statistical set - a set of units of the phenomenon under study, united by qualitative homogeneity, a certain integrity, the interdependence of the states of individual units and the presence of variation (for example, a set of households, a set of enterprises and firms, a set of resource deposits, a set of regions).

The set is homogeneous if one or more of the studied essential features are common to all units (for example, a set of enterprises in one industry); or heterogeneous, when the totality includes phenomena of different types. A collection may be homogeneous in one respect and heterogeneous in another. The regions included in one group according to natural and climatic characteristics differ in the level of socio-economic development. In each individual case, the homogeneity of the aggregate is established by conducting a qualitative analysis, clarifying the content of the social phenomenon under study.

The statistical population consists of population units, which are qualitatively homogeneous primary elements of this population. The solution to the question of the unit and boundaries of the studied population is determined by the purpose of the study, which is associated with the complex nature of socio-economic phenomena. In each individual phenomenon, various processes are simultaneously implemented. For example, when studying a population of workers, each worker can be considered as a member a certain socio-professional group, as an employee of an enterprise, as a resident of a city, village, etc., i.e., the unit of the totality is the limit of fragmentation of the object of study, at which all the properties of the process under study are preserved.

Units of the population have certain properties, qualities, which are commonly called features. An attribute is a qualitative feature of a population unit (for example, a person’s attributes: age, gender, education, weight, marital status, etc. Enterprise attributes: form of ownership, industry, number of employees, size of the authorized capital). Statistics studies phenomena through their features: the more

homogeneous the set, the more common features its units have, the less *its values vary.*

By the nature of the display of the properties of the units of the studied population, the signs are divided into two main groups:

- signs that have a direct quantitative expression, for example, the area of the territory, the number of inhabitants of the city, etc. They can be discrete or continuously variable. Discretely variable features are featuring whose individual values differ from each other by some finite amount (usually an integer). So, we use discrete features when grouping, for example, stores according to the number of departments in them. Stores can have one, two, three departments, but not one and a half or two and a half departments. There are many signs, the values of which differ from each other, and can take on any values in a certain interval. Such features are called continuously varying or continuous features. These include indices of economic condition, per capita income, weight and volume characteristics of goods;

- signs that do not have a direct quantitative expression. In this case, individual units of the population differ in their content, according to an attribute (in philosophy, an "attribute" is an integral property of an object), (for example, industry specialization of enterprises and organizations; division of natural resources by their origin: mineral, water, land, or division of the population by gender: men and women). Variants of a feature opposite in meaning are alternative features (yes, no). For example, products may be good or defective (unusable); each person may or may not be married.

A feature of a statistical study is that it studies only varying features, i.e., signs that take on different values (for attributive, alternative signs) or have different quantitative levels for individual units of the population.

Since statistics, as already mentioned, studies the quantitative side of mass phenomena, there is a need for generalizing characteristics of the statistical population. This role is performed by a statistical indicator, which is a quantitative characteristic of some property of the population.

Thus, statistics as a science is the basis for the analysis of the social and scientific and technological development of the country, its population, and its regions, districts, cities and other settlements. Education in statistics and its role is the most important and largest of

the levers of long-term action that the government at all levels has to ensure the sustainable development of the economy. Improving the general education system is inherently a government priority and a matter of economic, not just social policy. The effectiveness of the education system depends in part on the scale of government spending for these purposes and the approach to this matter. An effective and competitive policy in the field of education and training should reflect the characteristics of individual regions, regions of each country and, as statistics show, should be focused on setting high educational standards and solid knowledge in the field of statistics.

As statistical studies show, the above factors of countries' competitiveness are directly related to the productivity of their national wealth, which determines their position in the world economy. Therefore, the statistical and financial analysis of this indicator can answer the question why, with huge reserves of natural resources and significant human capital, it lags behind developed countries in terms of living standards and cannot achieve the same level of productivity and income.

Economic education should be anticipatory, not retarded; it should be focused not on a passive reflection of the needs of practice, but on anticipatory requirements that are shaped by the nature and pace of modern economic growth. According to statistics, incubators of new firms are being created on the basis of universities abroad, which are the backbone of the development of innovative business.

Introducing young employees to modern global information technologies and statistics, in our opinion, should help them realize that the rich natural resources available in the country are used extremely inefficiently, and soon people will feel a shortage of energy, raw materials and other non-renewable benefits, growing environmental threat to the sustainable development of the country. Therefore, the perception of this statistically justified threat should direct the workers of the national economy to more productive work and rational financial use of the limited natural resources of the Russian state.

As statistics show, it is through coaching that employees become accustomed to modern standards of living and consumption, which ensure high demands on the quality of goods consumed, which is not always beneficial for producers of goods and services. This creates a

high level of competition with imports, requiring appropriate training in finance and statistics, without which it is quite difficult to compete effectively.

A person who knows statistics can competently analyze any movement, the development of any phenomenon, identify its essence and patterns, and reasonably plan the future. Almost any science is based on the statistics of phenomena, i.e., on the analysis and study of their dynamics. Therefore, statistics is the basis of the study of any science. As a result, knowledge of statistics allows any specialist to master the tools of statistical analysis necessary for the development of a single socio-economic space of the state and its regions, ensuring effective economic growth and development of the country's production.

Accounting, control, statistics and analytics are currently solving not only the current tasks of meeting the information needs of society, but also working on a set of problems of providing and adapting to a market economy and the effective development of its regions, the country and the global sustainable environment as a whole. An important step in this direction was the newly established system of statistical indicators, most clearly reflecting the existing dependencies. The competences of an accountant and economist are daily associated with the collection, processing, analysis and documentary display of accounting data, which form the basis of statistical materials. An important condition for the correct perception of accounting technologies is the understanding that each figure and business transaction is an information base, information and analytical content of the entire business. The economy should be based on reliable accounting data at the micro level and state statistics - at the macro level based on the practical use of statistical information, qualified conclusions and justification of forecasts, which studies the quantitative side of socio-economic phenomena, the nature of mass statistical aggregates, the cognitive properties of statistical indicators, their conditions. applications in economic research. Therefore, the study and mastery of accounting and analytical science is of great importance in the development of a competitive economy.

The modern economic space requires new accounting and reporting technologies that allow you to receive not only up-to-date information about the performance and efficiency of the financial and

economic activities of an enterprise, but also strategic information about the enterprise for the needs of investors, interaction with strategic partners, competitors, government agencies, which will form the concept sustainable development, contribute to the formation of a reputation and a worthy place of the entrepreneurial structure in the global economy. Accounting technologies are the information base, information and analytical content of the entire business. Digital technologies are rapidly replacing analogy ones, they are exported and imported, and investment priorities are directly related to the level of digitalization of the company.

The development and continuous complication of financial instruments through the integration of technology and management methods lead to an increasing role of financial engineering to ensure the efficient activity of enterprises. The use of financial engineering at the present stage allows business entities to comprehensively solve the most pressing problems, from the liquidity crisis and to the lack of resources to implement long-term goals.[98] Openness, clarity and speed are highly valued today and, in combination with the optimization of business processes, are in demand at all levels of management. Accounting is carried out by all business entities around the world without exception. Its main function is the accumulation of monetary information. However, accounting information can serve different purposes. Yes, in some countries, such as the United States, such information is intended to meet the needs of investors and creditors. In most countries in South America, the provision of reliable information to government agencies that monitor the proper implementation of tax laws can be at the forefront. In some countries, the accounting system is formed on the priority of macroeconomic goals. One thing is certain - the goal of accounting around the world is to standardize the reflection of the operations of a company, regardless of its type, as well as who the user of the information is and focusing on understanding business processes, automation, data

[98] Zamlynskyi, V., Zerkal, A., & Antonov, A. (2019). A conceptual framework to apply financial engineering at the enterprise. Baltic Journal of Economic Studies, 5(1), 68-74. http://www.baltijapublishing.lv/index.php/issue/article/view/601

analysis and the need for fact-based thinking, and not assumptions, that is, figures and data of the immediate place and time of their assembly Increasing use of software for budgeting, forecasting and planning, as well as tools for analyzing and rendering data, is gaining popularity. Financial functions are becoming significantly more analytical, and technology will help the accounting and finance department move from a reactive and transactional level to a proactive and analytical level. Cloud software is especially useful due to the trend of working remotely. This allows teams that are physically dispersed to collaborate and complete important financial projects from anywhere with a computer and Internet connection. Modern accountants, analysts and business administration and project management managers need a number of modern collaboration tools, such as Zoom, Google Drive Dropbox, GitHub, Trello, monday.com, Wrike, nTasks, ProofHub, Scoro, Freedcamp, Azenda, MeisterTask, Hansoft, other functional collaboration tools for e-signing and cloud file sharing.

In the future of accounting, more transactional work will become automated, and accountants will increasingly be seen as leaders and decision makers. Accountants must rely more and more on so -called soft skills, leadership qualities and other qualities are associated with the emotional intelligence and business reputation of the company. These skills, combined with the use of data analysis results and financial experience, will ensure a successful career. Environmental and sustainability issues are central to the survival of an organization as they increasingly take responsibility not only for their finances but also for the sustainability of their operations. This is done not only to ensure compliance, but increasingly determines the short- and long-term business prospects. Consumer demand for environmental sustainability will continue to grow and will drive businesses to use sustainable ways. This presents a significant opportunity for the accounting industry, as managing this resilience requires risk assessment and reporting skills that they can present as a competitive advantage. As sustainability efforts evolve, the sector is looking to increase innovation by offering environmentally friendly services to help its clients measure their sustainability performance. Environmental, Social and Governance (ESG) issues are also key issues and outcomes for global investors focused on sustainability and

climate change. The bulk of these criteria are businesses that must measure and reduce their greenhouse gas emissions. Since there are no globally significant standards for ESG yet, global standards are under development, which gives accountants and auditors ample opportunity to grow in this area. Artificial intelligence will change the nature of accounting operations, increase efficiency, reduce errors and streamline workflows, and help professionals make real-time business decisions based on data analysis. Demand for accounting software has surged thanks to the surge in digital payments. Accountants need to be digitally proficient as more companies keep their money digitally archived. Accountants, analysts and statisticians also need to prepare for the future with technologies such as blockchain. Accounting with the development of digital technologies in the economy, both in theoretical and practical terms, is undergoing significant changes, which involve innovative processes for creating, storing and transmitting information. Today it is impossible to distinguish between the traditional and digital sectors of the economy, since almost all types of companies rely on digital components to one degree or another. At the same time, the development of digital technologies has a direct impact on the speed and quality of these processes. However, it should be noted that the accounting methodology and tools do not always meet modern realities, which causes a number of problems associated with the implementation of digital solutions. The digital transformation of the economy determines the future of accounting, taxation and statistical research. The rapid growth of e-commerce, increased risks, force majeure situations in business and the socio-political sphere have a significant impact on the effective operation of the tax base.

The restriction of freedom and movement of people in 2019-2022 increases the use of non-cash payments, which leaves a digital footprint effectively tracked by the tax authorities. Digital tax filing requirements, ESG reporting can increase the efficiency of the tax system and improve tax compliance, which in turn should improve revenue collection and expand the space for a country's fiscal policy. In addition, digital transformation can ease the administrative burden. It can also make the tax authorities a central hub for real-time information on the state of the economy, which is not only useful for

verifying tax information, but can also improve economic forecasting and lead to more targeted and timely policy making.

Communications can become the basis for the transformation of other areas of the economy. Despite the potential benefits, the scale and speed of transformation face significant challenges: change and risk management, training of modern staff, elimination of contradictions in the accounting and tax systems, combating the risks of base erosion, lack of effective control and audit, inconsistency of legislation with digital innovation. The introduction of digital solutions will not only simplify the payment of taxes, but also complicate tax fraud. Remote work is gaining momentum, which creates a need for accounting departments to rethink their workflow and optimize hybrid schemes that combine work in the office and remote work. The use of hybrid arrangements will help avoid the loss of employees and provide access to a pool of employees with special skills, since they can work anywhere. Cloud accounting solutions have made it possible to provide accounting services virtually. This figure has grown exponentially with the COVID19 pandemic. Software solution providers are expected to continue to develop innovative solutions that enable remote accounting. The need for cloud-based accounting services will also grow as more businesses look to reduce operating costs. With cloud solutions, they can only pay for what they use and don't have to make a significant investment Automating accounting tasks has helped replace many of the labor-intensive aspects of an accountant's day-to-day work and there has been an increased uptake of these technologies. Some countries have already allowed cryptocurrency as a legal transaction currency. As this trend continues to grow, accountants and auditors are being challenged to understand these technologies so they can offer sophisticated services to their firms or clients who invest in cryptocurrencies. Elsewhere, blockchain technologies will continue to be used in verification services such as auditing and risk analysis, as well as balancing and bookkeeping. there will be more implementations of complex AI solutions that offer better insights, help make data-driven decisions, and perform basic tasks that take up a lot of an accountant's time. Studying with online software will be used to develop algorithms that learn patterns in accounting problems to help reduce errors at an early stage and not waste time looking for errors. It will also be useful for

audits and predictive analytics to predict future trends. While artificial intelligence may not perform well in areas of creativity and intuition that are in need, they can help guide decision making. All of the advanced technologies mentioned above offer promising benefits, but they are also an emerging data security challenge. Remote Accounting adds a vulnerability that allows cybercriminals to gain access to a corporate network. Considering that accounting stores important financial data that is targeted by attackers, security is critical for any business.

Information and communication technologies (cloud computing, big data, artificial intelligence) make it possible to expand statistical research related to the digital economy, evaluate the effects of digitalization of individual industries and enterprises, create mechanisms for accessing and collecting long-term statistical data on digitalization, and assessing such a contribution to the economic growth is of great theoretical and applied importance in making government and global decisions on digitalization. This requires new methodologies for measuring the digital economy and monitoring priorities.

Modern processes of digitalization of accounting and analytical information are multidimensional, their impact on the development of economic systems can be multi -vector. But modern information and digital technologies are able and should form new impulses for the development of a sustainable development system.

## 1.7. MECHANISM FOR ACTIVATION OF INNOVATIVE OPPORTUNITIES OF ENTERPRISES IN THE CONTEXT OF DIGITALIZATION OF THE ECONOMY

One of the characteristic features of today is the deep penetration of digital technologies into all spheres of society's life. The new era of breakthrough innovations, the development of information and communication technologies, the rapid change in the needs of business and society, the emergence of new forms of economic interaction and the diffusion of knowledge — all these are integral components of the modern reality associated with the complex and contradictory processes of digitization of different levels of economic systems.

Global challenges and threats, in particular the COVID-19 pandemic, actualize the issue of digital transformation of the economy and increase the demand for scientific research in this area. These problems are particularly relevant for the domestic economy, which has embarked on the path of innovative modernization.

The purpose of the article is to justify the need to develop a mechanism for activating the innovative capabilities of the enterprise in the context of the development of the digital economy.

The issue of activating the innovative capabilities of Ukrainian enterprises is currently being intensified by the rapid transition of world economies to digital and communication technologies. Therefore, the modern approach to the development of mechanisms for activating the enterprise's innovative capabilities should be focused on the implementation of relevant innovations in its development strategy. Such an approach will take into account the specifics of the economic development of a modern enterprise as an open socio-economic architecture and the peculiarities of its ability to fully realize the possibilities of effective use of resource flows in order to achieve the priority goals of economic development.

In Ukraine, the development of the economic system directly depends on the speed of implementation of digital and communication technologies, where the key factor in the business sector is data in digital form, the processing of large volumes and the use of the results of the analysis of which, compared to traditional forms of business, allow to significantly increase the efficiency of the functioning of its various sectors. Without the digital economy, it is impossible to ensure the country's competitiveness on the world market, therefore it becomes the most priority direction of the country's socio-economic development.

Technological changes characteristic of the 21st century in terms of the "fusion" of telecommunications, IT technologies and innovations led to the introduction of the concepts of "digital technologies", "digital agenda", "digital economy" into scientific circulation.

For the first time, this term was introduced by N. Negroponte and D. Tapscott. Today, the digitalization of the economy in a narrow and broad sense is revealed by economists-researchers T. Yudina and I. Tushkanov, namely: in a narrow sense - the creation at different levels

of the economy (global, mega, macro, meso-micro, nano) information and digital platforms and operators that allow solving various tasks, including strategic ones: the development of medicine, science, education, transport, new industrialization, state regulation of the economy, etc.; in a broad understanding - a change in the nature of production or economic relations, a change in their subjective-objective orientation. With the help of algorithms, machine-machine (M2M) relationships arise, where a person can no longer act as a subject. The productive forces of society and (or) factors of production are changing[99].

The definition of the term "digitalization" in the modern encyclopedia of informatics and technologies is given as "the integration of digital technologies into the everyday life of society by digitizing everything that can be digitized. Digitization means the computerization of systems and workplaces for greater ease and accessibility."

The digitalization process of V.I. Lyashenko and O.S. Vishnevsky is revealed from the standpoint of dividing the economy into the following three sectors: primary. Secondary and tertiary, where the primary is represented by agriculture and mining; the secondary sector is represented by industrial industry, and the latter is represented by the service sector. The fundamental difference in the division of the economy given by scientists is not so much the growth of the volume of the last sector or the emergence and expansion of a new one, which is the digital economy, but the fundamental transformation of all three already existing sectors[100]. The view of scientists closely correlates with the views of K. Clarke and J. Fourastier in the concept of post-industrial society, according to which the division of social production was also divided according to a similar principle into three sectors. K. Clarkat and J. Fourastier noted that in the future compared to agriculture and industry the industry will significantly increase the

[99] Lopatynskyi Y.M., Kyfyak V.I. Development of the agrarian sector of the national economy on the institutional basis: monograph. Chernivtsi: Chernivtsi national. Univ., 2014. 248 p.

[100] Lyashenko V.I., Vishnevskyi O.S. Digital modernization of the economy of Ukraine as an opportunity for breakthrough development: monograph. NAS of Ukraine, Institute of Industrial Economics. K., 2018. 252 p.

volume of the service sector[101].

A. Belevtsev, who heads the digital transformation department of Gazprom Nafta, identifies the concepts of "digitalization" and "automation" and emphasizes that "digitalization in my understanding is like automation. That is, we use digital technologies to make current organizational and production processes more efficient [102]. " In our opinion, identification of these concepts is not entirely appropriate, because there is a process of absolute or partial alienation of the labor force from participation in the processes of obtaining, transforming, transmitting and consuming energy, while the process digitization makes it possible to obtain innovative management models, improve the principles of the production process, business policy etc.

The research and consulting company specializing in information technology markets Gartner (headquarters - Connecticut, USA) interprets digitization as "the use of digital technologies to change the business model and provide new opportunities for revenue and value creation, the process of transition to a digital business"[103]. This approach has certain differences from the scientific interpretation of digitalization, because practitioners do not focus on social communications or changes, but on the transformation of business models.

The wording of digitalization in the approved Government Concept of the Development of the Digital Economy and Society of Ukraine for 2018-2020 is provided as the saturation of the physical world with electronic and digital devices, means, systems and the establishment of electronic communication exchange between them, which actually enables the integral interaction of the virtual and the physical, that is, creates cyber physical space.

In the circle of modern research economists, whose attention is focused on the specifics of the development of the digital economy, in our opinion, the opinion of T.N. Yudin, I.M. Tushkanova, who

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[101] About GM: Our Company. http://www.gm.com/ company / aboutGM / our_company.html (date of application: 09.10.2021).

[102] Belevtsev A. Digitization is this fundamental trend. *Siberian oil* _ 2018. No. 7/154. P. 20–36.

[103] How IT will save the agricultural sector. Agronews: the main agricultural news: website. URL: https://agronews.ua/node/87784

approaches the understanding of the essence of the definition of "digital economy" according to two approaches: classic ("... economy based on digital technologies, such as telemedicine, distance learning, sale of media content, etc.") and advanced (economic production using digital technologies). Also, the opinion of K. Varlamov deserves attention, which reveals the term "digital economy" and the process of its implementation not as a separate branch of the economy, but as a result of the introduction of digital technologies and the transfer of existing types of activities to the digital environment and the creation of new ones, the digitization of the economy, where the use of digital technologies and the automation of production and management will lead to economic growth and an improvement in the quality of life of the population.

Ostapenko T., Britchenko I., LoŠonczi P. consider the impact of digitalization as a driver of intellectual resource provision of the innovative paradigm of nanoeconomic development [104].

The increasing role of digital technologies in the country's economy is due to the exponential growth of data flows, which brings to the fore the issue of implementing the principles of the digital economy into the socio-economic platform of the state. It is the processes taking place today that make it possible to put on the agenda the question of the formation of a new type of national economy, where relations regarding the production, processing, storage, transfer and use of the growing amount of data, which accelerate the innovation of the national economy, acquire dominant importance [105].

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[104] Ostapenko T., Britchenko I., LoŠonczi P. Изследване на интелигентната ресурсна сигурност на иновационната парадигма на наноикономическото развитие [Research of the intelligent resource security of the nanoeconomic development innovation paradigm]. In : Baltic Journal of Economic Studies. Riga, Latvia : Baltija Publishing, 2021. Volume 7, Number 5. Pages : 159 – 169. DOI: https://doi.org/10.30525/2256-0742

[105] Bayura D., Sytenko D. IPO as an effective institution and a prerequisite for corporate restructuring of agro-industrial enterprises. *Kyiv Herald national university named Taras Shevchenko. Series: Economics.* 2015. No. 5(170). URL: https:// cyberleninka.ru / article / n / ipo - yak - efektivniy - institute - ta - peredumova - korporativnoyi - restrukturizatsiyi - agropromis lovih -pidpriemstv

Some scientists and practitioners advise using the definition "digitalization" as a homonym, because, in their opinion, this definition is quite multifaceted. The priority goal of digitalization processes in the economy is the transformation of the production process into a more flexible and adapted to the requirements of modern realities, which contributes to the growth of the competitiveness of the national economy in the "digital world". It is digitalization that is already today a tool for obtaining the desired socio-economic effect, which becomes a platform for ensuring the needs of society and surplus profits for domestic business owners.

Business owners seeking to implement the principles of digitization in economic development should focus on the automation of production and management processes to increase operational efficiency. Considering the fact that depending on the field of application of the concept of digitization, the concept of digitalization changes significantly, from the author's point of view, the definition of "digitalization" is differentiated according to the following four levels: state, scientists, entrepreneurs, society (Fig. 1).

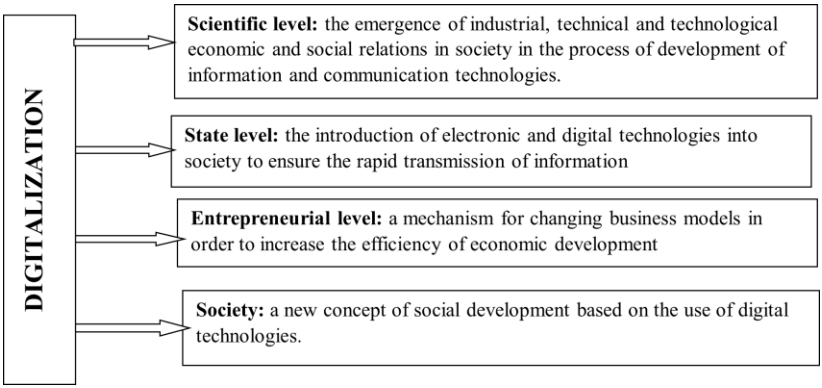


Fig. 1. **Consideration of the definition of "digitalization" from different perspectives**

**Systematized by the author*

Therefore, we will consider the various directions of digitalization that are spreading in modern business and the feasibility of using digital technologies.

Artificial intelligence (AI) allows you to automate processes, predict and offer goods and services that are important to a particular buyer. The use of artificial intelligence provides opportunities to free up resources necessary for the implementation of high- cost tasks, and the technology will help justify and make the best decision.

Thus, one of the points of increasing the economic potential of domestic agro-food enterprises is digital transformation, i.e., building a customer-oriented strategy and improving the tools of interaction with them, since it will be difficult for enterprises to survive and ensure their presence in the new competitive market without the introduction of innovative technologies. For this, as part of the transformation program, it is necessary to use the technologies of the Internet of Things and predictive analytics, which will allow to support the liberalization of the markets of domestic goods, as well as to switch to a highly efficient model of production and support of the company's assets.

One cannot ignore the fact that already today digital technologies are changing business.

FMCG companies such as IPG, working with various sales channels and using a classic aggressive marketing strategy to promote their products through digital transformation, are building a customer-centric business model. The amount of data that needs to be processed is growing steadily. With their correct use, it is possible to calculate, forecast and analyze the actions of the client, trends in the industry and the development of the agri-food business. And today, those who can analyze the contact with the client and understand his needs will win. In this direction, small and medium-sized enterprises of Ukraine are of particular interest, since their adaptation to market challenges and the construction of a competitive business model are much faster than those of giants - recognized industry leaders, since this is a matter of survival. For local manufacturers, digital transformation means entering the highly regulated and high- margin markets of Europe and the USA, combating counterfeiting in developing markets, and compliance with dynamically changing legislation in Ukraine.

Today, domestic enterprises received the much-needed impetus to

transition to a higher level of economic development, where the implementation of digital innovations is one of the first positive results of the policy of import substitution of domestic products. Without IT, without the use of modern methods of information analysis, it is impossible to survive in a competitive market.

Today, the business owner sees that his competitor, who uses new information technologies, produces or provides services of higher quality, lowers the cost of production and accumulates due to these certain financial reserves that allow him to realize his economic potential more effectively.

At the same time, digitalization of the economy involves many directions of its implementation. In Ukraine, both the development of the national economy and the development of its structural sectors directly depends on the speed of the transition to the digital economy, which is defined as activities where the key production factor is data in digital form, the processing of large volumes and the use of the results of their analysis compared to traditional forms of business allow to significantly increase the efficiency of realizing the economic potential of agro-food enterprises. Without the digital economy, it is impossible to ensure the competitiveness of domestic enterprises on the world market, therefore it becomes the most priority direction of social and economic development of Ukraine.

Blockchain technology is an innovative tool of the digital economy that provides all the necessary conditions and mechanisms for realizing the economic potential of domestic enterprises. However, the innovative development of both the national economy and its individual branches is impossible without appropriate state support, which requires the development and implementation of a Strategy for stimulating and supporting the introduction of innovations in the sectors of the state economy for the long term. In the specified strategy, the requirements of innovativeness for individual subsectors should be provided, urgent issues and goals outlined, factors systematized according to the sign of support and hindrance of the implementation of innovations in the industry, according to which a program of their stimulation is developed. Also, in the document, the priority task is to outline the priority vectors of innovative development of the industry with corresponding programs of innovative growth with the prospect of participation in their

implementation by relevant institutions and interested parties [106].

The development of the entrepreneurial sector according to the innovation model should be based on the development of a scheme for the introduction of innovations according to the logic of their interdependence at different phases of the operational cycle, the integration of business entities into the innovation process, ensuring their economic interest in the introduction of innovations, the foreseen socio-economic and environmental effects from the implementation of innovations projects. At the same time, the innovation management mechanism at the level of individual enterprises acquires a priority value, because the enterprises are the key link in ensuring the economic growth of the national economy as a whole, the stimulation of innovative development of which will contribute to raising the social level of the population. In the mechanism of state support for the innovative development of enterprises, it is necessary to involve appropriate administrative and economic motivational measures to increase the optimal use of productive forces at the regional, regional and national levels, to improve communication relations between enterprises and other interested parties (Fig. 2).

State support for the innovative development of enterprises in the context of digital technologies will facilitate their transition to a fundamentally new path of economic growth, which will ensure the improvement of the quality of domestic goods and services both at the domestic and international levels.

Systematizing the views of scientists, in this field, Blockchain is considered as a continuous sequential chain of blocks. At the same time, each block stores different data: from signed agreements to financial statements. The new block is attached to the previous one using complex algorithms. Each subsequent block stores information about the previous one. None of the elements of this interdependent chain can delete, modify or replace.

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[106] Shabatura T.S., Gryshova I.Yu., Negodenko V.S. Problematic aspects of virtual currency regulation. *Science, research, development* No. 27. Zbiór articles science recenzowanych. Wydawca: Sp. z o. o. " Diamond trading tour ". 2020. str. 25-29.

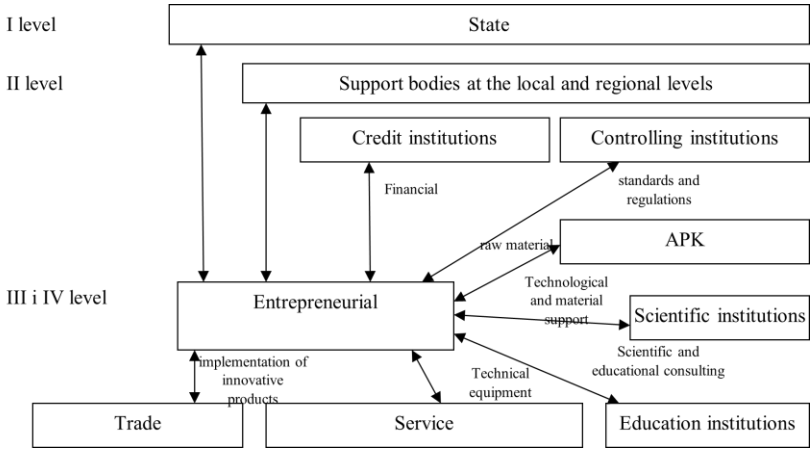


Fig. 2. **Mechanism of state support for innovative development of enterprises** *

**Grouped by author with usage*

Each block contains information about the time of its creation and a unique digital signature. That is, it is a "distributed ledger technology", there is no centralized regulator that can manage the Blockchain at its own discretion. The peculiarity of Blockchain is that the data entered once has its own history, which allows you to check the origin of the information and its authenticity. This data cannot be changed by anyone, it is duplicated many times and stored in a distributed network, which is formed and supported by all participants. Information in the database can only be added, but not overwritten. The authenticity of the document is easily traced, as each participant can see who recorded it in the Blockchain system. Information is always available, it cannot be tampered with, it is transparent, databases make it extremely resistant to illegal interference, and it has a lower maintenance cost. As Blockchain tools become more accessible, international payments will only be made using Blockchain technology and will be much faster and cheaper. In addition, thanks to this technology, it will be possible to avoid

numerous errors in the processing of transactions and reduce the number of fraudulent transactions[107].

Following the sequence of the process of realization of the economic potential of the enterprise, we emphasize the impossibility of practical organization separately from each other of each stage of the organizational and economic development of the enterprise due to the action of unpredictable challenges of risk-uncertainties, because most of the processes of forming, building up and realizing the economic potential are carried out synchronously, or sometimes there is even a reversal to already "implemented" organizational and economic processes in order to identify the determinants of the generation of negative transformations, as a result of which the threshold of transition from one process to another is blurred. At the same time, the development of the economic potential of the enterprise, the substantiation of the vectors of its implementation should not be carried out separately from internal transformational influences, since crisis phenomena, contradictions, economic conflicts of stakeholders of business processes or, even, progressive gains at a specific stage of formation, expansion and implementation economic potential and innovative achievements have a direct impact on the achievement of priority goals of economic development of the enterprise, endowing it with signs of cyclicality and dynamism.

That is why the prospects for the development strategy of domestic enterprises in the context of increasing integration challenges must be outlined in the context of the development of appropriate organizational and economic mechanisms, taking into account the enterprise's ability to increase its innovative and competitive advantages, as imperatives for the implementation of the priority goals of the enterprise's economic development. Therefore, the development of organizational and economic mechanisms of economic potential in the context of increasing innovative and competitive capabilities of the

[107] Balian Anush, Gryshova Inna, Shabatura Tatyana**,** Diachenko Aleksey, Batrakova Tetyana Comparative and Informative Characteristics of the Legal Regulation of the Blockchain and Cryptocurrency: State and Prospects. *TEST Engineering & Management.* Volume 83. March -April 2020. Year. 7109-7121. URL: https://testmagzine.biz/index.php/testmagzine/article/view/4795.

enterprise is a fundamental basis for the implementation of the priority goals of its economic development.

The development of a modern enterprise is influenced by unforeseen circumstances and phenomena, as well as risk-uncertainty, the partial prevention of the negative effects of which will be facilitated by methodological support for the protection of economic interests and an adaptive mechanism in the concept of realizing the economic potential of agro-food enterprises.

Moreover, the organizational and economic mechanisms for realizing the economic potential of enterprises should be based on the use of operational and strategic management tools for the process of realizing the economic potential as a multifaceted process, the complementary interaction of which will contribute to the justification and implementation of an effective strategy for increasing its volume and realizing the priority interests of economic development, which is oriented to ensure the symmetry of communication relations both within the enterprise and with the external business environment, increasing innovative opportunities and competitive advantages, which will ensure the fulfillment of the priority goals of the economic development of the enterprise.

The mechanism of activating the innovative capabilities of the enterprise in the process of forming competitive advantages is a dynamic integrated set of interconnected components and parts that outline the vectors of effective realization of the economic potential of the enterprise.

The development and development of a mechanism for activating innovative capabilities of enterprises in the process of forming competitive advantages based on a complementary approach has undoubted prerogatives revealed by the specificity of this approach, namely: it is used in the case when the purpose of the development and development of the mechanism cannot be immediately substantiated and solved by using formalized , mathematical methods due to the signs of its unpredictability and multicriteria, and therefore requires the use of qualitative analysis methods; makes it possible to distinguish a significant array of uncertainties into separate elements that are better subject to analysis.

The basis of the development of a mechanism for activating the innovative capabilities of an enterprise in the process of building up

competitive advantages, as an integrated element of a complementary system of realizing the economic potential of an enterprise, is the identification of the components of the mechanism based on synergistic signs of mutual complementation and interaction, specificity and dependence, the effectiveness of the development of which ensures the effectiveness of the development of the entire mechanism, which is outlined by the action set of general provisions, namely:

– decomposability, which determines the hierarchical decomposition of the mechanism, the functioning of each subsystem of which, both individually and as a whole, is focused on the effective implementation of the goals of the development of the entire mechanism in the direction of increasing the competitive advantages of the enterprise;

– effectiveness, which is achieved by increasing the innovative capabilities of the enterprise based on the symmetrical use of resource flows of each structural block of the economic potential of the enterprise;

– subeffectiveness, according to which the integral effectiveness of the development of the mechanism depends on the effectiveness of the development of each of its local subsystems. In other words, there is a synergistic relationship between the effectiveness of the development of individual structural subsystems of the mechanism and its integral effectiveness, which ultimately affects the growth of innovative opportunities, and therefore the formation of competitive advantages of the enterprise.

At the same time, the development of a mechanism for activating the innovative capabilities of the enterprise in the process of forming competitive advantages should include the following directions: the outline of objective economic laws and interdependent requirements that determine the foundation and specifics of the innovative development of the enterprise; delineation of the priority goals of the development of the mechanism, which should be correlated with the priority goals of realizing the economic potential of the enterprise; carrying out a structural analysis of the mechanism; analysis of the specificity and level of action on the mechanism of its development conditions; analysis of processes of integration of each structural

element of the mechanism.

The economic potential of the enterprise as a synergistic interaction of structure-forming blocks that complement each other and are interdependent on each other, form the ability to adapt to changes in the external business environment in the process of realizing the priority goals of the economic development of the enterprise, determine the mechanism for activating the innovative potential of the potential through a set of aggregated components, which are extremely important for its development:

$$S_{def} \equiv < Z, STR, TECH, COND >, \quad (1)$$

where $Z = \{z\}$ is a set of priority goals for the realization of economic potential; $STR = \{STR_{np}, STR_{opc}, ...\}$ – a set of structure-forming blocks of the enterprise's economic potential, which form and increase the innovative capabilities of the corresponding block: $STR_{np}$ – production, $STR_{opc}$ – personnel, etc.; $TECH = \{meth, means, alg, ...\}$ - a set of technological criteria that take part in the process of forming and increasing the innovative capabilities of the enterprise; $COND = \{\varphi_{ex}, \varphi_{in}\}$ - the conditions for the development of the mechanism, taking into account the factors of the internal and external business environment ($\varphi_{in}$ - internal, $\varphi_{ex}$ - external).

Since the process of forming and increasing the innovative capabilities of the enterprise is a multifactorial and multifunctional process, the mechanism of activation of the innovative capabilities of the enterprise in the process of forming competitive advantages acquires signs of hierarchy and integration with the division into appropriate sub-blocks, identification of dominant actions on their development, determination of signs of relationships, complementarity and interdependencies of mechanism elements. Taking into account that the development of the economic potential of the enterprise is subordinated to the priority goals of economic development, which according to the time criterion acquire signs of transformation, the mechanism of activation of the innovative capabilities of the enterprise should correlate with these goals.

Along with this, the implementation of the economic potential of the enterprise on the basis of the complementary approach,

represented by an integrated system of mechanisms, provides grounds for revealing the mechanism of activation of the innovative capabilities of the enterprise as a whole system and as an integrated subsystem of the economic potential of the enterprise (Fig. 3).

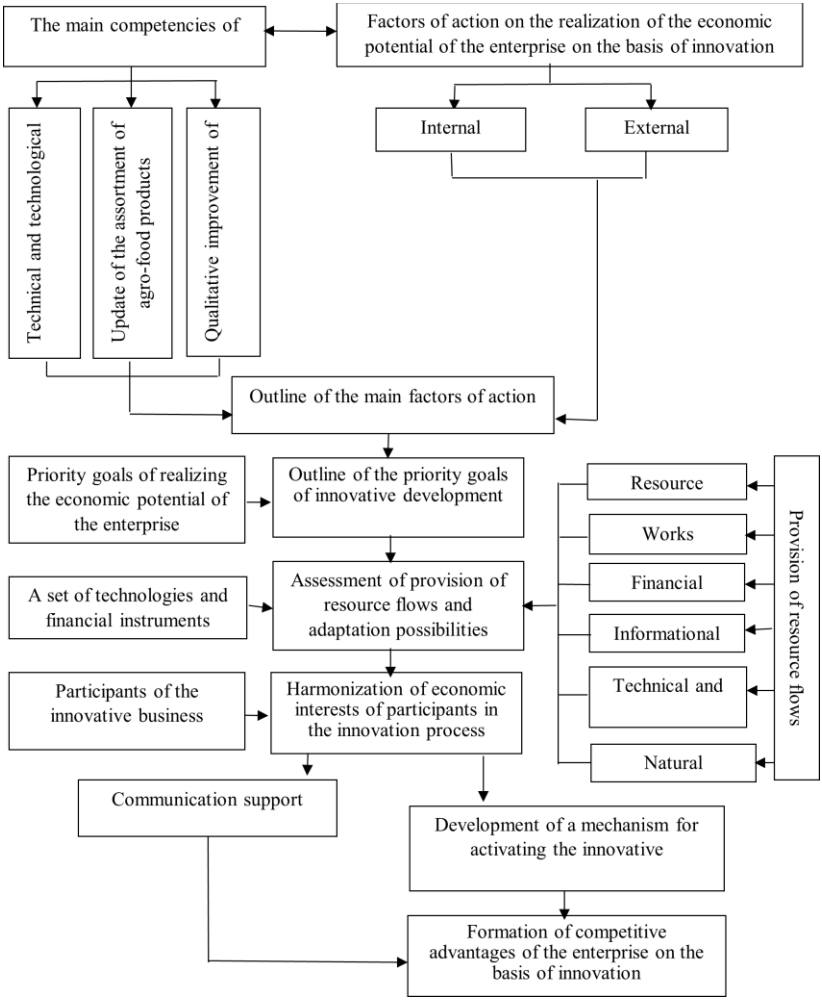


Fig. 3. **Key stages of realizing the economic potential of the enterprise in the direction of increasing competitive advantages on the basis of innovation**

The composition of this system includes interdependent stages of activation of the innovative capabilities of the enterprise, which are outlined by the priority goals of its economic development, one of which is the increase of competitive advantages, and the actual set of resource flows, and reveals the tendency of the action of internal and external factors of innovative development.

At the same time, we will present the realization of the economic potential of the enterprise in the direction of increasing competitive advantages on the basis of innovative development with the following algorithm (Fig. 4).

The mechanism for activating the innovative capabilities of the enterprise in the process of forming competitive advantages is an open system, which must constantly receive information about the action of the factors of the internal and external business environment, while the system itself affects the production, economic and market level of the realization of the economic potential of the enterprise, namely: level of production, product, channels of its sale. The development of a mechanism for activating the innovative capabilities of the enterprise based on a complementary approach, as an integrated system of economic potential, requires appropriate structuring, the structural components of which are interconnected and mutually complementary.

According to the stage of the structure of the mechanism of activation of the innovative capabilities of the enterprise, the structural components should include the goals and purpose of using the innovative capabilities of the enterprise in the direction of the formation of competitive advantages, the totality of which establishes a set of innovative goals and directions for the use of innovative capabilities and.

We note that the structure of the mechanism of activation of innovative opportunities is determined by the stages (Fig. 5).

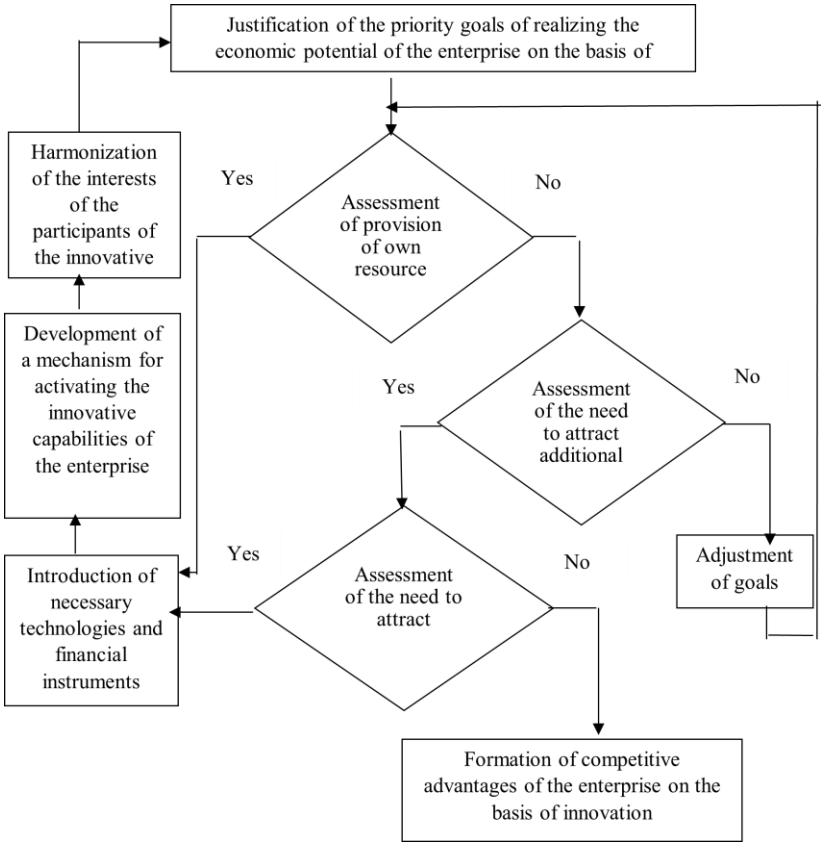


Fig. 4. **Algorithm for realizing the economic potential of the enterprise in the direction of increasing competitive advantages on the basis of innovation**

The essence of these stages is revealed in the substantiation of the direction of management of the process of activation of innovative opportunities of each structural block of the economic potential of the enterprise, which will be divided into 4 stages-subsystems: personnel - production - scientific and technical - financial, where for each of them there is a system of sub -goals, the general implementation of which is oriented to fulfil the main goal of the development of the entire mechanism.

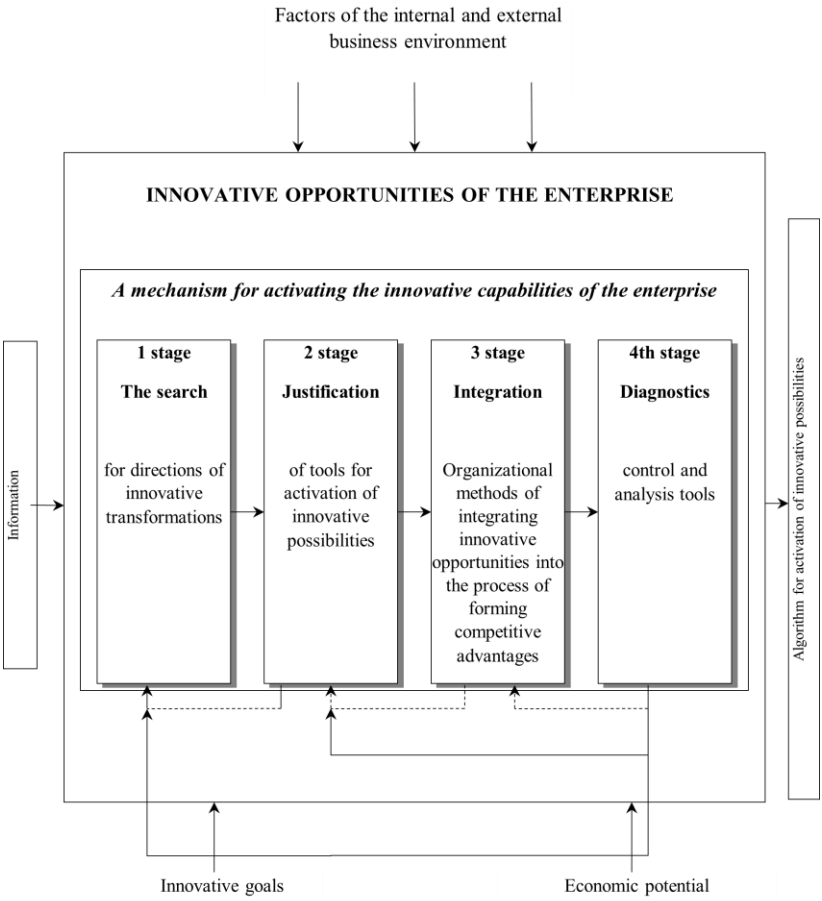


Fig. 5. **Stages of development of a mechanism for activating innovative capabilities of enterprises in the process of forming competitive advantages**

To consider the effectiveness of each stage of the mechanism of activation of the enterprise's innovative capabilities, let's identify them with the results of innovative transformations and the costs of introducing additional innovative units, as well as the harmonization of the interests of participants in innovative business processes. It is the direction of innovative transformations that serves as the basis for

the formulation of the sub-goals of each of the subsystems of the mechanism, where each of the stages, revealing the collective features of the entire system, will have a number of specific features that will reveal the properties of the creation of the subsystem, means of integration and methods of analyzing the effectiveness of its development.

Considering the fact that the development and management of the mechanism for activating the innovative capabilities of the enterprise in the process of forming competitive advantages will be based on the principles of a complementary approach and will be revealed by signs of hierarchy, interdependence and complementarity, the development of the mechanism is determined by the algorithm of passing the stages of activating the innovative capabilities of the enterprise, which determine the direction of the innovative development of the enterprise.

Analyzing the process of developing the structure of the mechanism for the activation of the innovative capabilities of the enterprise in correlation with the stages of their implementation, it is appropriate to note its orientation towards the implementation of the following main directions: substantiation of the appropriate resource provision for the activation of the innovative capabilities of the enterprise, ensuring the cyclical integration of innovative transformations in each block of the economic potential of the enterprise (personnel, production, scientific and technical, financial), assessment of the feasibility of integrating innovations in correlation with the competitiveness of an agro-food enterprise. The structural characteristics of the mechanism for activating the innovative capabilities of the enterprise make it possible to include in its composition components determined by the specifics of the formation and management of the mechanism inseparable from the priority goals of realizing the economic potential of the enterprise (methods, means, levers, tools), the synergistic interaction of which will ensure the effectiveness of the development of the mechanism through the sequence of stages (Fig. 6).

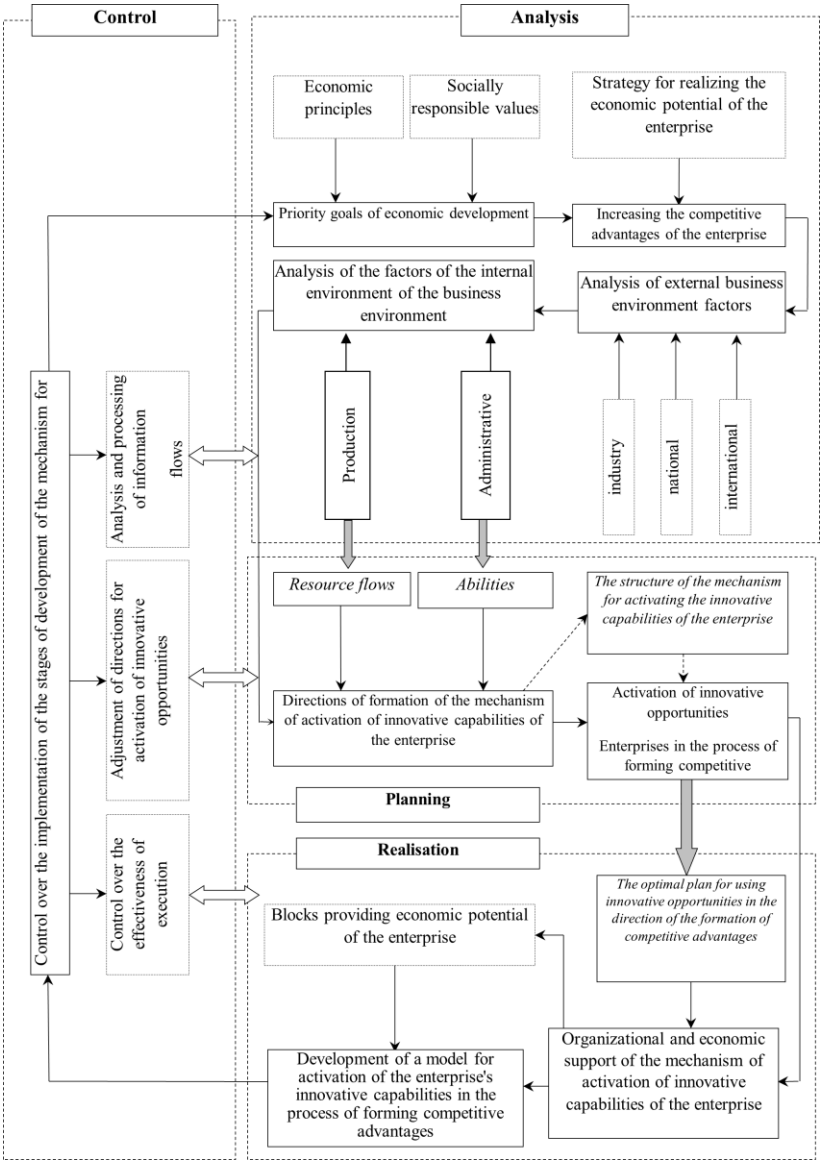


Fig. 6. **Mechanism of activation of innovative capabilities of enterprises**

The search for directions of innovative transformations involves determining the form of innovative transformations, according to which the directions of possible innovative flows are generated and outlined, an assessment of the enterprise's resource availability for their implementation is carried out. The substantiation of the tools for the activation of the innovative capabilities of the enterprise involves the introduction of an instrumental basis for the identification of variables, the analysis of their interrelationship, and the study of the interrelationship between them.

Organizational methods of integration of innovative opportunities, taking into account the directions of increasing competitive advantages, provide for the introduction of appropriate organizational support in the process of resource provision of directions for the activation of innovative opportunities, taking into account the time criterion.

The formation of control, analysis and regulation tools to ensure the cycle of the process of activation of innovative opportunities in accordance with the directions of the implementation of the priority goals of the economic development of the enterprise.

The generalizing result of the development of the mechanism of activation of the innovative capabilities of the enterprise is precisely the developed algorithm for passing the stages, which, while ensuring the gradual realization of the priority interests of the economic development of the enterprise in the direction of increasing competitive advantages, strengthens their effectiveness by the action of synergistic relations in the direction of correcting the previous stages and exercising control over their implementation.

Taking into account that the content of the mechanism of activation of innovative opportunities for each enterprise is revealed by specific features determined by the action of factors of the internal and external business environment, and therefore in some sense is unique, we will reveal the specifics of the mechanism of activation of innovative opportunities of the enterprise in the process of forming competitive advantages in accordance with the classical strategy of innovation development and using a complementary approach.

According to the hierarchical structure of the mechanism of activation of the innovative capabilities of the enterprise in the process of forming competitive advantages, the initial structural link is the

analysis system, as an information and analytical component, the purpose of which is to conduct a consistent analysis and substantiation of the necessary information regarding limitations and components, which will become the basis for planning directions for the activation of innovative capabilities of the enterprise. The focus of the analysis on the construction of the initial information is ensured by the fulfillment of all the goals of the system's functioning and the reconciliation of the initial data with the correlation data provided by the controlling links through the study of information transformations. Isolation of system-forming factors requires determination of their weight and effect on the entire system, because they not only affect its structure, but are also capable of becoming a source of its generation, ensuring symmetry between its components. At the same time, it is appropriate to determine the external factors of the business environment according to the provision - the absolute application of the strong aspects of the business entity in order to strengthen its competitive position on the market; factors of the internal business environment - the absolute application of the internal capabilities of the economic entity and the gradual localization of its weaknesses, which prevent the realization of the intended goals.

A thorough study of the main external and internal factors of the business environment of the enterprise, which to some extent determine the search for directions for activation of its innovative capabilities, which to some extent reveal the strong and weak aspects of the development of both the enterprise itself and its rival enterprises, provide an opportunity to more thoroughly substantiate the directions of activation innovative capabilities of the enterprise, while its consideration and adequate adjustment of directions for activation of innovative capabilities of the enterprise become a source of formation of its adaptive capabilities and mobility to the destructive effects of factors of the internal and external business environment

The second in order of the hierarchical structure of the presented mechanism is the planning system, the purpose of which is to search and develop, operating on input information, alternative directions for activating the innovative capabilities of the enterprise, adequately available resource flows and the ability to use them effectively and build on this basis the competitive advantages of the enterprise, which:
- firstly, it satisfies the imagination of the management regarding

directions for activating the enterprise's innovative capabilities: secondly, it reveals the actual state of the enterprise's resource provision and market requirements.

The effectiveness of the development of the mechanism of activation of the innovative capabilities of the enterprise in the process of forming competitive advantages depends on the development of a system model, primarily aimed at the activation of innovative transformations in each structure-forming block of the economic potential of the enterprise, taking into account the specifics of their development. It is the complementary approach, taking into account multifacetedness, organization and functional unity, that will contribute to obtaining a complementary effect through the use of inter-block interactions and complementarities. According to the specified "realization" system, the process of activating the innovative capabilities of an agro-food enterprise as a factor in the formation of competitive advantages is restructured according to the algorithm of transformation of a complex dynamic system, each individual stage of which embodies the generalized goal of a defined set of innovative sub-goals. Thus, in a systemic form, the activation of the innovative capabilities of the enterprise is represented by a multi-level hierarchical structure with the corresponding connections between its components, namely: the directions for the activation of the innovative capabilities of the enterprise and the stages of their implementation, which reveal the process of forming alternative options for the innovative development of the enterprise and the selection of those innovative strategy that optimally satisfies the existing opportunities in the formation of competitive advantages, taking into account the existing limitations.

Thus, the model of the mechanism of activation of innovative capabilities of an agro-food enterprise in the process of forming competitive advantages should be developed according to the following dominant factors.

1. Self-organization, the essence of which is that the model of activation of innovative capabilities of the enterprise works on the synergistic dependence and connection of subsystems of the mechanism, taking into account the structured model of the economic potential of the enterprise, which is represented by personnel, production, scientific and technical and financial blocks, where

innovative the company's capabilities are the sum of the received innovative transformations of each block of economic potential. The components of the model of this system cannot exist separately from each other, but only in a relationship.

2. Closedness in system contours, according to which the organization of stages of innovative transformations in each block of the economic potential of the enterprise and at each level of its development requires the disclosure in the model of various connections between system components.

3. Socio-economic orientation of innovative transformations. According to this dominant, the activation of innovation opportunities and the integration of the results of their transformations is not an end in itself, therefore the content of the model is revealed by a combination of socio-economic determinants of the realization of the economic potential of the enterprise on the basis of innovativeness, due to which the nature of the integration of innovations will be revealed by socially oriented features, where social determinants will have a primary character, and economic - respectively secondary. It is social determinants that will outline the basis of innovative transformations, and economic determinants will determine the variability and ranges of innovative transformations.

4. Variability, the essence of which is that in the process of developing a model for activating the innovative capabilities of an agri-food enterprise in the process of forming competitive advantages, the possibility of building different variants of models is taken into account depending on the action of factors of the internal and external business environment, but the priority goal of realizing the economic potential is always taken into account.

The development of a mechanism for activating the innovative capabilities of the enterprise in the process of forming competitive advantages on the basis of the mentioned dominants will provide an opportunity for agri-food enterprises to navigate in the conditions of integration challenges, to outline the vectors of innovative development taking into account the requirements of society, to use innovative opportunities more effectively, to coordinate and orient them according to social directions.

The process of developing a model for activating the innovative capabilities of agro-food enterprises in the process of forming

competitive advantages can be schematically depicted in the form of a hierarchical structure represented by interconnected components integrated into subsystems of economic potential at different levels of development and implementation (Fig. 7).

The production level of the provided model corresponds to the multi-purpose nature of the development of the model for activating the innovative capabilities of the enterprise in reducing them to the presence of certain signs of the hierarchical structure and the priority goal outlined by the main goals.

The goals of the zero (production) level are characterized by generalization, which reveals the general goal of the development of the components of the economic level, and is a decomposition of the production level, represented by the stages of activation of the innovative capabilities of the enterprise. The development of the structure of activation of innovative capabilities of the enterprise ensures the optimization of the target function of the production level.

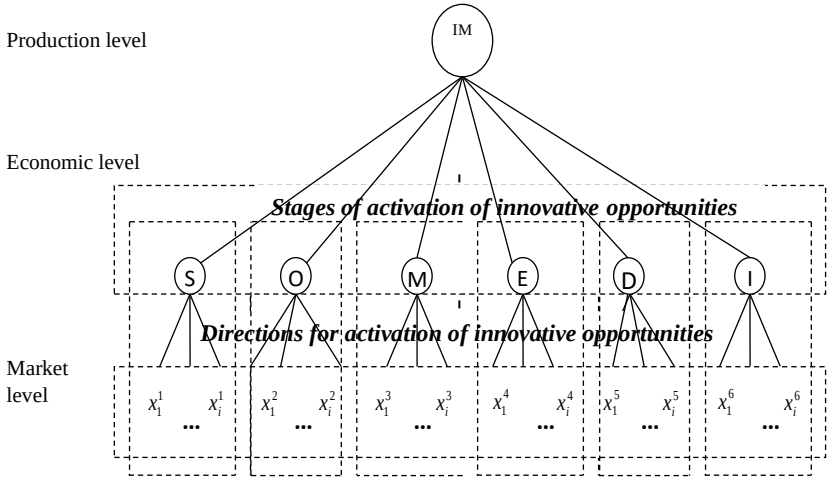


Fig. 7. **Model of activation of innovative capabilities of the enterprise**

At the first (economic) level of the model of the activation of the innovative capabilities of the enterprise, a more detailed presentation of the directions for the activation of the innovative capabilities of the

enterprise is provided, while the effective provision of resource flows adequate to the priority of realizing the economic potential of the enterprise on the basis of innovation is achieved by optimizing the objective function of the second (market) level of the model. In the subsystem of the mechanism of activation of innovative capabilities of the enterprise, which performs the control function, the coordination of the development of the mechanism is revealed by the coordination of information flows between other subsystems of the mechanism, where adequate to the selected subsystem, the control task is performed according to the corresponding goals: control in the subsystem of the mechanism is implementation by results, in the subsystem of planning, correction is carried out models of activation of innovative capabilities of the enterprise; in the analysis subsystem, the analysis of information flows is carried out.

Therefore, the mechanism of activation of the innovative development of the enterprise in the context of digitalization of the economy must integrate the following stages: determination of the directions of innovative transformations, development of a model of activation of the innovative capabilities of the enterprise, substantiation of management systems for the activation of the innovative capabilities of the enterprise, development of an appropriate instrumental basis for the analysis and control of the effectiveness of the activation of innovative opportunities and the effectiveness of their use in the direction of increasing the competitive advantages of the enterprise as an imperative to realize its economic potential by means of the developed mechanism. At the same time, the development of the mechanism for activating the innovative capabilities of the enterprise should be aimed at ensuring symmetry between the priorities of the economic development of the enterprise and the directions for activating the innovative capabilities of the enterprise itself, ensuring the harmonization of the priorities of the participants in innovative business processes through the structure of a flexible mechanism for the protection of the economic interests of enterprises, the development of a dynamic model for the activation of innovative capabilities of an enterprise capable of adapting to the challenges of the internal and external business environment. changes in external and internal factors. The use of the proposed mechanism for activating the innovative capabilities of enterprises will contribute

to the systematization of innovative transformations in each block of economic potential, will ensure the coordination of the synergistic relationship between its structural components, control and analysis of the effectiveness of the enterprise's use of innovative capabilities, which will contribute to increasing the competitiveness of products with new quality features.

## 1.8. IMPLEMENTATION OF DIGITAL TECHNOLOGIES IN THE MARKETING ACTIVITIES OF THE «VOVK» BRAND

Throughout its existence, humanity has constantly invented new automation capabilities and developed new types of technologies that helped to improve production in the period in which they were. Scientists called them industrial revolutions. Nowadays, such tools and technologies that were used even 10 years ago are no longer so relevant and almost do not work for our consumers. Therefore, the development of completely new and innovative methods of development, production, sales, and marketing was obvious.

Right now, we are living in a period of formation and development of a new revolution, namely, the fourth industrial revolution. It is characterized by the rapid development of the Internet followed by many new opportunities aimed at improving and automating work. The development of new, innovative, links, namely, the digital economy, gave impetus to the great demand for them and the introduction of technological innovations in their business.

In general, digital technologies are a set of tools, in this case, we consider the tools that can be used in marketing activities, with the help of which it is possible to effectively promote the product and raise the company's image. There are enough new marketing methods and tools (SMM, SEO, SEM, viral marketing, implementation of NFT technologies, etc.), and old methods (advertising in newspapers and on television, etc.), but there are also those that have changed over time and have been transformed into something new, for example, advertising on television is not so relevant compared to 10 years ago, but now advertising on streaming platforms, Twitch, YouTube, and many others is very popular, which are now used by large brands and

enterprises, buying advertising on these platforms, (banner advertising of the platforms themselves), and advertising from people (streamers and channel authors) who are popular with consumers and listen to their words, which can lead to an increase in sales of the advertised product or service.

The variety of possibilities of tools, using new methods, and turning old methods into something new, is what it means to be a professional marketer. To look from a new angle and understand what and how can influence the consumer to buy the company's products.

The purpose of the article is substantiation of methodical approaches to the formation of a brand's marketing strategy in the digital economy.

The development of digital technologies in our time has formed the following features:

1. Rapid development and the ability to introduce new information and communication technologies;

2. Changing search behavior; obtaining and analyzing the information received;

3. The intensity of innovative use, massive data processing and analysis technologies, cloud technologies, artificial intelligence technologies and creation of new products based on high-performance computing, quantum technologies, and distributed ledger systems (blockchain);

4. Striving for the development of marketing that is aimed at a specific consumer, taking into account all his wishes and therefore - production;

5. Creating unique conditions and opportunities for companies to achieve new qualitative levels of economic efficiency, which allows them to move to new markets and implement new business models;

6. Greater demand and requirements for specialists, changing employment requirements by areas of the enterprise;

7. The connection with the so-called demand-driven economy, which focuses not on the sale of manufactured goods and services, but gives the opportunity to access them at the moment when it is needed by the consumer, entrepreneur, etc., simplifies and in turn stimulates the possibility of selling goods and allows to improve and introduce new marketing tools that will work for a particular consumer;

We will analyze all types of digital technologies:

1. Contextual advertising Google Adwords. There are many types of contextual advertising from Google Adwords. Search advertising, it appears as a result of search queries on the Internet, the cost per click depends on the position of the ad when the query is issued. Search advertising is tied to the keywords of the query that are provided in the settings.

Banner advertising can be of different types, in text form or banner ads, differs in more precise settings, for example, by interests, age, location of the user, etc.

There are also such types of advertising as trade advertising, but in our region, they are not quite correct. Video advertising, which are small presentation videos located on various video platforms, is very effective in promoting a brand or service. And universal advertising includes several types of contextual advertising and is most often used to advertise mobile applications.

The advantages of contextual advertising are the ability to place your ads of different types on several platforms at the same time. Advertising is placed on partner sites and sites similar to your product. The ability to adjust the position of ads in search queries and the ability to use keywords as a search tool for your product or service. A large number of settings, such as displaying ads by interests, displaying ads at certain times or days of the week, detailed analytics for each type of advertising you use, the speed of launching ads. Positive impact on the search engine promotion of the brand's website and the ability to pay not for advertising but for clicks and the number of clicks on your ads.

Disadvantages of contextual advertising. Consumers prefer search queries and results for these queries. Due to high competition, the cost of clicks and transitions in advertising is very high.

2. Retargeting is a mechanism created to ensure that all online advertising is directed to those consumers who have already viewed the product they are interested in. The advantages of retargeting are in the creation of targeted remarketing lists. Wide audience coverage through websites and mobile applications. Great possibility of choosing settings quite favorable pricing conditions due to the possibility of customization. A wide range of analytical proposals for relevant advertising.

3. Mobile marketing is a set of marketing activities aimed at promoting a product or service through mobile applications, communication networks, etc.[108]

The advantages of using this type of marketing are in the number of audiences reached since almost everyone has smartphones nowadays. Creating advertising on mobile devices takes much less time and money, which is very beneficial, especially for small businesses. Mobile devices allow you to store virtual information and easily share it. The viral potential of this type of product promotion is much greater just due to the ability to share information between users. The development of mobile targeting is constantly evolving and there is an opportunity to try something new in promoting your product. The possibility of convenient payment through mobile devices, Internet banking, etc.

The main disadvantages of this type of promotion can be considered different technical capabilities of smartphones, namely, screen resolution, which adds complexity to the development of advertising. Privacy, the activities of marketers should end with advertising and should not cross the personal boundaries of consumers.

4. Viral marketing. The main idea of this type of marketing is that the created advertising will be distributed among the target audience independently, that is, users themselves will distribute this advertising.

The advantages of this type of marketing are relatively low costs, since the main costs will fall only at the beginning of the production of advertising (shooting, idea). Viral advertising will pass through a circle of people who are familiar with it and thus a high level of trust in it and in the brand or company that advertises the product. This type of advertising is quite effective and fulfills its purpose one hundred percent, with all the above advantages.

The disadvantages include insufficient control over the promotion process. The lack of a hundred percent guarantee that this particular advertisement will go viral and whether it will appeal to a particular

[108] VOVK is a Ukrainian designer clothing brand created by a married couple, Tetyana and Vitaly Semenchenko. BrandStory. –URL: https:brandstory.com.ua/dos-e/VOVK

consumer. Viral marketing is designed to work only on the Internet, so it limits the access of people who do not have access to the network.

5. SMM marketing. Its essence is to promote products through various types of social networks and media. The main advantages of SMM marketing are a large audience, diversity and the possibility of segmentation, low financial and time costs at the start, and working on someone else's audience. The disadvantages are the increase in the cost of SMM services over time, limited functionality and customization, and great competition for attention.

6. SMO marketing. This is a tool that aims to attract site users through social networks, this method improves the activity of the site and social networks at the same time. The advantages of this, increase brand awareness, constant quick communication with the audience, and interesting content and information spread quickly enough. Cons - the need to be involved 24/7, in some areas it is quite difficult to promote through social networks, the long-awaited result.

7. Performance marketing is a type of advertising activity that is not similar to others for the reason that the main idea is that a specialist (marketer) works to achieve specific indicators, mostly this indicator is financial. The main advantage of this type of marketing is that the customer gets a full-fledged partner interested in business development. Cons - it is not suitable for enterprises that seek quick results, the work of this type of marketing is aimed at the future, that is, the result of the work is unlearned after a certain period of time[1].

8. The introduction and entry of enterprises into a new, completely unrelated to their main activity, sphere. Namely, the introduction of new economic technologies NFT that can be used as an additional tool for brand PR, and the possibility of an additional way to make a profit through the sale of this type of tokens.

The basic principle of NFT technology is a type of cryptographic token that works through blockchain technology. The essence of NFT is a non-fungible token, it cannot be exchanged or replaced with other similar tokens and this is its main difference from cryptocurrency. All types of cryptocurrencies function like ordinary money, you can buy products, cars, and more from them. They are built radically differently; the essence of cryptocurrency is interchangeable tokens when creating which it is possible to create its copies. When creating n copies, the energy consumption for creating copies increases. In

turn, NFT tokens perform the function of digital art, precisely because they have the property of irreplaceability, if a person buys such a token, he becomes the owner of exclusive art that exists exclusively in one copy. The demand for this kind of art is constantly growing and, accordingly, the price is also growing, which gives an additional incentive to entrepreneurs and ordinary people, and artists to realize their abilities and make a profit[109].

Thanks to the development of the NFT industry, new ways of using this technology have appeared, not only as digital art but also as a way to promote your brand. Thanks to the implementation of such technologies by the company, articles, and news appear, brand awareness increases and there is an additional interest in the brand by consumers, under such conditions the number of people who have not heard about the brand decreases and there is an opportunity to interest them in their products and turn them into regular customers. Also, additional profit is possible with the implementation of such technologies. The development of such technologies can take additional time and quite high costs at the start, the cost can be up to $ 500 and above.

Let's highlight the main pros and cons. The advantages are a new niche to which not all brands have joined yet, especially in the realities of Ukraine, it will create a great resonance in society, increase brand awareness and improve brand loyalty, with interesting content, information will spread very quickly, the possibility of obtaining additional profit through the sale of NFT tokens, the ability to attract a new active audience to the brand. The disadvantages include the high costs of starting the development of such technology, constant monitoring and being in touch 24/7, the novelty of this type of promotion, it is both a plus and a minus since there are very few examples in the world market and none at all in the Ukrainian market, the limited functionality of settings and an increase in the cost of developing this type of technology over time due to the increase in demand for this market segment.

[109] Brand site analysis [Electronic resource]. – URL: https://www.similarweb.com/ru/website/vovk.com/#overview

When analyzing all of the above types of digital marketing, I would like to highlight a few of them separately, which in my opinion are most suitable for the Ukrainian brand of women's clothing "VOVK", namely, the development of a mobile application and the use of mobile marketing, the development of viral marketing and the creation of a new type of advertising for this brand aimed at new younger customers. Development and implementation of Performance marketing. And the introduction of new technologies, namely NFT, will provide opportunities for an even greater influx of young customers, create a great resonance within Ukraine and increase brand awareness in the market not only in Ukraine.

Let's analyze the online channels of VOVK brand promotion. They are different interactive content distribution platforms such as YouTube, Instagram, namely, short videos Reals, TikTok. Let's analyze each platform and analyze the activities of the VOVK brand on these platforms.

YouTube is a platform on which video content is posted. VOVK brand uses this platform to present its new collections. Currently, the number of subscribers is 613 people. The content is not updated as often as we would like. The activity is low because it is necessary to develop this link more actively.

Instagram, namely Reals. This is one of the main directions of promotion on the Internet used by the VOVK brand. It consists of short informative videos about new collections, the usual work of stylists in salons, demonstrations of clothing production, and announcements of new stores of various special promotions and events. The activity in them is quite high, in general, with 30-40 thousand views, from a thousand likes on each video and 30-40 comments, on average, on all the above indicators, and the frequency of posting new content is quite stable and regular.

TikTok platform is very similar in its structure to video content in Reals but is a more popular social network. The VOVK brand has 7156 subscribers and a total of 159.5 thousand likes on all videos. The number of videos on their page is more than a thousand, each with 1500 to 2500 thousand views on average. As in Reals, they release announcement videos of their promotions, new collections, and events and also promote their brand on TikTok. Quite an active audience and

the brand itself is quite active on this platform and regularly releases new videos.

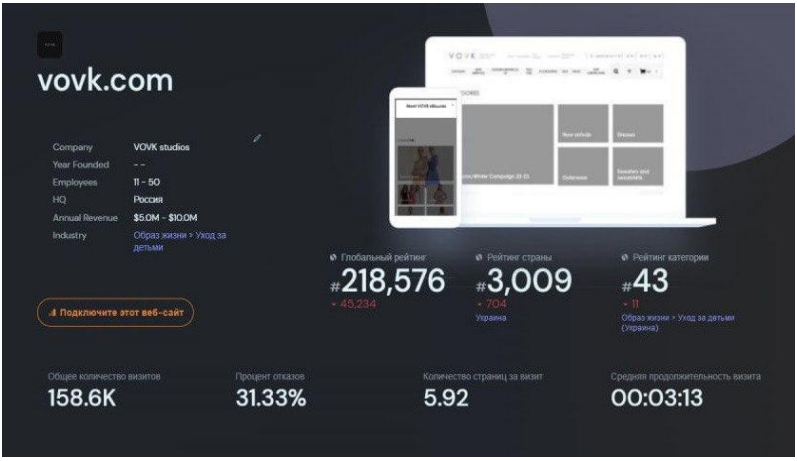


Fig. 1. **Main indicators of the VOVK brand website**[110]

As we can see in Figure 1. the total number of visits to the site was 158.6 thousand users in October, and the percentage of people who immediately left the site was 31.33%, this figure is quite high. The average time spent by a user on the site was 3min 13 sec, which is a good result.

As we can see in Figure 2. the activity of the site in October fell by 29.5%. This could be influenced by various external factors.

As we can see in Figure 3 most of the queries were made from the territory of Ukraine, but we can also observe a decrease of 32%, all this is due to the departure of Ukrainians to other countries of Eastern Europe due to the growing war on our territory. It is also important to note that there is a tendency to increase the activity of VOVK brand search queries from the territory of Poland, this is due to the departure of the Ukrainian population to these territories.

[110] Romanenko L.F. / Digital marketing: essence and development trends [Electronic resource]. – URL.: https://zenodo.org/record/3678906#.Y6CTVm5uLt4


Fig. 2. **Targeting by regions of the VOVK brand website**[110]

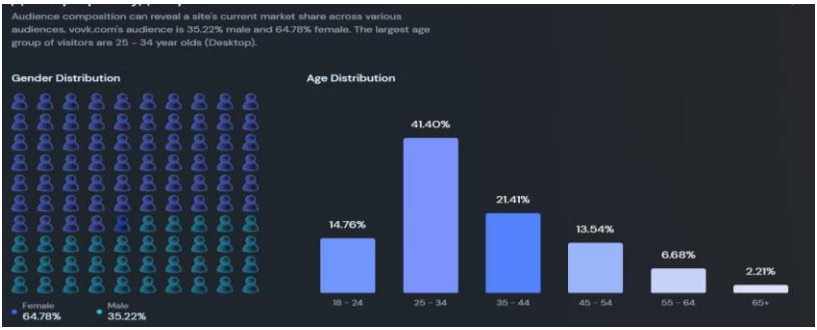


Fig. 3. **The audience of VOVK brand customers**[110]

In Figure 4. we can see what kind of audience covers and is interested in the VOVK brand. The largest audience is women aged 25-34 years - 41.4%, followed by women aged 35-44 years - 21.4%. In general, the audience of VOVK consists of 64.7% women and 35% men.

The interests of the audience who are interested in searching for the brand's website are based on the realization of their needs, namely the purchase of clothes. As we can see in Figure 5., the top category of interest is "child care", that is, we can conclude that these are

women 25 years old with children and have the desire to buy children's clothing that is also presented in stores and on the website of our brand.

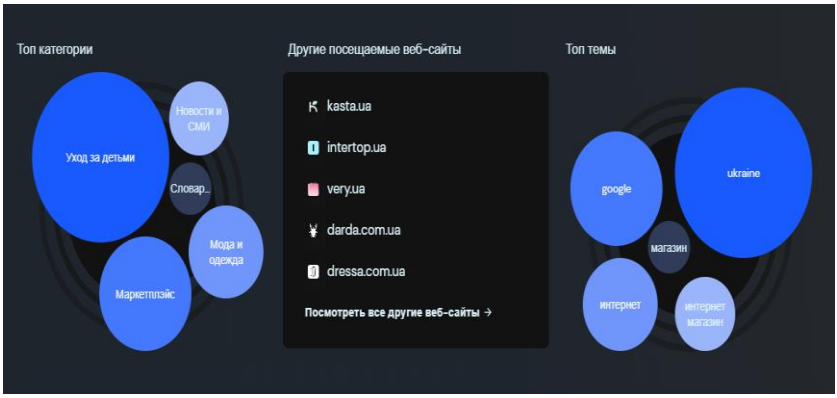


Fig. 4. **Interests of the audience of VOVK brand customers**[110]

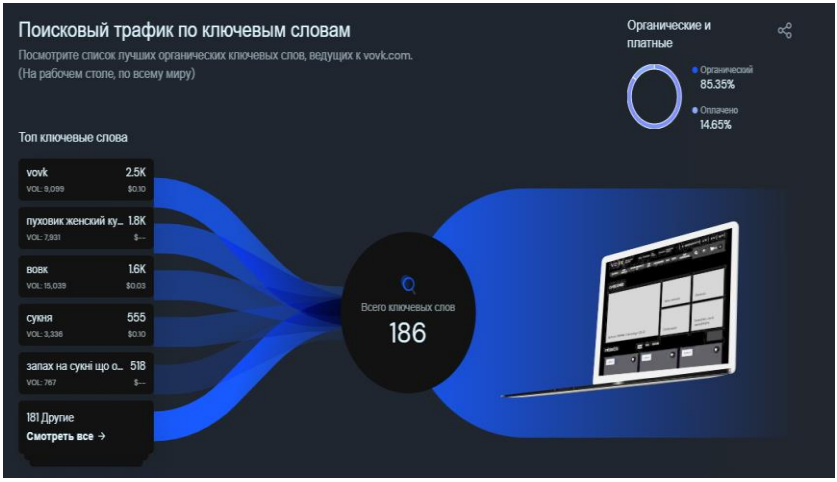


Fig. 5. **Keywords by which the VOVK brand is found**[110]

When searching for different keywords, most of them, namely, 85% are organic, that is, they come by themselves and people visit the brand's website and 14% are paid. This can tell us that brand awareness is quite high in the Ukrainian market and the brand name itself already works on itself and allows it to attract new customers.

The development of digital technologies in general in the Ukrainian space is not as developed as in our western neighbours. Of course, our entrepreneurs emphasize some innovative ideas, new methods of distribution, PR, and many other things, but most often we re-form all this into something absolutely our own that firstly suited our consumer and was able to interest him and secondly there was enough technical and financial support to use and implement such new solutions. The inability to fully unlock the full potential of possible Western innovations is due to many factors.

First, an important factor in delaying the development and implementation of such technologies is not the readiness and inability of manufacturers to spend a lot of money and time on them. The implementation and introduction of digital technologies require a lot of resources, both intellectual and financial, but in this period of time during the war and in the period before the war it is problematic to find quality personnel and allocate the necessary funds. Since companies in the Ukrainian market face many more important problems that need to be solved actively and at this time.

Secondly, the political situation in the country. External factors, such as politics, actively influence the progress of the company and its provision. It is not a secret that in this period of time and much earlier there was no question of developing a digital economy in the enterprise because an entrepreneur must calculate all possible risks, monitor the political situation, not only in his country but also abroad, and have all possible tools to survive the political and economic crisis. The development of digital technologies is an adventure in our country, the price for it is very high and manufacturers are not ready to pay for it with the collapse of their business.

Thirdly, the shortage of qualified personnel. This is a big problem in many countries of the world - the outflow of people who stimulate progress greatly affects the development of the country as a whole and the development of various types of enterprises. The migration of professional staff accompanies the lack of development and the

inability to implement the company's potential plans for the development of digital technologies and more. A possible solution to the problem is to hire and cooperate with outsourcing companies that can offer their services through remote work online while in other countries. But also, such work has its pros and cons.

The fourth factor of regression is the great conservatism of the population as not accepting something new. This trend is due to the fact that the population of Ukraine has more middle-aged and elderly people who do not have the desire for strength and faith in something new. Ukrainian enterprises listen to their potential customers and see no sense in development in this area. In this case, the youth of Ukraine is ignored by most companies and a small number of manufacturers, often these are young and active people who are able to do, hear and invest in such ideas. And it is necessary to focus on this audience.

All these are weight factors and risks that managers and owners of companies do not agree to take. But there is an opportunity to find alternative methods of solving the problem. For example, the period of absolute lockdown has taught many people to use new Internet technologies and other things, to reduce the financial burden on the company, you can implement an online store concept without offline stores that do not need to spend extra money. Develop a successful website and for mobile devices with a quick search, quick response to customer messages, designed for a specific market segment and for an individual consumer. This will allow for saving money and in the future implement various types of digital technologies. To solve the problem of staff shortage, find people who are ready to work on outsourcing on various platforms. After the implementation and closure of all possible problems and risks invest in digital technologies such as cryptocurrency, for example, add to your store the ability to pay with different types of coins, NFT tokens, the introduction of new virtual collections of NFT, the development of games based on your brand.

The brand «VOVK» is quite a popular manufacturer among the female audience, but it also has quite significant drawbacks that need to be eliminated very quickly. The first drawback that stands out is the lack of a mobile application through which it will be much easier to order brand clothes, follow the news, and new collections, and track the status of your purchase. All this badly affects the image of the

company because some fans of the brand may even refuse to use the services of the brand because of the inability to download a mobile application to their smartphone, so in this regard, the company's competitors have an advantage. The second drawback is the poorly developed sphere of brand promotion. It is very outdated and no longer gives what it could two or three years ago. Our world is changing very quickly, so you need to quickly change your strategies and tools to remain competitive in the Ukrainian market. The problem with the online store. But there are also quite strong sides, it is, of course, the quality of clothes that bribes the consumer, the average price of clothes, which together with the price and quality give a very strong synergy. Thoughtful and logical arrangement of stores. Aesthetically and logically built brand stores and services in stores. In general, it is a very practical and interesting enterprise, with obvious pros and obvious cons that need to be addressed.

Considering all of the above, the main technology that will be implemented in the work of the enterprise is NFT tokens. Let's consider how much it will cost to implement tokens.

The main cost of developing NFT is the cost of salaries for designers and blockchain specialists. The average salary for the work of a designer on the Work.ua platform is 15000 UAH per month, which attract people who work freelance, such people can be found on different platforms, I suggest the Upwork platform, which is a very famous Ukrainian freelance platform for graphic designers. The platform has lower interest rates than competitors, namely 5-20% depending on the contract amount. The cost of an NFT development contract on average ranges from $200 to $500, depending on the complexity of the work[111].

[111] Chukurna O.P., Zitar S.V. The use of NFT technology as a marketing tool for promoting brands in the digital economy // Digital economy: new business architectonics and transformation of competencies**:** Collection of materials of the Intern. Sci. and Pract. Conf. dedicated to the 50th anniversary of the Economic faculty (Oct. 14, 2022): sci. electron. publ. — Қарағанды: «Акад. Е.А. Бөкетов ат. Қарағанды ун-ті» КЕАҚ баспасы, 2022, p. 184-187

There is also a fee for using the platform on which the NFT will be displayed, on average it is $50-100 for one digital art. But there are different platforms and they all have different conditions and interest rates for different criteria, from the introduction of tokens to the amount of taxes when selling NFT. I can also recommend the OpenSea platform. It is a leader in sales and a great credit of trust and also has the most favorable conditions. Let's analyze the cost of creating and implementing NFT in work:

The first is the search for specialists, according to the first option, I will calculate the hiring of graphic designers: the salary in the amount of 18000 UAH per month. The implementation of NFT on the platform is on average $ 65, according to the official NBU exchange rate, this amount is 2399.95 UAH. Also, the development of preparatory video advertising for the dissemination of information about the access of enterprises to this type of marketing - 15000 UAH. We will also include the amount of 8000 UAH for various possible additional costs. The total sum of all indicators is 42399.95 UAH.

The second option is signing a contract on freelance platforms with a graphic designer, the average amount of the designer's work is $ 300, calculated at the official NBU rate, this amount is 11076.08 UAH. The amounts of other indicators do not change, the resulting amount when adding all the indicators is 36476 UAH.

Analyzing the possible options for the implementation of NFT presented by me, I can highlight the second option. It has lower costs for the development and implementation of technologies. Reducing the burden on the manager, all responsibility under the contract will be borne by the designer. Thanks to this development option, it is possible to save resources and time for production.

He also developed possible options for NFT tokens that the brand can use or take as a basis in the future. These kinds of pictures in the future should be animated to get small videos with moving effects of characters and the environment.

To further improve the demand for this type of art, possible promotions can be developed that will work in synergy with such tokens, for example, when buying NFT, the buyer is given the opportunity to send a limited edition of collectible clothing with the ability to choose an individual print, materials and possible design.

Thanks to this approach of developing exclusive clothing production, there will be a great demand among the younger generation.

Another option for the implementation of NFT tokens is to provide access to the purchase of closed collections from the company to specific clothes presented on NFT with a possible discount on this product.

Thanks to the development and implementation of this type of digital promotion, a large flow of new customers and an increase in cash flow in the company are possible. Based on the data presented by me, this type of promotion can become expedient, first of all, from a financial point of view and secondly, in terms of the effectiveness of the presented technology capabilities, i.e. promotion.

Trends in the development of the world market and economic technologies force entrepreneurs to adapt and introduce such innovations in their work. Global brands are no exception, which must be constantly active in all areas of production, from the supply of fabrics to the promotion of goods and their sale in the markets. It is necessary to constantly monitor current topics and be on the same wavelength as your audience, to provide and implement new trends primarily in order to gain additional profit and raise the image of the company as a whole. Knowing that the company is always doing something relevant, consumers will be willing to follow such a brand, share news about this brand with their friends and relatives, and what interesting things they have done or plan to do, it is necessarily beneficial for the brand to be constantly discussed. All this together makes it possible to raise the image of the brand, to capture, perhaps, new spheres of influence, to get new, possibly regular customers, and to receive additional profit due to the innovative or simply new solutions developed by it in the formation and conduct of business.

Considering the topic of NFT - its development and transformation over time, we can see the tendency of using this technology by large brands in the field of promotion. It is due to the transformation of this type of NFT technology that this process of distribution and PR is possible. Thanks to the creative solutions of marketers who analyzed market trends, saw and understood in time what exactly the consumer of today wants and how our world as a whole will be transformed around those technologies that are emerging at the moment and/or the

development of possible technologies based on current developments and improvements of the latter.

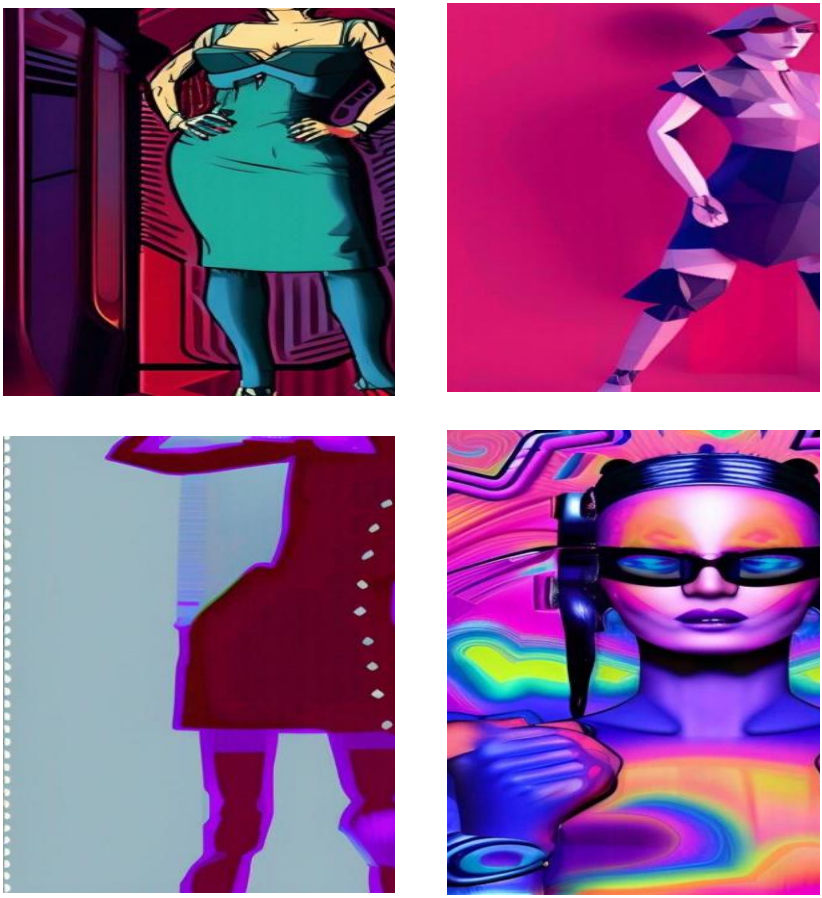

Fig. 6. **Examples of possible NFT tokens for the brand «VOVK»**

Despite the fact that the whole boom in this field of activity by various brands and fashion houses has already passed, it fell in the beginning and middle of 2021, relevance of mastering this area in my opinion is still quite relevant, especially after the end of the crisis in

our country and in the world as a whole. The need to raise the economy of our country in the post-war period will be needed more than ever, and thanks to the development of this type of PR at your enterprise, it will be advisable first of all to interest customers in the second to obtain additional profits that can be obtained on the basis of sales in the Ukrainian market and abroad, given the number of our compatriots abroad, and the allocation of funds for the targeted needs of the enterprise as a whole and for possible economic assistance for the faster recovery of our country[112].

Many large foreign brands are massively developing this area. In 2021, NFT technologies were mastered by 9 major brands in the field of fashion and enterprises engaged in the manufacture of mobile smartphones, women's equipment, and others. Many of the brands are testing their potential in this direction, no matter what niche and what target markets they occupy, that is, the employment of brands is completely different from each other. This may indicate that regardless of what a particular enterprise is engaged in, this type of promotion with the help of innovative digital technologies NFT will be quite effective in various fields, ranging from conventional retail to the manufacture and sale of fashionable clothing.

Starting the analysis of brands that have already tried the method of promotion with the help of digital technology, I would, first of all, like to highlight the enterprises of the fashion industry, which is a good example for my brand VOVK and show what prospects can be expected when implementing this technology in your company. Analyzing all possible sources, you can see the analytics of world experts who claim that by 2026 the development and interest in this area will be so great that at least 25% of the population will use innovative technologies. From this, we can conclude that over time the development of NFT will increase, and the popularity of use and interest of people in such technologies will grow. The need to enter such a niche now is that at the moment few people use this method of promotion, especially in the Ukrainian market, the opportunity to create a precedent by providing a loud "explosion" and the

[112] VOVK: how to build a business with attitude. PINK.ua [Electronic resource]. –URL.: https: pink.ua/VOVK-kak-postroit-biznes-s-nastroeniem/

dissemination of such information on all the news and the high probability of turning it into viral advertising.

Now let's consider which brands have started to master NFT technologies and implement them in their marketing activities.

1. Global sportswear and footwear brand Nike released its first NFT sneaker collection called CryptoKicks in the fall of 2021. This collection was created in collaboration with the Roblox platform. This company specializes in the development of virtual games and the development of digital clothing for its Roblox characters. There were developed 8 digital models that can be modified to the desires of consumers. These models were stylized under the design of Nike Dunk, which was first introduced as a specialized basketball shoe in the 1980s. In this case, Nike not only uses new technologies to provide itself with greater brand promotion but also uses emotional marketing, which qualitatively puts pressure on consumers, encouraging them to buy NFT sneakers. At the time of the fall of 2021, digital shoes cost 1.6 ETH (approximately $ 4500). And the highest price per copy was 200 ETH (approximately half a million US dollars) (Fig.7).

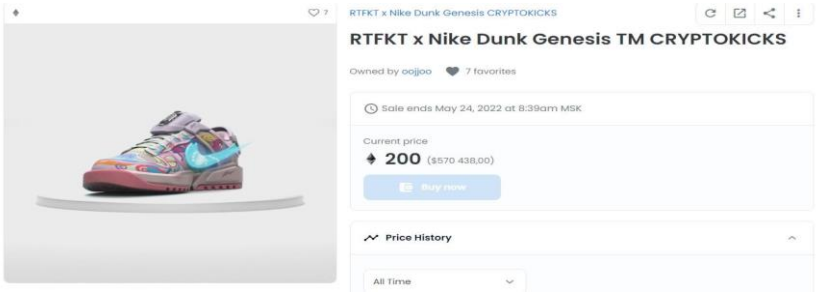


Fig.7. **Price per NFT collection input Nike**

The first models of digital, toconized NFT sneakers were released by Nike.

Fig. 8. **All NFT models are presented by Nike**

2. Adidas is a global brand for the manufacture of sports shoes and clothing. In December 2021, the brand released its NFT collection called Into the Metaverse. By purchasing tokens from Adidas, the consumer gets the opportunity to be in an exclusive fan club. Its members can be the first to order unique clothes that will be presented exclusively for sale on this line. Brand marketers claim that this technology has a positive impact on the development and promotion of the brand and receives feedback from users on what kind of clothes should be created. At the time of release, NFT from Adidas could be bought on the company's official website for 0.2 ETH, which is approximately $ 800[113].

3. Louis Vuitton, a very famous French fashion house also tried its hand at NFT. On its birthday, the brand released a game and a collection of NFT tokens. The game released by the clothing brand tells the story of the founder Louis Vuitton and the history of the fashion house as a whole. The collection of NFT tokens is in the middle of the game, users collect them and have the opportunity to become their owners. According to marketers of the famous brand, the development of the game was not only entertaining but also helps the brand to establish contact with a younger audience[114].

[113] History of the development of the famous Ukrainian brand "VOVK" [Electronic resource]. – URL: https://simya.24tv.ua/vid_zvichaynogo_hobi_do_uspishnogo_biznesu_istoriya_stvorennya_ukrayinskogo_brendu_odyagu_vovk_n1266992

[114] Feshin VOGUE magazine [Electronic resource]. – URL: https://vogue.ua/article/fashion/brend/bolshoy-uspeh-kak-vovk-stal-odnim-iz-samyh-populyarnyh-ukrainskih-brendov.html

4. The global brand Gap has released an NFT collection. They created it together with the Tezos platform. The main idea of this platform is that it is not possible to mine cryptocurrency on it and all transactions are performed between people who already have digital coins with the help of which the process of buying and selling is performed. As noted by the company's marketers, such innovative technologies and their implementation in the work of the enterprise allows attracting customers who are fond of technology, which is gaining more and more popularity. The company chose the Tezos platform because it uses more energy-efficient technologies with minimal energy consumption and low carbon dioxide emissions, which is a high priority for some customers of the brand in the period of growing concern about reducing emissions into the atmosphere and reducing the use of natural resources by people[115].

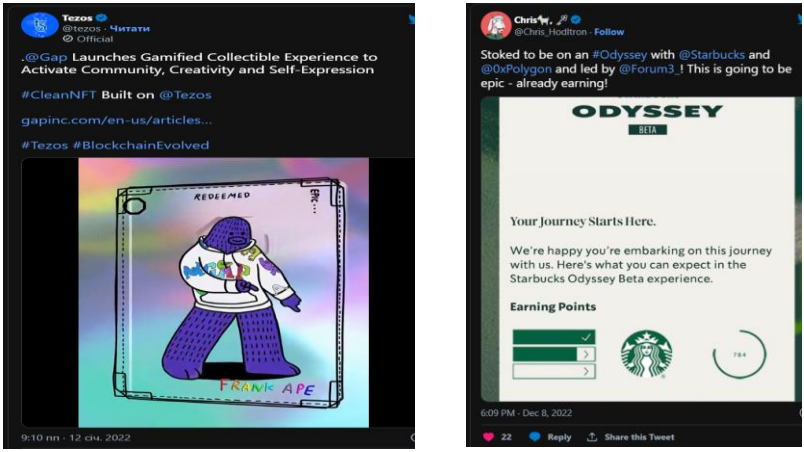


Fig. 9. **NFT token from GAP and Starbucks brand**

[115] Top Garment Manufacturing Countries in World-2021. New York Spaces [Електронний ресурс]. – Режим доступу до сайту : https:newyorkspaces.com/top-garment-manufacturing-countries-inworld-2021/

5. The most recognizable coffee brand Starbucks has released its own application with the ability to receive NFT tokens for buying coffee and participating in the loyalty program.

The company is selling its own NFTs. Users and owners of this type of digital property will be able to sell them on the Nifty Gateway platform. Also, the company has long begun to introduce this type of innovative technology, for example, visitors to institutions have the opportunity to pay for their purchases with cryptocurrency. According to the company's management, Starbucks is not the first to use early technologies and introduce them into its work, which positively affects consumer loyalty to this brand and increases the inflow of new customers.

6. The world-famous lingerie and accessories brand Victoria's Secret has also decided to master new digital technologies to surprise its customers and attract new ones. The company announced the release of four NFT tokens that they plan to implement on different platforms.

We can highlight the similarity of Victoria's Secret with the VOVK company under consideration. The similarity is that the main audience of the company is women from 25 to 50 years old and the variety of assortment is the same. We can take this company as an example for the Ukrainian brand when entering such an innovative field of activity.

Considering the examples of well-known foreign brands, we can conclude that this area is very actively developing and the possibilities of PR of the company's brand with its help are quite effective. Developing such areas of digital PR in the Ukrainian market can be quite effective in promoting due to the novelty of such methods, which will be a breakthrough in the promotion of our markets. Analyzing the statements of analysts that this area will gain worldwide popularity by 2026 and the opportunities it will provide, it is absolutely expedient to develop and implement such types of promotion in our work. The VOVK brand needs fundamental changes in the marketing activities of the enterprise and with the help of this technology and the opportunities it provides, it is possible to overload the marketing activities of the brand, which will give impetus to increasing the response of people, will provide the company with new customers and increase its own profits through the sale of new digital technologies and increase sales through high-quality new advertising that will

stimulate the market and spread information between customers autonomously by turning it into a viral.

Development of a strategy for promoting the VOVK brand based on NFT technologies. The analysis of the development of digital technologies described in this work, namely, thanks to the formed theoretical information, the collection of all indicators, the analysis of competitors, the definition of the problem of the enterprise, and the selection of world brands that are already actively implementing a system of promotion through digital technologies, namely NFT, shows us how appropriate it is for companies to use this kind of know-how in their work. Thanks to the active development of NFT as a marketing tool, the possibility of reaching new markets, new audiences, and the development of a radically new type of promotion that covers not only the everyday world but also the virtual (digital) world, which opens up opportunities to assume what the marketing activities of various enterprises will look like in a few years and even decades. Large corporations of the world see this as a prospect and new opportunity such as getting more publicity in various information resources, turning it into viral advertising, and getting additional profit through the sale of virtual and physical models of a particular product.

It is clear that this is an entirely new niche, generally unexplored, a rather small database of specific data and the time for the development of this type of promotion is not the most successful, the world is fluctuating from constant tragic news, on the verge of turning points, but entrepreneurs who implement such an idea can be called adventurous brands.

In our opinion, just looking at the whole situation and understanding what economic and political instability the world is currently experiencing, the development of this type of technology is quite appropriate. The reason for this opinion is precisely in the possibility, first of all, in such a period to lure the consumer, to give the opportunity to see and interest him with positive news that against the background of not quite appropriate will give a great emotional impulse, thanks to which marketers will be able to successfully manage and direct, in the future, to achieve the company's goals. Secondly, experiencing such instability, the company's managers, thanks to the right decisions, will be able to get additional benefits in the form of profit, encouraging new customers and providing possible

new consumer demand, provided that the stimulation of this demand is successfully implemented.

Especially considering the Ukrainian market under the prism of the present, in a period of war and economic and political instability, I think it is quite appropriate for the VOVK brand to change its marketing activities. Try to implement something new that can shake up the fashion industry market.

Considering the marketing strategy of the VOVK enterprise, we can see that the main emphasis of the distribution of various types of advertising is aimed at interaction and PR for middle-aged women, which by the way is quite appropriate and correct to develop advertising for its main target audience, but due to the situation when many customers and fans of the brand left the country, and the demand for products fell for various objective reasons (reduction of income, departure of the population abroad, the impact of the situation in the country on the emotional and psychological state of consumers), all this is in a corner. In our opinion, the company should think about the development of additional collections for girls aged 18-25, the collection is aimed at adolescents aged 16-18 and, if possible, for all ages of children, from 0 to 16 years, it should be noted that the company already has experience in the production and sale of this type of product, they made a collection of paired clothes for mothers and their daughters, thanks to the experience of making clothes for this audience, it will be much easier to introduce them into the production flow. In this way, the company will be able to increase its possible revenues and attract new customers of all ages.

Before developing a strategy and introducing new digital technologies into its work, the VOVK brand needs to solve, first of all, a number of problems that hinder the prospective development of the company and do not allow to reveal the full potential of this type of marketing promotion of the product and the brand as a whole. One of the main problems that do not allow the introduction of NFT tokens as a PR tool is the age of the main target audience of the brand, it is necessary to interest the younger generation of consumers with a more interesting assortment.

The second problem is the lack of a web application for smartphones. In the period of digitalization of the world society, when almost every person has a smartphone, the lack of a web application

is a big problem. During the pandemic, consumer demand for mobile applications has increased dramatically and the number of purchases and orders has also increased. With a user-friendly app, the number of sales can increase and brand loyalty can improve.

The third problem that can be identified is the lack of the necessary personnel who will be able to implement the idea of introducing digital technologies. The company does not have enough staff who would be able to implement this type of project from start to finish, so first of all, I recommend providing the company with different types of staff that will be needed to develop and further support the functioning of this technology, or possible connections with companies that provide such services as a freelance, that is, signing a contract for cooperation for a certain period of time. For the qualitative development and implementation of the marketing strategy, it is necessary to solve the above problems very quickly and actively.

The first priority in the development of NFT is to qualitatively consider all platforms on which there are opportunities to place your digital images. In order to select a platform, it is necessary to analyze all parties that can affect any aspects of token production. The main criteria for choosing a company and platforms that provide access to the sale of NFT technologies is the location of the headquarters of the company or platform that provides such services. This is very important as the presence of a secure legal framework may be needed in any case. Thanks to the secured legal and legal basis for intellectual property, the company has the confidence that in any unusual situation, it will be protected. Currently, there are many similar platforms, we would like to highlight the 5 most famous platforms for the sale and implementation of NFT tokens, namely:

1. OpenSea - this platform is currently the leader in NFT sales. The daily trading volume is $49.18 million. The founder and the exchange are registered in the USA, which gives an understanding to companies and individuals who use this platform that in case of extraordinary situations their rights and resources will be protected and compensated. The main feature of this platform is that the author instead of paying $50, $100, or more for minting NFT pays only a commission for the sale of digital art. This bribes designers and entrepreneurs and increases the demand for this platform. There is also a large selection of payment methods through various platforms such

as Coinbase Wallet, Dapper, MetaMask, and Portis. In general, this platform has many fans around the world who use it to get acquainted with the world of digital technologies and promote their art and make a profit.

2. Rarible is a large marketplace for NFT art. The founder and the firm are registered in Australia, which also provides the authors who cooperate with it with full legal protection. According to DAppRadar, investors bought 188,884 different types of cryptocurrency art for a total of $139.87 million. The main feature of this platform is its own NFT tokens, which reward the most active users of the platform. Also, what attracts people to use this platform is the beautiful design and the availability of appropriate and individual notifications and updates, such as the release of new interesting NFTs or live auctions and the best collections in real-time, which allows you not to miss possible profitable deals. The platform also cooperates with several wallets with which you can conveniently make payments, namely Fortmatic and MyEtherWallet. The number of wallets with which this platform cooperates is much less than in OpenSea.

3. SuperRare is also a very popular marketplace in the world. The average daily trading turnover is $11.2 million. The founder country is Switzerland, which also speaks about the security of the platform users. The main feature of SuperRare is the absolute protection of users when selling to buyers and in the process of making and placing digital art on this platform. Just like Rarible has its own token, the owners of this token have the opportunity to participate in voting such as the development of the platform. This type of token can be sold both on its platform and on other platforms presented above. The platform has also established itself as a center for various art exhibitions, projects, and social collections. To implement the purchase and sale of digital art, three types of wallets are used, such as Fortmatic, MetaMask, and WalletConnect, which is also less than the company's direct competitors.

4. Foundation is a very interesting marketplace format unlike any other. Its main essence is to develop digital art in various ways to promote the culture of NFT tokens. The platform itself encourages creators to experiment with cryptocurrency in general and play with the concept of values, that is, hacking, undermining, and manipulating the value of creative work. These are new rules for some creators, they

may seem absurd and unplayable, but the platform has provided an opportunity to protect its customers and provided them with the opportunity to make a profit even if their works are sold at a price not expected. Each time an artist sells their work they receive 10% of the transaction on the selling price and also receive another 10% when the collector sells the NFT on the trading network to someone else, for example, at a higher price.

5. BakerySwap is also a blackberry from popular marketplaces for selling NFT tokens. This platform has exactly the same working characteristics as its competitors that I discussed above, except for Foundation. This platform can be compared to a supermarket in which many different types of digital art are presented. The country is represented by the United States, which can also provide legal protection for buyers and authors. As well as competitors have their own NFT collection BakerySwap (BAKE). It has a fairly simple way of minting and selling tokens, a very simple and clear process[116].

Considering various, popular global platforms for the creation and implementation of NFT, we can identify the main favorites. They all offer the same opportunities for the sale and production of NFTs but have different conditions for the formation of payments and internal tax rates, that is, the percentage that the platform takes for the sale of this digital product.

Starting, first of all, to form a strategy for promoting the VOVK brand with the help of NFT technology, it is necessary to highlight on which platform the company's tokens will be located. In my opinion, the best platform for the implementation of this type of technology is OpenSea. The main reason for this opinion is the cybersecurity of the platform, for them, it is one of the main criteria for working with enterprises, ordinary authors, and collectors of digital art. It is also important to note that this platform has worked with many large, global brands (Adidas, KFC, and others), which also speaks of the trust in this platform. Another important aspect and advantage over other platforms is the presence of very favorable conditions for placing tokens on its platform. Such conditions are very beneficial for authors

[116] Portal Style [Electronic resource]. – URL: https://clutch.net.ua/style/80352-brend-vovk-10-let-s-yubileem-lyubimyy-brend

and for our company VOVK, precisely because this area is new for them and there is an opportunity to reduce the cost of implementing and implementing such a promotion model. A rich variety of possible wallets for NFT payment, which will allow a person who is interested in buying a token to choose through which platforms to make a payment. Also, it is the most popular marketplace in the world with a large flow of cash turnover per day, from this we can conclude that many collectors and authors use this platform, which will make it more likely to realize the full potential of NFT, namely more people will see tokens from the VOVK brand and there will be a high probability of selling them for a higher price and making additional profit.

All these aspects lead to the idea of the possible use of this platform in the work of the VOVK brand. The platform is sufficiently protected by cybersecurity and at the state level, favorable monetary conditions for the implementation of this tool, a large selection of different wallets and payment methods that makes it very convenient to pay for your purchase, a large number of people who use this platform and examples of world brands that have already used the services of this marketplace.

## 1.9. FEATURES OF MODERN MARKETING ACTIVITIES IN SOCIAL NETWORKS

In modern realities, the main driving force in formations of the sales market are marketing technologies. With the development of public information technologies, social networks have a new role in the supply chain, enterprises have new levers of control over the target audience, which allows synthesize consumer preferences. Social networks available chains provide a wide range of quality information that allows us offer consumers goods and services in which they are interested. Dana adaptation achievement with marketing technologies past periods of marketing evolution leads to in new one's ideas of using the environment of social networks that brings results that are positive in nature promotion of product sales.

Currently, the most massive trend in the promotion of goods and services is associated with the emergence of such a communication channel as social media, the popularity of which is growing every day

around the world, and the number of their loyal fans is increasing exponentially. Today, the global network (Internet) is the most common source of information, in turn, social networks are the largest platform for communication, which determines the prospects for the integration of marketing communications in the digital network space. Today, one of the most effective ways to attract customers and increase sales is marketing in social networks, or Social Media Marketing for short SMM, that is, the process of attracting attention to a brand or product through social platforms. Social Media Marketing is a new and promising type of promotion of goods and services using all available social media channels (social networks, blogs, forums, etc.), with the ultimate goal of increasing sales.

Social media marketing or social network marketing (SMM) is a relatively new field of activity for modern enterprises, which they are actively mastering regardless of the scale and specificity of their activities. At the moment, there is no single and generally accepted definition of this concept, however, the following definition can be formulated: social media marketing is a special tool of Internet marketing that involves the promotion of a product, service, company or brand through the use of social media, the content of which is created and updated by efforts their visitors. By launching viral marketing mechanisms, they not only increase the amount of information highlighted on the site, but also increase its ranking in search engines. A large number of marketers fail in their attempts to promote the brand on the Internet because they mistakenly believe that the main goal of social media marketing is to stimulate sales. In fact, the goal of this type of marketing is consumer interest, creation of a positive brand image, positioning of the company, for which the primary task is not to make a profit, but to satisfy the needs of consumers, win their trust and affection.

The uniqueness of social media lies in the fact that they give the company the opportunity to interact directly with consumers, without the intrusive action of traditional marketing technologies. For example, if a company creates a product (service) page on social media, users can leave their comments, recommendations, reviews, ask questions and interact with each other to discuss the company, brand, product or service. Any consumer feedback and comment (positive or negative) left by one user can be a catalyst for another user

and, as a result, lead to the choice (rejection) of a particular company, brand, product, or service. According to the research, the vast majority of surveyed marketers noted that even with a minimal investment of time, social media marketing contributes to the development of their business, increasing the number of regular visitors to the site or page through search engines, links from other sites and URLs help marketers gather useful information about competitors or partners, about the preferences of potential consumers, follow the latest trends in their tastes and preferences.

In the 21st century virtual social networks began to play one of the main roles in the intercultural life of many people. The social network is a virtual service platform designed for the construction, display and organization of social connections within virtual reality. According to various estimates, the number of users of virtual social networks fluctuates around 2 billion people. One of the main reasons for such high popularity was the satisfaction of the need for multi-level communications. This need appeared together with the emergence of the Internet as a platform for international communication and gave impetus to the development of the prerequisites for the emergence of the first virtual social networks. The growing demand for virtual communications stimulated the development of internal services of social networks aimed at stratifying the levels of information exchange in their internal space.

The concept of a social network in the modern sense is quite multifaceted, this definition can be interpreted in different ways, so let's highlight several such definitions.

1. Social networks in the modern sense are Internet services, which are designed to form, reflect and order the social relations Today, social networks are a special form social integration, as a simultaneous process of communications and relations between people, indirectly through the Internet. At the same time, the social network acts as a social network adaptation to the absence of live communication inside information society.

2. A social network (from English Social networks) is the Internet - platform, a site that allows registered users to post information about themselves and communicate with each other, establishing social connections. The content on this site is created directly by the users themselves.

Today, social networks have gained such influence that they can shape the image of entire states. In the modern global practice of territory branding, there are already successful examples of countries whose governments were the first to understand the effectiveness of social networks in territory marketing and used this tool in their branding strategies. World experience proves that social networks have turned into an effective political tool and are often used to manipulate public opinion. Today, almost 17 million adults of Ukraine use the Internet. This is the ninth position in Europe in terms of growth in the number of users. According to the latest data, every third Ukrainian is a user of social networks. Users spend a fifth of the time spent on the Internet on social networks.

Problems and risks of using social networks the use of social networks in the public sector, in addition to obvious advantages, has certain risks. Social networks are a medium for influencing the public's consciousness. On the one hand, it is necessary to state the insufficient formation of the information culture in general and the culture of using social networks, in particular, on the part of Ukrainian civil servants, public figures, etc. On the other hand, as a result of the active participation in information creation of the vast majority of unqualified or poorly qualified enthusiasts, there is "oversaturation » information that is difficult to classify as socially significant, comprehensive and reliable. At the same time, such low-quality, sometimes even harmful, judgments find their "consumer", satisfy their undemanding requests, cultivate certain behavioral reactions. Strengthens the possibilities of manipulative influence on users. Also, in the field of public policy, including the Ukrainian one, Internet discussion technologies are actively used with the participation of web teams. "Web brigades" - Internet users who are controlled by the customer of information, are engaged in manipulation of public opinion on the Internet. As a result of the use of these channels in society, a false perception of reality may be formed. Attempts by the state to control its Internet space are a debatable issue.

Among the scientists and researchers who conducted research in the field of marketing in social networks, as well as evaluated the existing situation, it is worth noting: Vynogradova, O.V., Nedopako, N.M., Strii, L.O., Bondarenko, T. N.; Skorobogatova, A. A., Vinogradova, M., Maloletko, A., Shatsky, A, Ramilla, A., Firooz, B.,

Benson, P., Martin, S., Patrik, W., Baimatov, A. A., Liu, Y., Liu, A., Liu, X., Huang, X., Yang, M., Kaznacheeva, S. N., Lazutyna, A. L., Morovova, I. M. Yaghtin, S., Safarzadeh, H., & Zand, M.K.

However, insufficient attention is paid to research, especially on the connection between the features of the display in social networks, personal semantic space of users and the degree of interest of the latter in various species products offered by sellers on the market.

Advertisers face two main challenges when trying to achieve increased consumer demand: limited resources and competition for attention. Often, entrepreneurs have scarce resources and understand advertising as a big expense for the budget, which puts managers under pressure to effectively distribute individual channels or media. Advertising prices also include the time and effort required from employees to create, manage, optimize and distribute high-quality content, so it's understandable why companies tend to hire intermediary firms or freelancers. For them to provide some valuable guidance for the business in the field of product promotion.

An important issue in modern conditions is the peculiarities of the Ukrainian audience of social networks. The most popular social network in Ukraine is Facebook, which is regularly used by 44 percent of survey participants. Instagram took second place with a share of 18 percent, and 13% of respondents did not use social networks at all. In the period from 2020 to 2021, the Ukrainian audience of social networks increased by 7 million. There are, of course, other popular social networks such as YouTube and Tik Tok. For the expediency of the study, we will consider these social networks in more detail.

So, let's first consider the Facebook social network.

1. Facebook is undoubtedly the leading platform now with 6.314 billion active users worldwide. There are more than 65 million businesses and more than 7 million advertisers actively promoting their services here, making Facebook a reliable choice. India alone has more than 280 million Facebook users, making it the leading country in terms of Facebook audience size. Apart from India, there are several other markets with more than 100 million Facebook users: the US, Indonesia and Brazil with 190 million, 130 million and 120 million Facebook users respectively. Facebook, which is the most popular social network in the world, has almost 2.5 billion monthly active users. With an audience of this size, it's no surprise that the vast

majority of Facebook's revenue is generated through advertising. Additionally, more than 90 percent of Facebook advertising revenue comes from mobile devices. This is consistent with recent data on Facebook user device usage, which found that as of January 2020, 98 percent of active Facebook user accounts accessed the platform via mobile.

2. YouTube is one of the most popular social networks among Internet users who watch a billion hours of video every day. You can get a channel and promote your brand, or you can simply advertise there to increase the reach of your site. Also, YouTube is an excellent search engine, so for greater success, you should read about YouTube SEO. As of March 2020, the ranking of the most popular YouTube channels based on monthly views is dominated by music and children's content. Cocomelon – Nursery Rhymes came in second with 2.32 billion channel views in the last 30 days. Indian entertainment channel T-Series took the top spot with more than 3.29 billion views. These statistics represent the most popular categories of YouTube video content in the world, ranked by the number of views. As of December 2018, entertainment was the most popular YouTube content category based on video views. This category accounted for 25 percent of public video views on the platform.

3. Instagram reached 1 billion users, becoming one of the fastest growing social networks in the world. During 2019, this platform added many updates, making it easier to interact and promote. This year looks promising for Instagram, and the number of users is likely to grow exponentially. For businesses, there are many platforms that will accelerate the success of promoting your products: you will be provided with advanced analytics, your content will be published on the right schedule, and artificial intelligence will put the likes for you. As of April 2020, it was found that 13 percent of active Instagram users worldwide are women between the ages of 18 and 24. More than half of Instagram's global population is 34 or younger. The photo-sharing app ranked second in popularity among teenagers in the US, behind only Snapchat. Teens are heavily engaged with social media audiences: In a survey conducted in April 2018, 43 percent of teens admitted to checking their social networks every hour or more.

4 TikTok - A very popular platform for short videos, where you can edit, add effects and music to them right in the application. The

number of active users has already exceeded 800 million (among whom are mainly young people), and advertising opportunities are not inferior to Instagram.

TikTok statistics:

- TikTok was installed more than 738 million times in 2019, 44% of all downloads for all time;
- China accounts for 8 out of every 10 minutes of viewing on TikTok;
- The average daily time spent on TikTok is estimated at 45 minutes;
- American users open TikTok an average of eight times a day, and sessions are less than 5 minutes on average;
- Indian users spend 38 minutes a day using TikTok;
- TikTok's revenue in 2019 was $176.9 million.

At the beginning of 2020, there were 19 million users from Ukraine who use social networks from all considered, and in 2021 this figure reached 26 million. At the same time, the penetration of social networks has increased by half: now 60% of the country's population is registered in them, while in January 2020 it was slightly more than 40%. This is according to GlobalLogic research based on open data (Data Report, State Statistics Service, Kantar, Plus One). Since 2019, the number of Ukrainians on Instagram has increased by 22%, and on Facebook - by 7%. Now they are used by 14 and 16 million Ukrainians, respectively. Over the past year, the new social network TikTok reached 16% of users from Ukraine, its growth was 500%. YouTube remains the most popular social network with a reach of 96% of users in Ukraine. On average, they spend about 40 minutes a day on the site. The number of Ukrainian Internet users also increased by 2 million, which is 33% more than in 2019 and at the beginning of 2021 amounted to almost 30 million, that is, about 67% of the country's population.

The activation of public self-organization manifests itself precisely in moments of crisis and during high-profile events. And social networks become an effective tool for drawing attention to them, "sharpen" public sentiments, and become a platform for gathering and coordinating efforts. It is worth noting that social networks as a source of information have a significant level of audience trust. Thus,

according to the research conducted by the Rating Sociological Group, more than a third of Ukrainians (37%) trust social networks.

Social networks are increasingly becoming, to some extent, an information imprint of civic activity, since this communication channel is used to spread ideas, unite like-minded people in communities (both virtual and real), organize events, and coordinate efforts. Practically all socially significant processes, events, phenomena leave a certain information imprint in social networks.

The potential possibilities of using social networks for public self-organization were vividly demonstrated by Euromaidan, which began with calls by activists on the Internet to protest. In 2013-2014, a number of pages and groups were created on Facebook, Twitter, and VKontakte (the popularity of the last 16 is related to the massive support of students, who were the main audience of the social network), where actions were coordinated and fundraising took place. A large number of people, both in Ukraine and abroad, could follow the events in "real time", participate in the creation of content and help the protesters.

Online marketing is becoming more and more popular. As a large amount of data from social networks based on the location and preferences of potential consumers is becoming a new tool to increase the supply chain, social networks such as Facebook and Instagram are currently popular in Ukraine. Tik Tok is publicly available, and use its data to analyze users' social behavior, which is important for creating online marketing events. In particular, our marketing model takes into account such key factors as distance, influence of loyalty and recommendations, dating, four main levels of strategy Online - marketing event usually contains the following attributes[117]:

Location is the address of the company or store that creates the event within the specified time frame, and also analyzes the longitude and latitude of the event. It is not only a place for holding events, namely: a place of communication between the buyer and the seller, without physical presence and attachment to time or place.

[117] Bondarenko, T.N. and Skorobogatova, A.A. (2015), "The role of marketing strategies in organizing the work of a commercial bank with clients", International Journal of Applied and Basic Research, vol. 3-3, pp. 419-423.

The scale of an event is measured by the number of customers allowed to participate in the event. The more participants attend the event, the better. However, given the number of seats, only a limited number of participants will use the service.

Service subject: products, services, or events, participation in which requires a certain price.

In addition, for advertising campaigns and the creation of promotional materials, there is also the selection of the main goal, which is included in the marketing strategy, which is aimed at increasing online traffic, which leads to an increase in overall sales and profits[118]. There are different strategies to achieve this result in practice.

Instagram accounts for 30.5% of ad spending from all Facebook-owned platforms (that's about $8.7 billion), which is half of Facebook's spending (66.8%, $19.1 billion).

Facebook's News Feed alone accounts for more than half (54.6%) of the parent company's ad spend, not least because it delivers the second-highest click-through rate (0.29%).

According to Emplifi, a social media and customer service company, Instagram accounts for 30.5% of ad spend from all Facebook-owned platforms, half of Facebook's spend (Figure 1).

Facebook reported total advertising revenue of $28.6 billion in the second quarter of 2021. This means Instagram accounted for about $8.7 billion in ad spend in the same quarter. This is a little less than half of the share of the Facebook platform - 66.8%, which is $19.1 billion.

Facebook's News Feed alone accounts for more than half (54.6%) of the parent company's ad spend, not least because it delivers the second-highest click-through rate (0.29%). However, its share decreased from 56.6% in the first quarter of 2021.

Advertising placements on Instagram occupy the second and third places, in particular, advertising expenses in the Feed are 16.9% ($4.8

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[118] Vinogradova, M., Maloletko, A. and Shatsky, A. (2017), “Social entrepreneurship within the framework of multi-agent system”, 25th International Scientific Conference on Economic and Social Development - "XVII International Social Congress " Economic and Social Development, Book of Proceedings, pp. 642-643.

billion), and in Stories - 10.6% ($3.0 billion). A significant advantage of the platform is its young audience - 41% of users are aged 18-24, while this figure reaches 31% on the Facebook network.

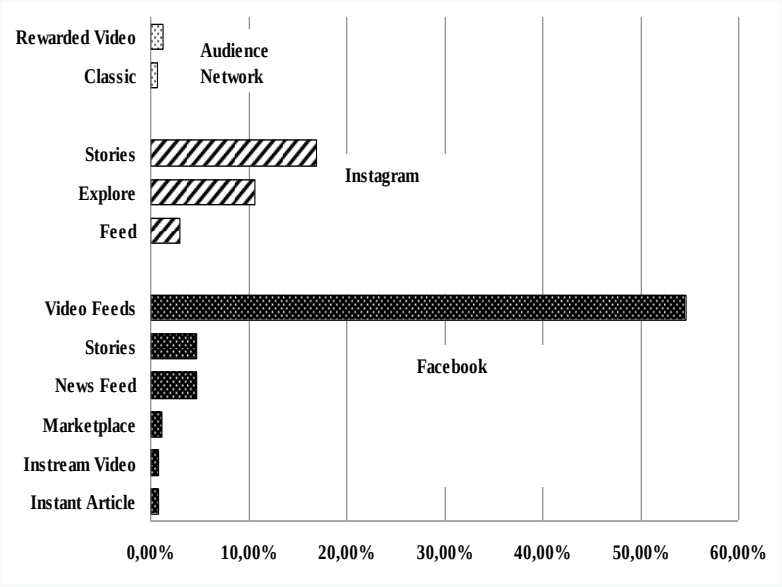


Fig. 1. **Global Advertising Spending on Facebook-Owned Platforms**

*Source: (Emplifi research results)*

Three types of strategies to increase audience and sales:

Direct mail is one of the most commonly used tools in online marketing campaigns. Demographic-based mailing lists should include customers of different categories that are more likely to purchase products.

For example, an insurance company may need lists of customers who recently purchased a new car or other items. This strategy takes into account only one factor. In fact, many factors can influence the purchase of products by customers, such as the distance they travel and their interests.

Discount pricing. Another way to attract customers is to offer price discounts, such as coupons. Department stores, supermarkets and

companies often insert their coupons in local newspapers or flyers to promote sales of their products and services. Although offering a discount will increase the desire to consume, but this strategy is ineffective for consumers who do not need such products or services. This scheme increases direct advertising costs.

Loyalty programs – loyal customers are an important resource for companies. In order to retain these customers and attract new customers, preferential policies are introduced to encourage them to consume the product or service more often[119].

Marketing strategy is an important aspect for promoting products through social networks. Marketing strategy - a program of marketing activities of the firm in the target markets, which determines the principal decisions for achieving marketing goals.

A marketing strategy is a principled and long-term decision with the appropriate methods and means that determine the benchmarks and direct individual marketing activities to achieve the set goals, which cover the elements of the marketing complex (product, price, place and promotion). They are global areas of activity that need to be specified through the planning of marketing activities, and are a kind of plan according to which the company formalizes how it will achieve success, that is, the sale of products in a specific market.

SMM - strategy is a necessary and important stage for the company. SMM - marketing strategy allows:

- calculate the costs for achieving the set goals
- assess whether the company can now afford to use social media wisely or choose other promotion channels better.
- choose the right direction based on the analysis of the product, target audience, and competitors.

The strategy turns the abstract into measurable goals with forecasts, and most importantly, with a budget for future work. That is, at the start, we consider the costs of promotion and find out whether we should go to social networks now or it is better to use other tools.

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[119] Vinogradova, M.V., Kulyamina, O.S., Larionova, A.A., Maloletko, A.N. and Kaurova, O.V. (2016), "Digital technology in the field of educational services", International Review of Management and Marketing, Vol. 6, No. 2, pp. 281-287.

This is an obvious plus. With the passage of time of the enterprise's operation, the marketing strategy may change depending on the results of the activity, namely:

1. At the stage of creating a marketing strategy, it is sometimes very difficult, or even impossible, to take into account how the market will react to the company's previous decisions, so it is logical that in order to achieve the best results, the strategy or some of its points can be adjusted.

2. There are a number of external factors beyond the firm's control that can dramatically affect the firm's activities; such factors can be: newly created legislative acts, crisis phenomena, wars, natural disasters. These factors can be not only an obstacle to the company's existence, but also a kind of catalyst, depending on the situation and the success of the company's managers and marketers. Managers, in turn, must sense when to make strategic decisions in order to intervene to prevent or avoid negative firm outcomes.

SMM promotion can be done in various social networks. The specifics of promoting on Facebook are different from promoting on Instagram or YouTube. Each social network has its own target audience - this should be taken into account when choosing platforms for communication with your customers. The choice of channel also depends on your marketing strategy. After choosing the communication channels, it is necessary to choose the tone of voice, develop a content strategy for each channel and draw up a content plan. It is necessary to maintain accounts in social networks on an ongoing basis: regularly publish content, respond to comments, post materials that attract active actions and encourage them to make a purchase, as well as configure and optimize advertising campaigns.

In essence, marketing strategy is a plan for achieving marketing goals and involves:

- market segmentation;
- selection of individual groups of consumers;
- selection of target markets;
- determination of target segments on which the company will focus its activities;
- product positioning on the market;
- determination of the product's place among competitors' products;
- determination of target competitors;

- determination of competitive advantages.

The first three elements of the strategy reflect the essence of the so-called STP marketing (segmenting - targeting - selection of the target market; positioning - positioning).

After making a decision about which segments the firm will focus on in its activities, it becomes clear which firms should become the object of special attention, a kind of target on the competitive field - those that also serve the target segments chosen by the firm.

Depending on the company's position in the market, each of them is based on certain competitive advantages:

- product (service) quality;
- lower price;
- market share;
- effectiveness of advertising;
- breadth of assortment;
- efficiency of deliveries;
- advertising budget;
- effective distribution strategy (coverage of the sales network, number of sales personnel);
- sales support;
- bank of marketing data.

When forming a marketing strategy, it is worth taking into account several alternative options, the evaluation of which will reveal the best option.

SMM strategy is a clear plan of action to achieve a certain goal. An important part of the promotion strategy is the content plan and its content, aimed at attracting the audience. Analyzing the work of competitors and the actions of a potential 74 audience allows you to create interesting, popular content that will attract a wide audience. Draw a table of the content plan, in which information useful for the audience will be located by headings. Alternate it to attract more feedback, experiment with the pitch. Popular content that will be able to collect more likes and reposts should meet the following criteria:

- Be individual. It is not necessary to create creative, viral content, but it should carry the uniqueness of the brand, its highlight;

- Reflect quality. Text written with mistakes, pictures made in a hurry can not only offend the audience, but also push them away, help them make a decision to unsubscribe or even block the channel. Try

to carefully develop the content, test its presentation so that the audience receives it with a good or neutral mood;

- Be diverse. You can tell the story of the brand, share interesting facts, conduct quizzes or even contests. It is important to regularly change the direction of information, staying on the same topic, so that people not only read, but also try to share the knowledge they have received.

Content creation is one of the main stages of working with an SMM strategy. Careful work on this stage, prepared materials for publications, affect the time to achieve the goal and its success. Don't try to create posts all at once. The process can take months, the main thing is to select information that will appeal to the audience, interest them and help sell the service or product. Control of the success of the strategy. A large number of views, an audience that is rapidly increasing - is not an indicator of success. The effectiveness of the performed actions, purchases or subscriptions of an active audience is valued much higher. The following tools can show the success of the strategy:

- Coverage. The more people view the content, the more opportunities social networks open for profiles;

- Transitions. Clicks help to understand how the marketing funnel works, to evaluate its effectiveness;

- Hashtags. Analyze the most active hashtags that are placed in advertisements, try to use them in future publications;

- Involvement. The audience may be interested not only in paid content, but also in organic content, which is published without further promotion. Evaluate the effectiveness of one or another, analyze the popularity of posts to strengthen one of the directions;

- Mood. Comments will help to find out what mood the public associates with the brand. A negative opinion can be a ploy by competitors if it is expressed only once or twice. But a systematically aggressive, offensive mood can be an indicator of incorrect work with the public.

In the process of implementing the SMM strategy, it is important to control each action, all stages. With a deep analysis using the tools described above, it is possible to adjust the promotion in a timely manner, making it more effective. If you will create a strategy for the first time and at the time of implementation you will see that it does

not connect - do not be afraid. In any case, the strategy should be regularly reviewed, adjusted and improved.

A marketing strategy is a principled medium- and long-term decision with the appropriate methods and means that determine the benchmarks and direct individual marketing measures to achieve the set goals, which cover the elements of the marketing complex (product, price, place and promotion).

For expediency, consider the main definitions of marketing strategies, which will be shown in Table 1.

A growth strategy is a set of actions and plans that a company develops in order to increase its market share by achieving a stable and unique advantage in its competitive environment.

Competition strategy is the most important long-term efforts and actions of firms and companies to ensure competitive advantages and protect their positions.

Strategic leadership is the ability to influence others so that they voluntarily make daily decisions that enhance the long-term viability of the organization while at the same time supporting current results.

Strategy of priorities - priority tasks that are of decisive importance for achieving the general goals of balanced development of the company.

To reveal the essence of marketing strategy, we will consider its main principles:

- Complexity of the marketing work process;
- Regulation of procedures for working with clients at all stages of service provision using job instructions and/or an automated information system;
- Unity of prospective and current marketing planning, which indicates the presence of developed and operational business technologies for working with clients;
- Control of marketing decisions made.
- Continuous evaluation of the quality of customer service[117] [118] [119].

There are four main marketing strategies, they are presented in the table. 1.

To date, there have been qualitative changes in the relations between companies and customers. The spread of social networks - such as "Facebook", "Twitter", "YouTube" has significantly influenced the marketing strategy and activities of enterprises. The

consumer is gaining more and more control over the activities of companies and their products, and since it is the consumer who is the key factor for enterprises, enterprises are adapting to new conditions and are beginning to actively use social networks to build more trusting and profitable relationships with customers. However, it is worth noting that an effective marketing strategy in social networks has some features and must meet certain requirements.

First, you need to remember that marketing in social networks is not only the promotion of the company's content. In order to really increase the audience and become an authoritative company in its niche, it is necessary to present a wide range of content that will interest users. Searching and processing this content can take a lot of time, so you need to use content curation tools that allow you to find content based on keywords and save it. The company can then easily view the content and post it to their social media accounts.

Table 1

**Marketing strategies and their characteristics**

| Strategies | Characteristics |
|---|---|
| Growth strategy | - Sale of existing services on existing markets;<br>- Sale of new services on existing markets;<br>- Sale of existing services in new markets;<br>- Selling new services in new markets |
| Competition strategy | - Leadership in tariffs;<br>- Building client chains;<br>- Exclusive service to a significant clientele;<br>- Expansion of information dissemination channels;<br>- Cost dominance (costs, tariffs)<br>- Use of competitors' miscalculations |
| Leadership strategy | - Solving internal communication problems;<br>- Improving the quality of the organization of work with clients;<br>- Creation of a client-oriented organization |
| Strategy of priorities | - From services and expansion of their assortment;<br>- By market niche;<br>- According to existing clients;<br>- According to the external commercial environment. |

*Source:*[117]

Secondly, it is very difficult to achieve a large increase in popularity in social networks without gaining the support of influential people. Influential people are those people who have many subscribers and can make a significant impact on them. It is important to include such people in your marketing strategy and encourage them to share company content with their subscribers. One easy way to do this is to tag them in your social media posts. In recent years, social media marketing has gained a lot of popularity and has become one of the most effective strategies for increasing traffic, attracting an audience and driving sales.

Thirdly, one of the most important components of advertising in social networks is the frequency of posting. Some experts advise posting one post a day to keep the audience interested, but not to overload with information. It must be remembered that there should not be long downtimes or interruptions, because in this case the audience will begin to forget about the page, and subsequently the company may lose a significant part of its subscribers, who are potential customers. The strategy helps to understand the current state and set long-term goals, builds a way to achieve goals and organizes the entire process. SMM - the strategy must be integrated into the general policy of the company, obey the business strategy and the marketing strategy. Today, most progressive companies create their own corporate pages and communities in many popular social networks, with the help of which they actively interact with the target audience, fill the pages with useful and interesting content, conduct quizzes and contests among users. At first glance, it may seem that all these actions are mainly of an entertainment nature, but all actions aimed at communicating with the target audience act as one of the most powerful tools for increasing loyalty to the organization's brand.

How to use social media not only as a tool to encourage consumers to buy your special product, but also to take action to do so on an ongoing basis, and to start following your brand and becoming a loyal consumer of your product.

Thus, it is considered that tracking the opinions of consumers is an integral function of online marketing in social networks for a supply chain that must work continuously. This monitoring allows you to constantly receive feedback from customers. Accordingly, the potential of buyers during a certain period, the selection of the most

popular products, the guided opinion of consumers, the use of bloggers and consumers to write reviews or reviews are evaluated [120].

Responding to the emerging needs of consumers, which we mainly learn from the dialogues between the seller and the buyer through two channels - the first participation in the dialogue, the second feedback on the product or service on the website or page. Therefore, when fulfilling orders and encouraging the purchase of our product, it is necessary to create a favorable public opinion about the company, while it is not enough to simply monitor the opinion of consumers, it is necessary to respond to their requests and satisfy their needs. For example, after the wave of information about blood oxygen levels and the connection with the exacerbation of the disease Covid-19 in social networks in 2020, many netizens began to familiarize themselves with portable blood oxygen leveling systems.

If a consumer contacts a company's support service, he or she has a positive or negative experience. And as a rule, there is a high probability that the consumer will share his own negative opinion about the company on the Internet [121]. Therefore, the customer service department must respond quickly to such cases in order to prevent negative information about the company from spreading.

Strengthening positive activity - creating a system of relations with consumers in which they will share positive information about the company. At the same time, it should be noted that the support service cannot help every customer, especially when it comes to a large company [120]. Therefore, many individual answers to consumer questions are not a guarantee of forming positive opinions about the company and its products. It is necessary to create conditions for the consumer's involvement in the process, when the company creates a trusting system of relations between the seller and the buyer, while the seller smoothly transitions from a simple respondent to a moderator

[120] Baimatov, A.A. (2018), "Innovative marketing: a strategy for creating new customer value", Bulletin of the Tajik State University of Law, Business and Politics. Social Science Series, vol. 74.1, pp. 13-20.

[121] Gavilanes, J.M., Flatten, T.C. and Brettel, M. (2018), "Content strategies for digital consumer engagement in social networks: Why advertising is an antecedent of engagement", Journal of Advertising, vol. 47 (1), pp. 4-23.

who conducts various types of dialogues and discussions with the consumer.

Leadership in the conditions of change can be a traditional marketing tool (campaign advertising, promotions), but the advantage of social networks lies in feedback, which is logically integrated into the client's involvement in the change of taking a place in the company[120].

For example, the KFC restaurant chain, in its group on social networks, offers its visitors to leave a review about the work of one of the restaurants. By leaving your feedback, it is intended to fix the level of service and it is possible to receive suggestions for improvement in the field of service, and the consumer receives a coupon for the free purchase of goods or the purchase of goods at a discount.

To automate these processes, user monitoring software is used, there is a lot of software that is designed to read information from equipment and used software resources[122].

The Content Marketing Institute, together with MarketingProfs, organized a survey in which 3,714 marketers from around the world participated. Content and success in Internet marketing were chosen as the research topic. Despite the fact that only 263 respondents refer to B2C marketers and business owners, the results of the survey were considered indicative[123].

Promotional posts (for example, publications on Facebook or Twitter and Pinterest) are used by 76% of B2C marketers. 61% of them confirmed the effectiveness of this type of advertising in social networks, the effectiveness of which was estimated at 4 or 5 points according to a five-point system (3 shows a neutral attitude)[123].

Thus, the development of the Internet and the emergence of social networks led to the change of the classic business model from B2C (Fig. 2).

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[122] Liu, Y., Liu, A., Liu, X. and Huang, X. (2019), "A statistical approach to participant selection in location-based social networks for offline event marketing", Information Sciences, vol. 480 pp. 90-108.

[123] Yaghtin, S., Safarzadeh, H. and Karimi Zand, M. (2020), "Planning a goal-oriented B2B content marketing strategy", Marketing Intelligence & Planning, Vol. 38 No. 7, pp. 1007-1020. https://doi.org/10.1108/MIP-11-2019-0559

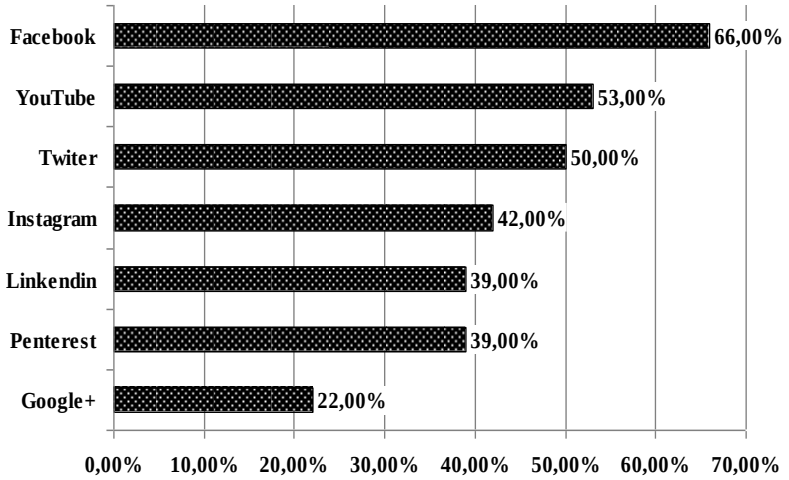


Fig. 2. **Effectiveness of social platforms for B2C**
*Source:*[123]

Now this system has one more element of C - the consumer is ready to share his opinion about the company and about the products. When it is not possible to deliver the product in a short time, then users need to show the delivery process itself and the ability to track it via the Internet 24/7.

The majority of respondents who took part in the CMI survey belong to the B2B sphere (one thousand five hundred and twenty-one people). Of them, 93% use advertising in social networks: 52% - advertising posts, 41% - advertising directly. 48% of marketers rated these tactics at 4 points on a five-point scale of effectiveness, 45% - at 5 points. 3 [123].

However, 55% of B2B experts rated paid search advertising as well as PPC (Pay-Per-Click) above average (4 or 5). And only 29% of respondents consider traditional banner advertising sufficiently effective or very effective.

For a successful advertising campaign, you must first develop an optimal approach to the selection of participants for marketing activities. The most difficult work is to present the layout, you need to build an algorithm to achieve the goal in order to achieve the

maximum effect in marketing, the first effect (getting the number to the client, which is the first element of trust, which will result in improved communication and the ability to send messages and follow up on visits ) when constructing a selection of invitees for sponsored online or offline events, social networks should be used, as well as pay attention to the interests of potential consumers based on location through data from the network[122].

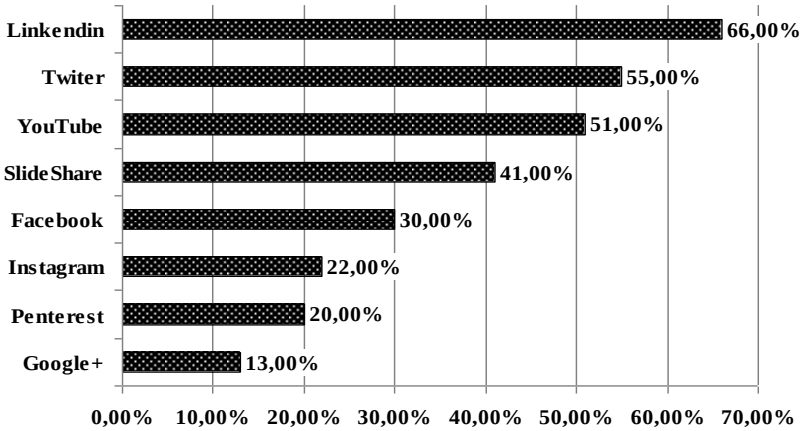


Fig. 3. **Effectiveness of social platforms for B2B**
*Source:* [123]

As you know, most of the information about participants comes from recommendations - his/her friends, it is most important to take into account the recommendations of friends. For example, if Participant A likes the venue, then he or she will recommend the event or tell their friends.

Management of consumer behavior based on social network technologies has great potential not only as a process of synthesis of consumer preferences, the use of innovative marketing tools, psychological approaches – all this leads to the achievement of the goals of business entities (company, enterprise, corporation), for which the main task was and the profit from the sale of products remains. The progress of social networks continues in supply

chains[124]. In this case, avalanche-like complications arise not only in organizational forms, but also in content and parameters. On the other hand, social networks have a strong influence on large social groups.

At the same time, the forms and methods of state (corporate) control in Ukraine have not yet become a mass phenomenon, the person in the network is becoming a key element in the development of sales technologies and new marketing methods. This is a quantitative and qualitative diversity of economic components in social communication networks. Its main tools are active and sometimes continuous advertising of goods and services, constant analysis of the competitive environment, development of new ways of promoting goods. As a result of these actions, the audience of consumers of goods and services increases.

Thus, for businesses, social networks are a platform where there are millions, or even billions, of potential buyers. Of course, not all of them will become customers, but it is quite possible to select your target audience from them. Together with the growth of the audience of social networks, their opportunities for promotion and advertising are developing, and the number of experienced SMM marketers with case studies of successful advertising campaigns in social media is growing.

Social media marketing provides marketers with a more efficient, effective, and cost-effective method of engaging with fans, customers, prospects, and partners across all channels. More than 76% of the population of Ukraine use social networks and brands should be where their audience is. Many brands have already found success thanks to social networks, but at the same time, an equal number have ruined their reputation there. Therefore, before creating business pages, it is necessary to study the platforms from A to Z, learn which approaches to use to advance, and which are better to abandon. With a strategic approach and the right tools, marketers can choose the best social platforms for their brand and effectively distribute relevant, meaningful content across channels.

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[124] Yang, M. (2018), "International entrepreneurial marketing strategies of MNCs: Bricolage as practiced by marketing managers". International Business Review, vol. 27 (5), pp. 1045-1056.

It cannot be argued that the presence in social networks will be equally effective for different business players. It is necessary to choose the right strategy of the SMM campaign, evaluate its possibilities and results. The effectiveness of influencing a certain target audience in social networks depends on a correctly chosen strategy that will help increase company profits. At the same time, marketing in social networks can become a serious advantage for any business. In fact, there is no reason not to incorporate social media into your marketing strategy - SMM is such a profitable investment that you definitely won't regret it.

The manufacturer or seller must regularly monitor media resources, close the focus, identify themselves in the media resources or on the websites of competitors, monitor blogging with a description and presentation of the company's products and showing the advantages of the products over the company's competitors, regularly collect and analyze statistics on site visits, offers and customer comments. The best solutions for the progressive development of the company are the development of a marketing strategy for the further development of trade through social networks, including through mass media marketing or with the involvement of specialists in the field of SMM promotion.

In conclusion, it should be noted that the promotion of goods in the social network will provide an opportunity to improve the image of the manufacturer, create a group of loyal consumers, sell goods, expand sales of goods, constantly improve the assortment, characteristics and quality of goods, based on consumer comments, using feedback through social networks and supply chain improvement [125].

[125] Kaznacheeva, S.N., Lazutina, A.L. and Morovova, I.M. (2018), "Benefits of internet marketing", International Journal of Advanced Studies, vol. 8(2-2), pp. 93-98.

## 1.10. METHODS OF STRATEGIC ANALYSIS IN MAKING MANAGEMENT DECISIONS OF AGRICULTURAL ENTERPRISES

A modern agricultural enterprise is a complex and dynamic socio-economic system that has a complex of interrelated processes that ensure the adoption of strategic management decisions in continuous communication and can become a factor in increasing its competitiveness. Difficult operating conditions, increased level of instability, unpredictable behavior of competitors dictate the need for enterprises to be as mobile and fast as possible. That is why making of management decision of an agricultural enterprise in modern realities should be based on the need for continuous development: innovative, economic, organizational, communication.

The issues of development and implementation of strategic analysis methods are reflected in the works of prominent scientists in strategic planning, such as R. Akoff, V. A. Vasilenko, R. Grant, H. Mintzberg, M. Porter, R.O. Fathutdinova, Z.E. Shershneva. However, in theoretical and methodological aspects, the problems of forming methods of strategic analysis in making managerial decisions of agrarian enterprises remain insufficiently studied. This determines the relevance of the research, its purpose and direction of research.

The purpose of the study is to justify the methods of strategic analysis at management decisions making of agricultural enterprises in the conditions of rapid changes in the external environment.

The methodological basis of the research was: general scientific methods: deduction (providing substantiated conclusions to tables and structures); induction (presentation of personal judgments in the work); analysis (analysis of the activity of the business entity, which consists in the assessment of production and sale of products); synthesis (development of SWOT analysis, PEST analysis).

Concrete scientific methods: abstract-logical; monographic (comparison of the reporting indicators with specific indicators of the base year); calculation-constructive (use of scientific data, which are involved in identifying existing patterns, the most rational options for solving problems); "Tree of goals" (determination of the structure of the strategic goals of the agricultural enterprise and ways of achieving them).

Results of study.

Theoretical justification of the concept of strategy

The concept of strategy is of primary importance in the theory of management, due to the fact that it combines the issues of perspective and current management, all levels of management and management functions without exception. As a result of the continuous search for correspondence between the requirements of the external environment and the internal capabilities of business entities, the task of forming an effective development strategy is increasingly relevant. Organizational change is a constant component of strategic development, while the scientific literature on issues of organizational development and strategic development is different. Thus, strategic development is mainly concentrated on innovation, practical management and management theory, while organizational development theory deals with the study of business organization theory and behavioral sciences. It is due to this that it is advisable to analyze the concept of "organizational development" and strategy and compare them.

In ancient Greek times, the concept of "strategy" was originated from military affairs, however, Socrates argued in the V century B.C., that the concept of "strategy" can be applied in any sphere of management[126]. In European countries, the term strategy was used to refer to military actions. Along with that the theory of games presented by Oskar Morgenstern and John von Neumann in 1944, gave rise to the consideration of strategy as "a series of actions of a business entity, which are taken in response to a certain situation»[127].

In the works of the Stanford Research Institute in the 1960s, the concept of "strategy" acquired a broader meaning and already provided for the calculation of changes to reduce future uncertainties. In the book "Management: Tasks, Responsibilities, Practices", P. Drucker notes that changes are the norm, and the main distinguishing

[126] Ksenofont. Zgadka pro Sokrata. [Electronic resource] URL: http://knigi.link/antichnaya-filosofiya-knigi/razgovor-nikomahidom-strategе-10773.html.

[127] Neumann J.V. Theories of games and economic behavior: 60th anniversary commemorative edition (Princeton classic editions). Princeton. Princeton University Press. 2007. – 776p.

feature of effective strategies is an emphasis on innovation and value for the consumer[128].

Such scientists as I. Ansoff, R. Akoff[129], H. Mintzberg[130] played an important role in the formation of the concept of "strategy". Thus, H. Mintzberg believed that strategy is interpreted "as a pattern in the flow of decisions"[131], and in his further research he came to the conclusion that the strategy has an integral nature that combines "5-P" - at the same time, the strategy is a plan, position, technique, perspective and, in addition, their interaction[132].

A special place in the development of the concept was invested by M. Porter, who considered "strategy" as the organization's intentions to gain a competitive position on the market and to obtain a profitable and sustainable competitive advantage[133]. In addition, in 1984, E. Freeman proposed the following approach to the concept of "strategy". He considered it as a set of strategic programs that ensure that the interests and goals of stakeholders are considered in the process of promoting and achieving the organizational mission[134]. In the 1990s A.K. Dixit and B.J. Nalebaff, gave a new development to the theory of games and presented the concept of "strategy" as "the art of interaction with competitors, during which the best response to the

[128] Drucker P. Management. Revied: by Jim Collins. New York. Harper Business. 2008. – 608p.
[129] Ackoff R.L. Ackoff's best: his classic writings on management. New York. Wiley. 1999. – 368 p.
[130] Mintzberg H., Ahlstrand B., Lampel J. Strategy safari: a guided tour through the wilds of strategic management. New York. Free Press. 2005. – 416p.
[131] Mintzberg, H., Lampel, J. Reflecting on the strategy process. *Sloan Management Review*, 40, 1999. P. 21-30.
[132] Mintzberg H. The Strategy concept 1:5 Ps for strategy. *California Management Review*, 30, 1987. P. 11-21. DOI:10.2307/41165263
[133] Porter M. Competitive advantage: creating and sustaining superior performance. New York. Free Press, 2004. – 592p.
[134] Freeman R.E. Strategic management: a stakeholder approach. Cambridge. Cambridge University Press. 2010. – 292 p.

actions of competitors who simultaneously act in the same way is developed"[135].

In turn, scientists who deal with the issue of organizational development separate this concept as a separate field of research and consider it a field of knowledge that covers many disciplines. They consider this concept to be quite broad and include both concepts of organizational behavior and business management, economics, management, consulting and public administration, sociology, psychology, anthropology, and education[136]. The most important works in the development of the concept of organizational development belong to M. Egan, who in the period 1969-1999. developed a typology of 27 different interpretations of the concept. At the same time, the concept introduced in 2005 is important. G. McLinen, he notes that organizational development is any activity or process for improving knowledge, productivity, expertise, income, relationships between people or certain desired results in the organization and for its benefit[137]. At the same time, he notes that the peculiarity of such development is that it has a general benefit, both for the region, community, nation, and in general for humanity.

Having conducted a comparative analysis of the concepts of "strategy" and "development", it can be concluded that the concept of "strategy" already implies development in its very essence, and therefore these concepts are synonymous, and involve the process of changes for the improving the company's activities, special in this regard is the allocation of the organization, as a set of those who form the activity and perform its direct functions in order to achieve success in the long term.

The conducted research provides an opportunity to define the concept of organizational development strategy, as a system of long-term plans and specific actions for the development and

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[135] Dixit A.K., Nalebuff B. J. Thinking strategically: the competitive edge in business, politics, and everyday life (Norton Paperback). New York–London. Norton &Company. 1993. – 416p

[136] Shvindina H.O. Identyfikatsiya sutnosti strategii organizatsiynoho rozvytku. *Natsional'na ekonomika. Intelekt XXI.* №6. 2016. P.153-160.

[137] McLean, G. Organization development: principles, processes, performance. Oakland. Berrett-Koehler Publishers. 2005. – 480 p.

implementation of optimization changes in the activity of a business entity, with a balanced system of motivational measures and performance analysis, taking into account the culture of the organization, informal relations and the interaction of all its elements that contribute to the overall success and individual development and satisfaction of the organization's members' own goals.

Objectives and main criteria for choosing the strategy of an agrarian enterprise

In conditions of uncertainty of the external environment, the agricultural enterprise should pay special attention to the choice of its own strategy. Classical strategies, in such conditions, are insufficiently effective and require changes and additions. In the theory of strategic management, there are a number of strategies that can be used in combination for greater effectiveness[138]. Among these strategies, scientists pay special attention to the strategy of organizational development, which includes, in addition to classic competitive strategies, also strategies for forming of an effective and optimal organizational structure and business model[139].

The main objectives of the organizational development strategy are presented in Fig. 1.

To ensure effective development, an agricultural enterprise must base its own activity on continuous innovative development, transform the organizational component, optimize business processes, while ensuring an effective internal communication process. The strategy of organizational development is designed to solve these issues and bring the activity of agricultural enterprises to a qualitatively new level, which will contribute to increasing the overall efficiency and competitiveness of agricultural enterprises.

[138] Rusova O.I., Levina-Kostiuk M.O. Strategiya orhanizatsiynogo rozvytku yak chynnyk pidvyshchennya konkurentospromozhnosti agrarnogo pidpryyemstva. *Problemy ta perspektyvy rozvytku ekonomiky: svitovi ta natsional'ni aspekty.* (Odesa, 18.11.2022). Odesa, OSAU. 2022. P.104-105

[139] Gamiie A. M. Metodychne zabezpechennya vyboru strategii organizatsiynogo rozvytku pidpryyemstva. *Global'ni ta natsional'ni problemy ekonomi*ky. № 8. 2015. P. 344-347.

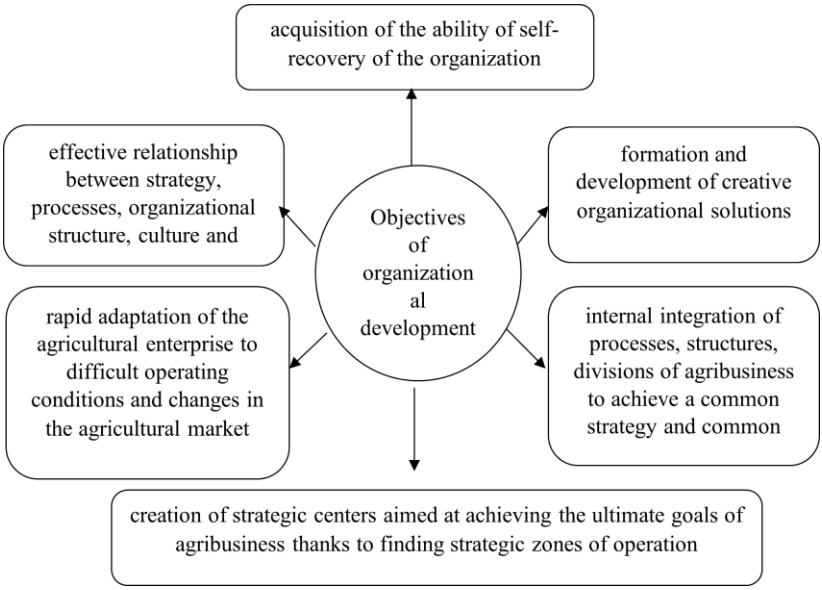


Fig. 1. **Objectives of the organizational development strategy**[140]

Important attention should be paid to the selection criteria for decision-making regarding the choice of organizational development strategy. The composition of the criteria requires considering the specifics of the business entity and its experience, competitive conditions, political, economic and other factors. (Fig. 2). In addition, consideration of the specifics of agricultural production, which depends on natural conditions and the use of land, as the main means of production and at the same time the subject of labor.

[140] Pidvalna O.H., Shvets A.H. Upravlinnia organizatsiinym rozvytkom organizatsii. *Ekonomichni vidnosyny*. 2010. [Electronic resource] URL: http://www.rusnauka.com/35_OINBG_2010/Economics/76062.doc.htm.

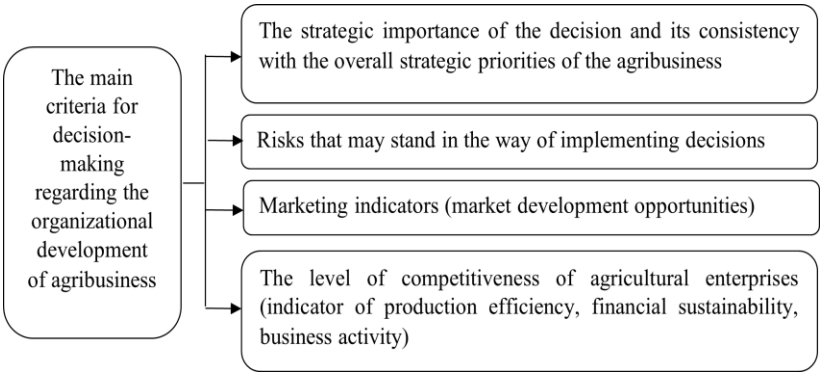


Fig. 2. **The main criteria for evaluation at making decisions regarding the organizational development of the agribusiness** [141] [142]

Special attention when taking into account the risks that occur in agriculture requires have the following [143] [144] [145]:

– political instability in the country, the risk of adverse changes in the socio-political environment of the country, region;

[141] Gamiie A. M. Stratehii vyboru orhanizatsiinoho rozvytku pidpryiemstva. *Yevropeiskyi vektor ekonomichnoho rozvytku*. 2015. № 1 (18). P. 51- 57.
[142] Levina-Kostiuk M.O., Melnychuk O.I., Danilenko O.V., Lahodiienko V.V., Tkachuk H.O. Optymizatsiia vyrobnychoi diialnosti fermerskoho gospodarstva z vykorystanniam ekonomiko-matematychnykh metodiv. *Ukrainskyi zhurnal prykladnoi ekonomiky ta tekhniky*, 2021. V. 6. № 4. P. 112-120. DOI: 10.36887/2415-8453-2021-4-13 [Electronic resource] URL: http://ujae.org.ua/wp-content/uploads/2022/02/ujae_2021_r04_a13.pd.
[143] Melnychuk O., Levina-Kostiuk M., Livinskyi A. Applied aspects of economic and mathematical modeling of production activity of enterprises of the agricultural *V International Eurasian Agriculture and Natural Sciences Congress.* Selkchu University, Odessa State Agrarian University, Kyrgyz-Turkish Manas Yniversity. 2021. P. 122-126.
[144] Grant R.M. Contemporary strategy analysis: Text and Cases. New York. Wiley, 2013. – 842p
[145] Ponomarenko V.S., Maliarets L.M. Bagatovimirniy analiz sotsialno-ekonomichnih sistem. Kharkov, HNEU, 2009. – 384 p.

– risks associated with the instability of legislation in the field of economy, a difficult economic situation, constant changes in investment conditions, peculiarities of the distribution and application of profits;

– foreign economic risks, due to the deterioration of relations between countries and, accordingly, changes in the regulation of foreign economic processes;

– risks of a production and technological nature, due to the complexity of introducing new technologies, training and using new equipment taking into account the production cycle, seasonality of production in agriculture;

- information risks, due to the submission of unreliable or partially reliable information about the financial condition of the enterprise, its possible partners and entities related to its activities;

- risks regarding the balance between all the interests of both management and managers and co-participants in the process of production and sale of products, and the compatibility of these interests with the general strategy of the agribusiness.

The strategic importance of the decision and consistency with the general strategic priorities of the agribusiness implies:

1. Alignment with guidelines at the strategic level, general strategy and competitive policy.

The following positions require special attention:

– Determination of decisions regarding the real need for a change in the existing strategy;

- Determination of decisions regarding the actual activation of the potential of agribusiness and its growth;

- Miscalculation on the perspective of financial stability when changing the strategy.

2. Financial stability of the agricultural enterprise:

- the volume of investment for the introduction of innovations, conducting marketing research;

– planned annual indicators of economic efficiency (profit, rate of return);

– compliance of innovative development plans with the requirements of economic efficiency of capital investments that take place at the agricultural enterprise.

3. Criterion of uniqueness and innovativeness:

- the level of uniqueness of the technological process or the manufactured product;

– development of the scientific and technical base and accumulation of Western experience in the implementation of innovative projects;

- the availability of professional staff for the creation and implementation of innovative projects.

4. Efficiency of production activity:

- compliance of the available capacities of the agricultural enterprise, the size of its land resources, fixed assets with strategic decisions;

- provision of agricultural enterprises with qualified personnel for production;

- needs for the realization of production potential due to the expansion of activities.

5. Social responsibility of agribusiness. Provides to the need to comply with standards of quality and environmental friendliness of the production process.

6. Marketing indicators:

- satisfaction of the year-round demand for the agro-food products of consumers in the region and the country;

- identification of the place of agro-enterprise goods on the market, its substitutes;

- competitiveness of the company's goods on the market, advantages in the sales system;

- the possibility of introducing new products into the production structure and their development in the context of the company's activities.

Based on the combination of approaches to making a managerial decision regarding the choice of an organizational development strategy (Fig 3), it is possible to distinguish the main options for behavior and methods of making a managerial decision in one or another case.

Comparing different options of strategies for achieving organizational development, we believe that the calculation strategy is the most balanced and under any conditions of activity provides an opportunity to achieve success considering the changing conditions of the external environment.

Methodological support for choosing a strategy for organizational development of the enterprise

The formation of organizational development strategies of the business entity is a complex process of finding the most rational and optimal directions of operation, finding new opportunities for building clear competitive advantages, and obtaining the desired position of the business entity on the market. We believe that it is necessary to divide this process into stages and define tasks, the results of which will help to form a set of strategic measures to implement the corporate strategy of the agricultural enterprise in general and in terms of compliance with its organizational structure. Stages, methods, tasks, as well as planned results when solving each of the tasks are reflected in Fig. 4.

It should be noted that these stages should be logically integrated into the system of strategic planning of the agricultural enterprise. Thus, an analysis of the current state of the organizational development of agribusiness should be the basis of the starting points for the construction and selection of strategies. At the same time, the model of organizational development developed by L. Greiner and the results of studying the concept of the life cycle of the organization's work receive special attention[146].

The first stage is a comprehensive strategic analysis[147]. The methods by which it can be carried out are: SWOT analysis, which represents the determination of the strengths and weaknesses of the organization's activities (opportunities for development and threats to development), conducting an analysis of strategic areas of economic activity, which interprets the target markets of agribusiness, conducting an analysis according to Porter`s model of 5 forces of competition, where the strategy is presented from the position of influence on the activities of the agricultural enterprise of competitors, consumers, suppliers, barriers to market entry and substitute goods.

[146] Daft R.L. Organization theory and design (13 adition). 2020. – 688p.

[147] Levina-Kostiuk M.O., Melnychuk O.I., Telichko N.A. Metody pryiniattia upravlinskykh rishen v umovakh nedostatnoi informatsii. Ekonomika ta suspilstvo, 2022. №43. DOI: 10.32782/2524-0072/2022-43-40 [Electronic resource] URL: https://economyandsociety.in.ua/index.php/journal/article/view/1726/1663

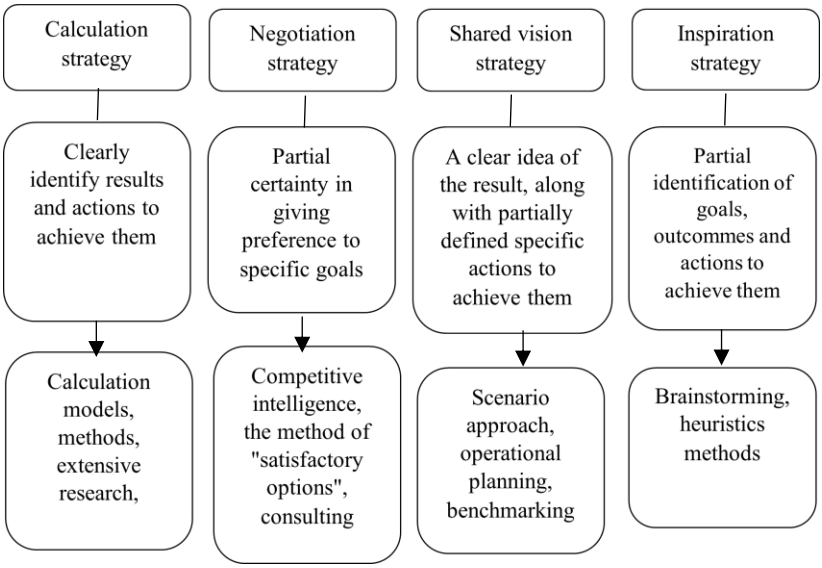


Fig. 3. **Methods of decision-making in choosing a strategy for the organizational development of an agricultural enterprise**[141]

The result of the first stage of forming a strategy for the organizational development of an agribusiness is the determination and assessment of the capabilities of the agribusiness in the strategic perspective, the effectiveness of the past strategy, and the determination of a sufficient number of resources to achieve the desired goals; determination of the main factors that characterize the success of an agricultural enterprise on the market.

At the second stage, the construction of alternative strategies of organizational development takes place, which, thanks to matrix methods, methods of researching the competitive positions of agribusiness, methods of key positions of success, the Edenburg method, helps to create a space for reference points and prospects for development, as well as alternative goals.

After selecting the strategy of organizational development through expert methods, analysis of hierarchies, scenario forecasting, ranking of alternatives, it is necessary to consolidate the chosen strategy of organizational development of the agricultural enterprise.

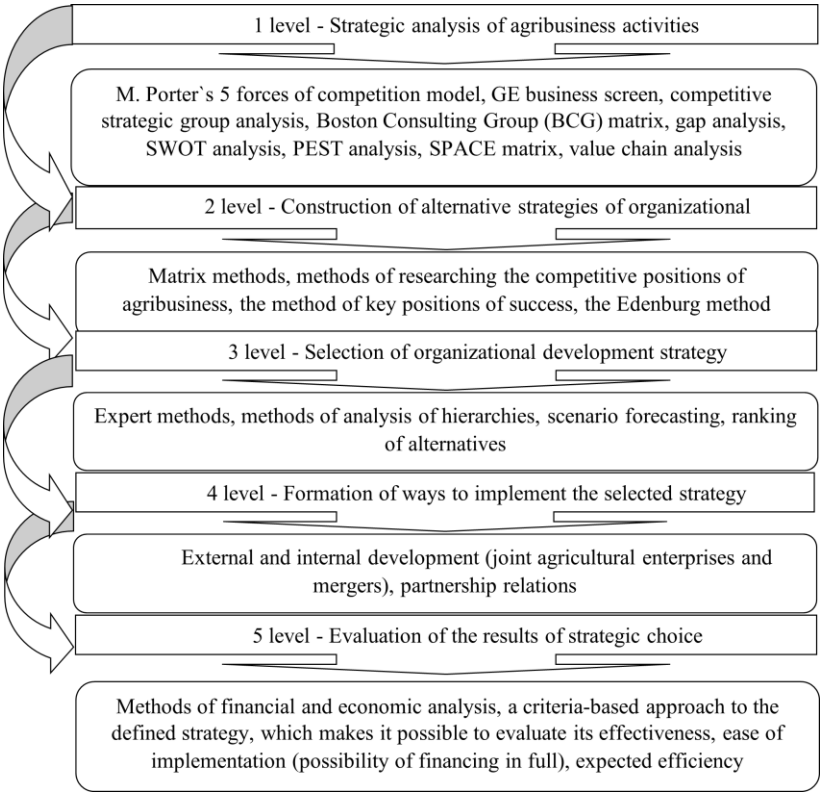


Fig. 4. **Methodical provision of the stages of choosing a strategy for organizational development of an agricultural enterprise**[141 143 145]

The next stage involves the formation of ways to implement the selected strategy through external and internal development and partnership relations, while forming exactly such a model that allows the agricultural enterprise to focus its attention on the main competitive advantages.

At the final stage, the results of the implementation of the development strategy are evaluated and, first of all, based on the methods of financial analysis, the results of the implementation of the

strategy are presented and, if necessary, the tactical and strategic goals are adjusted in accordance with the obtained results.

Having studied the methodological support for choosing a strategy for the organizational development of the enterprise, it is determined that the process of determining the strategy involves the passage of five stages: strategic analysis of the activity of the agricultural enterprise; construction of alternative strategies of organizational development; selection of organizational development strategy; formation of ways to implement the selected strategy; evaluation of the results of strategic choice, each of the stages is characterized by its own methods and approaches.

Therefore, the problem of defining and choosing a strategy for the organizational development of an agricultural enterprise in the modern period is a determining factor in the formation of competitive advantages of agribusiness and the construction of specific recommendations for its development in the long term.

Strategic analysis of the activities of agricultural enterprises

Each agricultural enterprise functions as an open system, which is influenced by external factors, they bring opportunities and threats to the enterprise's activity, provide it with resources, information, and technologies[148].

It is advisable to present the analysis of economic (E - economic), political (P - political), technological (T - technological), social (S - social) factors of the external environment by the method of PEST analysis, which is one of the research tools when choosing an organizational development strategy of an agricultural enterprise (table 1). The study is based on the activities of agricultural enterprises in the Odesa region.

[148] Levina M. O. The optimization of the structure of production and distribution of agricultural goods by suburban enterprises of Odessa. *Problems and Perspectives in Management*. Sumy: Sumy State University Publishing Company “Business Perspectives”, 2013. № 3 V. 11. P. 56-62.

Table 1

**PEST analysis of agricultural enterprises of Odesa region**

| P | E |
|---|---|
| 1.Full-scale war | 1. Unstable economic condition |
| 2. The project "New Agrarian Policy" | 2. Decline in production |
| 3. Availability of prospects for the implementation of European support | 3. Inflation |
| 4. Excessive support of agricultural holdings | 4. Increase in the cost of energy carriers |
| 5. Tax imbalance between agricultural holdings and other farms | 5. Blocking of exports |
| **S** | **T** |
| 1. Demographic changes against the background of hostilities | 1. Change of emphasis to niche high-margin crops (berries, chickpeas, mustard, peas, medicinal herbs) |
| 2. Labor shortage and the need for retraining | 2. Emphasis on computerization of the production process |
| 3. Changes in the structure of income and expenditure of the population | 3. Implementation of high-tech equipment |
| 4. Change in basic values | 4. Use of European experience in the field of production |
| 5. Environmental problems | 5. Emphasis on intensification of production |

Having developed a PEST analysis, it is possible to conclude that the beginning of a full-scale war in Ukraine had a significant negative impact on the agriculture of Ukraine. The number of threats to unprofitable production at the economic and social level has increased significantly, along with that there are prospects for supporting agriculture at the political and technological level.

Thus, at the political level, despite the state of war in the country, the project "New Agrarian Policy" has been developed, which presents a three-level model, among its aspects, the project of work in the agro-food sector for the war period, post-war recovery and the next stage - development is taken into account.

The duration of the war period cannot be predicted, while the post-war period is predicted to last 1-2 years, and the development period - 5-7 years. The document provides for special support for small and medium-sized businesses based on the financing of significant

investments in the development of enterprises, the achievement of simplified credit rates for agricultural producers[149]. In addition, the availability of prospects for European support for agriculture not only at the level of agricultural holdings, but also for small and medium-sized businesses gives prospects for the studied economy to find projects for its own development in the post-war period[150].

Among the identified negative political factors, excessive support for agricultural holdings should be highlighted. With the high profitability of their own activities, they simultaneously monopolize state support of the agricultural sector (before the war, 5–10% of the largest agricultural enterprises received 70–80% of national income for measures to support agricultural production). At the same time, the taxation of the activities of agricultural holdings takes place according to a simplified system, in the presence of external investments, their profits to a large extent pass through "tax havens" (such as the British Virgin Islands and Cyprus), which reduces the level of public goods of the country and the level of income of the domestic market.

The activities of agricultural holdings lead to the development of unfair competition on the market of agri-food products in Ukraine, exerting economic pressure on medium and small agrarian businesses[151].

Economic factors are represented, first of all, by threats caused by economic instability, due to changes in the domestic market, the presence of occupied territories that have fallen out of the economic process of the state, the presence of problems with logistics not only at the export level, but also in the domestic market. At the same time,

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[149] Vysotskyi T. Nova agrarna politika: dovira do silskogo gospodarstva Ukrainy zmitsniuietsia. [Electronic resource] URL: https://interfax.com.ua/news/blog/849957.html.

[150] Kravchenko V. Sutinki agroholdingiv: yak vijna zminit silske gospodarstvo Ukrainy. [Electronic resource] URL: https://mind.ua/publications/20245288-sutinki-agroholdingiv-yak-vijna-zminit-silske-gospodarstvo-ukrayini.

[151] Povidomlennia NAN Ukrainy. Silske gospodarstvo Ukrainy v umovah voiennogo stanu: uroki dlia suspilstva i politikiv. [Electronic resource] URL: https://www.nas.gov.ua/UA/Messages/Pages/View.aspx?MessageID=9288.

for the farms of the Odesa region, a significant lever is the location in the territory where there is no direct hostilities, which gives the opportunity to save resources and sell their own products. At the same time, inflation and the increase in the cost of energy sources cause difficulties for the development of production and further activities.

Social factors are associated with significant demographic changes due to hostilities. According to The Food and Agriculture Organization (FAO), more than 150,000 farmers and agri-food workers have been affected by war and/or forced to migrate[152]. Forced resettlement, the conscription of able-bodied men into the Armed Forces of Ukraine are the reasons for the labor shortage and the increase in the workload of the female population. There is a possibility of compensating such a deficit by increasing the technological efficiency of agricultural production, however, during the war and post-war period, significant investments are possible only with the support of the state or European initiatives. The focus on improving the skills and training of existing employees is a real, cost-effective option for the existence of agricultural enterprises in modern realities.

The change in the structure of incomes and expenses of the population and basic values have the opposite effect on agriculture, as a commodity of basic necessity, these products have acquired significant meaning for purchase not just for current consumption, but also for the creation of a supply by each family for emergency use in the period of full blocking access to shops and markets.

In addition, environmental problems caused by military influence on land pollution are a special factor. In this aspect, Odesa region is in more favorable conditions than the Mykolaiv and Kherson regions of southern Ukraine.

Technological factors are represented by a change in emphasis to niche high-margin crops (berries, chickpeas, mustard, peas, medicinal herbs). That is, export commodities, such as wheat, sunflower, corn, which accounted for 57% of the production of agrarian products, in the conditions of blocking exports, are transferred to smaller production, in turn, goods of the domestic market acquire a higher

[152] The Food and Agriculture Organization (FAO). [Electronic resource] URL: https://www.fao.org/.

priority, and among them precisely such crops as chickpeas, berries, peas are preferred.

Among the technological advantages, it is also advisable to focus on the computerization of the production process and the introduction of high-tech equipment, such innovations are undoubtedly highly effective, but may not be available to the enterprise in the war and post-war period. The use of European experience in the field of production opens up new opportunities for development in the modern period, European farmers are ready to cooperate with domestic producers, which provides an opportunity to increase the emphasis on the intensification of production. Land resources were reduced during the war period, and therefore agricultural farms that are able to work must meet the needs not only of the formed consumer segment, but also of the affected territories, enter new markets and change the structure of production with an emphasis on maximizing domestic consumption.

To ensure the development of the Odesa region agricultural enterprises in the strategic period, it is advisable to identify the threats and opportunities that the external environment creates for the economy, their existing internal potential, and their weaknesses, which can weaken their position on the market or even lead to their unprofitability activity. Such studies will be conducted by the method of SWOT-analysis.

First of all, we will continue the study of the external environment and identify the opportunities and threats for the agricultural enterprise's activity according to the main factors of the macro environment: geographical location, economy, population, equipment and technologies, social sphere and factors of the microenvironment: demand, competition and sales (Table 2).

Table 2.

**Identification of market opportunities and threats of agricultural enterprises of Odesa region**

| Factors | Opportunities | Threats |
|---|---|---|
| Geographical location | - favorable natural-climatic and geographical characteristics<br>- absence of hostilities on the territory of Odesa region | the threat of land pollution and terrain change due to military operations |
| Economy | - provision of agricultural producers with credit funds for sowing ("New Agrarian Policy" Project)<br>- a new level of state support due to the co-financing of agricultural enterprises ("New Agrarian Policy" Project) | - full-scale war<br>-unstable economic condition<br>-inflation<br>- the increase in the cost of energy carriers<br>- export blocking |
| Population | - changes in the structure of incomes and expenditure of the population<br>- change in basic values | - demographic changes against the background of hostilities<br>- lack of labor force and the need for retraining |
| Techniques and technologies | -change of emphasis to niche high-margin crops (berries, chickpeas, mustard, peas, medicinal herbs)<br>-emphasis on computerization of the production process<br>- introduction of high-tech equipment<br>- the use of European experience in the field of production<br>-emphasis on intensification of production | - the high price of innovative development, especially in conditions of high inflation and a significant increase in the exchange rate |
| Social sphere | - return to the practice of homestead farms for personal needs | - insufficient funds of local budgets for social development |
| Demand factors | - satisfaction of year-round demand for agricultural products among the population of Odesa, Mykolaiv, and Kherson regions | replacement of fresh agro-food products with cheaper ones (canned and semi-finished products) |
| Competition factors | - application of innovative technologies to improve product quality<br>- updating the variety base and constant monitoring and introduction of new breeds in the field of animal husbandry | - high competition from agricultural holdings<br>- difficulty in separating one's own products on the market from competitive ones |

| Factors | Opportunities | Threats |
|---|---|---|
| Sales factors | - a well-formed logistics structure<br>- availability of intermediaries for quick sale of products<br>- the possibility of transferring products of insufficient quality to the canning industry | - the high price of energy carriers makes it impossible to build a logistics system<br>- limited sales in the domestic market due to the blocking of exports |

Based on the above opportunities and threats of the external environment of agribusiness entities, it is possible to develop matrices of their distribution according to the probability of use and the level of importance for the activity.

According to the data in Table 3, it is determined that the absence of hostilities in the territory of Odesa region, the possibility of providing agricultural producers with credit funds for sowing ("New Agrarian Policy" Project) and a new level of state support through co-financing of agribusiness activities ("New Agrarian Policy" Project) provide the economy perspective for existence and own functioning in the presence of a large number of threats of an economic nature.

In addition, the emphasis on intensification of production while using European experience in the field of production provides an opportunity to satisfy the year-round demand for agricultural products among the population of Odesa, Mykolaiv, and Kherson regions. The availability of prospects for the implementation of European support makes it possible to formulate a strategy for the organizational development of the enterprises and implement it.

Important opportunities for agricultural enterprises are a well-formed logistics structure, the availability of intermediaries for the quick sale of products, the possibility of transferring products with insufficient quality to the canning industry and favorable natural, climatic, and geographical characteristics that give the farm real chances for profitable activity, even in conditions of considerable uncertainty.

Table 3

**Matrix of possibilities of agricultural enterprises of Odesa region**

| **Probability of the organization's use of opportunities** | **The impact of opportunities on the organization's activities** | | |
|---|---|---|---|
| | **Strong** | **Moderate** | **Small** |
| High | - absence of hostilities on the territory of Odesa region<br>- provision of agricultural producers with credit funds for sowing (("New Agrarian Policy" Project)<br>- a new level of state support due to the co-financing of agribusiness activities ("New Agrarian Policy" Project)<br>-emphasis on intensification of production | - a well-formed logistics structure presence of intermediaries for quick sale of products<br>- favorable natural, climatic, and geographical characteristics | - the possibility of transferring products with insufficient quality to the canning industry |
| Average | satisfaction of year-round demand for agricultural products among the population of Odesa, Mykolaiv, and Kherson regions<br>- use of European experience in the field of production | - changes in the structure of incomes and expenditure of the population<br>- change in basic values | - change of emphasis to niche high-margin crops (berries, chickpeas, mustard, peas, medicinal herbs) |
| Low | - application of innovative technologies to improve product quality<br>- updating the variety base and constant monitoring and introduction of new breeds in the field of animal husbandry<br>- introduction of high-tech equipment | - emphasis on computerization of the production process | - return to the practice of homestead farms for personal needs |

At the same time, there are a number of threats that hinder the development of the economy (Table 4).

Table 4

**Threat matrix of agricultural enterprises of Odesa region**

| Probability of threat implementation | Consequences of the implementation of threats | | | |
|---|---|---|---|---|
| | Destructive | Critical condition | Severe condition | Light damage |
| High | - a full-scale war | -unstable economic condition<br>-inflation<br>- increase in energy cost | -high competition from agricultural holdings | - limited sales in the domestic market due to the blocking of exports |
| Average | - the threat of land pollution and terrain change due to military operations | - the high price of innovative development, especially in conditions of high inflation and a significant increase in the exchange rate | - the high price of energy carriers makes it impossible to build a logistics system | - difficulty in separating one's own products on the market from competitive ones |
| Low | - replacement of fresh agro-food products with cheaper ones (semi-finished products) | - labor shortage and the need for retraining | - demographic changes against the background of hostilities | - insufficient funds from local budgets for social development. |

According to matrix 4, agricultural enterprises of Odesa region need to be especially wary of the following threats: the impact of a full-scale war on the possibility of economic activity, and accordingly, the threat of land pollution and changes in the relief due to military

actions, which can also lead to a complete shutdown of activity. The unstable economic condition and, accordingly, decline in production in general, high level of inflation and increase in the cost of energy carriers significantly complicate the activity, while intensification of production is hindered by the high price of innovative development, especially in conditions of high level of inflation and significant growth of the currency exchange rate. At the level of the enterprise's competitiveness in the market, an important complicating factor is high competition from agricultural holdings that occupy a monopoly position in the grain and technical crops market.

Available opportunities and threats affect the internal environment of enterprises, which is represented by strengths and weaknesses (Table 5).

Examining table 5, it is found that the basis of the company's strengths are economic and marketing factors, that make it possible to finance innovative development, to ensure the motivation of the organization's staff for stable activity and strategic development of agribusiness. At the same time, the weaknesses are largely caused by the unprofitability of grain production, the problems of the livestock industry and the need for maximum attention to stabilize this industry, in addition, the weakening of activity is caused by military actions.

Having learned all the weaknesses and strengths of the organization, they were evaluated using the method of determining the profile of the internal environment of the enterprise.

The strongest sides of the agribusiness with a level of importance from +8 to +9 are the following factors: high business activity, profitability of production of the main products, emphasis on stabilization of the livestock sector, attraction of new varieties of grain and technical crops, attraction of new cattle breeds and pigs, development of the fodder base, logistically developed territory, high grain technical specialization, high fertility of land, proximity to sales markets, provision of highly qualified employees, availability of motivational measures.

The weakest sides of the organization with a weighting level of -8 to -9 are occupied by the following factors: application of traditional technologies, unprofitability of grain production, low-productivity breeds of animals, insufficient feed balance, an increase in the cost price due to an increase in the cost of energy carriers, the high price of

changing the breed composition of animals, the high price of innovations, the need to increase the manager's level of knowledge in the area of making strategic management decisions.

Table 5

**Definition of strengths and weaknesses of agricultural enterprises of Odesa region**

| Factors | Strengths | The level of importance of the factor | Weaknesses | The level of importance of the factor |
|---|---|---|---|---|
| 1. Geographical location | - logistically developed territory<br>- availability of sufficient water resources<br>- high fertility of land | +9<br>+7<br>+9 | - location in the zone of risky agriculture<br>- weak mineral raw material base. | -7<br>-7 |
| 2. Economics and marketing | - high grain technical specialization<br>- availability of irrigated agricultural land<br>- proximity to sales markets<br>- high business activity<br>- profitability of production of most products<br>- emphasis on the stabilization of the livestock sector | +8<br>+7<br>+8<br>+9<br>+9<br>+9 | - application of traditional technologies<br>- unprofitability of grain production<br>- low-productivity breeds of animals<br>- insufficient feed balance<br>- an increase in the cost price due to an increase in the cost of energy carriers<br>- insufficiently stable financial condition | -9<br>-9<br>-9<br>-9<br>-8<br>-6 |

| Factors | Strengths | The level of importance of the factor | Weaknesses | The level of importance of the factor |
|---|---|---|---|---|
| 3. Population | - 57,2% of the economically active population is between 15 and 70 years old<br>- 15% of the population of the district work in the agricultural sector, so they can be involved in the activities of the enterprise<br>- the availability of educational institutions for the formation of a new qualified contingent | +6<br>+6<br>+6 | - migration processes caused by the war<br>- involvement of men in military service in territorial defense forces and armed forces<br>- the need to involve women in more difficult work and retraining for men's professions | -6<br>-7<br>-7 |
| 4. Equipment and technologies | - attraction of new varieties of grain and industrial crops<br>- attraction of new cattle breeds and pigs<br>- development of fodder base | +9<br>+9<br>+8 | - the high price of changing the breed composition of animals<br>- the high price of innovations | -8<br>-8 |
| 5. Social sphere | - provision of highly qualified employees<br>- availability of motivational measures | +9<br>+8 | - the need to increase the manager's level of knowledge in the area of making strategic management decisions | -8 |

The last stage of the SWOT analysis involves comparing the strengths and weaknesses of the enterprises with the opportunities and threats of the external environment.

We will conduct a general SWOT analysis of agribusiness subjects in Table 6.

Table 6

**Matrix of SWOT analysis of agricultural enterprises of Odesa region**

| | **Opportunities** | **Threats** |
|---|---|---|
| strengths | 1. Opportunities that reinforce strengths:<br>- due to the absence of hostilities in the territory of the Odesa region, it is possible to use the logistically developed territory and quickly deliver goods to sales markets<br>- providing agricultural producers with credit funds for sowing makes it possible to attract new varieties of grain and industrial crops and to continue profitable production in full<br>- a new level of state support due to co-financing of agribusiness activities, the possibility of intensification of production, to continue the stabilization of the livestock industry<br>- the use of European experience in the field of production with the provision of highly qualified employees<br>- high grain technical specialization contributes to meeting the year-round demand for these very important agricultural products among the population of Odesa, Mykolaiv, Kherson regions | 2. Threats that reduce strengths:<br>- full-scale war, unstable economic situation, inflation reduce the possibility of profitable production<br>- the increase in the cost of energy carriers and a full-scale war, even with a logistically developed territory, make transportation difficult,<br>- the high price of innovative development, especially in conditions of high inflation and a significant increase in the exchange rate, may harm the attraction of new varieties of grain and technical crops<br>- the threat of land pollution and the change of relief due to military actions can damage the fertility of the soil, affect the level of crops yields and animals feed |

| | | |
|---|---|---|
| weaknesses | 3. Opportunities that reduce weaknesses:<br>the use of European experience in the field of production makes it possible to abandon traditional technologies, to help in creating the correct structure of fodder<br>- a new level of state support due to the co-financing of agribusiness activities ensures a reduction of risks for increasing the cost price due to an increase in the cost of energy carriers, makes it possible to forecast and implement innovations<br>- the use of European experience provides the need to increase the level of knowledge of the manager in making strategic management decisions | 4. Threats that strengthen weaknesses:<br>- the high price of innovative development, especially in conditions of high inflation and a significant increase in the exchange rate without state support, makes innovation impossible<br>- a full-scale war, an unstable economic situation, inflation can cause an even greater increase in the cost of production, reduce the financial condition of the enterprise |

According to the SWOT analysis, it was determined that the agribusiness subjects of the Odesa region should first of all take advantage of the following opportunities for strategic development:

- due to the absence of hostilities on the territory of the Odesa region to use the logistically developed territory and quickly deliver goods to sales markets;

- due to the state support of agricultural producers with credit funds for sowing to attract new varieties of grain and industrial crops and to continue profitable production in full;

- due to the new level of state support due to co-financing of agribusiness activities to intensify production, to continue stabilization of the livestock industry;

- due to the provision of highly qualified employees, to study and use European experience in the field of production;

- due to high grain technical specialization contributes to meet the year-round demand among the population of Odesa, Mykolaiv, Kherson regions.

Considering the existing prospects for development and threats makes it possible to increase the efficiency of one's own activities, positively influence the level of profitability, contribute to the overall development, and gain the opportunity to take a stronger competitive position in the agro-food market.

To determine the strategic goals of agricultural enterprises of the Odesa region and develop tasks for their achievement, it is advisable to present the existing level of specialization of agricultural enterprises in the economy of Odesa region. It is presented in Figure 5.

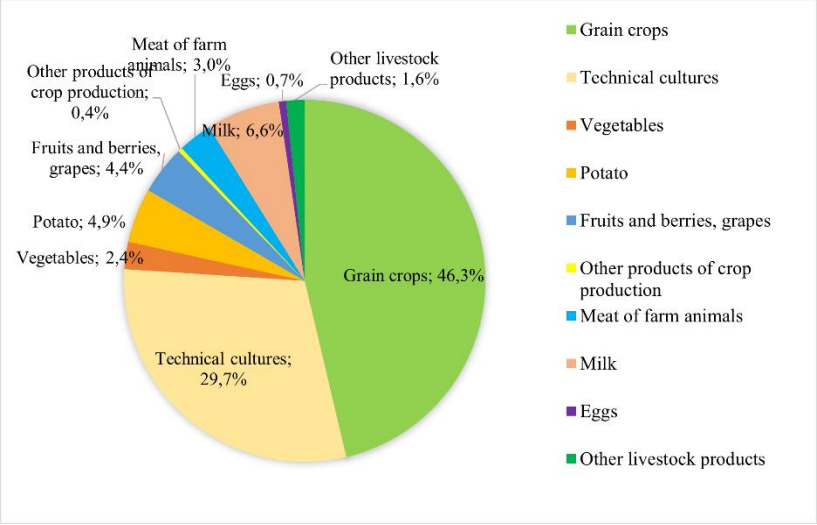


Fig. 5. **Specialization of agricultural enterprises of Odesa region in 2019-2021, %**[153]

The mail specialization of the region's enterprises is the production and sale of grain crops (46,3%) and technical crops (29,7%) with expanded of dairy cattle breeding (6,6%).

An important aspect in the study is the level of efficiency of production and sale of these products (Table 7).

[153] Statistical publication: Regions of Ukraine-2021. Part II. Kyiv. 2022. – 625p.

Table 7

**Comparative analysis of the level of profitability of the main agricultural products of Odesa region [154]**

| Types of goods | The average level of profitability in the Odesa region, % | The average level of profitability in Ukraine, % | The average level of profitability of the leader, % | Region leader | The place of Odesa region in the rating |
|---|---|---|---|---|---|
| Grain crops | -10,5 | 20,0 | 38,6 | Rivne | 25 |
| Sunflower | 19,9 | 39,4 | 53,8 | Zaporizhzhia | 24 |
| Vegetables | 11,1 | 8,0 | 48,4 | Chernihiv | 7 |
| Potato | 60,0 | 11,0 | 92,5 | Chernivtsi | 3 |
| Fruits and berries | 13,2 | 19,0 | 102,2 | Ivano-Frankivsk | 16 |
| Cattle for meat | -21,9 | -24,2 | 24,4 | Rivne | 14 |
| Pigs for meat | -6,8 | 2,6 | 34,2 | Ivano-Frankivsk | 17 |
| Milk | 15,8 | 20,4 | 39,4 | Volyn | 17 |

Having conducted a comparative characterization of the level of profitability of products sold by agricultural enterprises of the Odesa region with other enterprises of Ukraine in 24 regions and the city of Kyiv in 2020, it was determined that in recent years there has been a tendency to decrease the efficiency of grain crops and in 2020. they were in a loss-making state, due to which Odesa region took the last place in the rating. The level of sunflower profitability is 19.9%, which is 19.5 percentage points less than the average for Ukraine and 33.9 percentage points less than the leader - Zaporizhzhia region. Due to this, Odesa region ranks 24th in terms of efficiency of sunflower sales. The realization of potatoes and vegetables in Odesa region are better than the average for Ukraine, which gives the region the opportunity to take 7th place in the efficiency of vegetables and 3rd place in term of potatoes.

[154] Sotsialno-ekonomichne stanovyshche Odeskoi oblasti (January 2022). Statystychnyi biuleten. Odesa. Golovne upravlinnia statystyky v Odeskii oblasti**.** 2022. – 38p.

Despite favorable natural and climatic conditions, in previous years fruits and berries were unprofitable, only in 2020. The region reached a level of profitability of 13.2%, which made it possible to take 16th place in the rating. It should be noted that Ivano-Frankivsk region is the leader in fruit crops and berries with a profitability level of 102.2%.

The following conclusions should be drawn in the livestock sector. The effectiveness of the sale of cattle meat is unprofitable almost throughout Ukraine, only in the Rivne region there is effective production of cattle meat with a profitability level of 24.4%, which gives the region the opportunity to take a leading position. Odesa region ranks 14th in the ranking in terms of unprofitability. The sale of pork meat is unprofitable in the region, while the average profitability level in Ukraine is 2.6%, and the leader is 34.2%. Milk sales have a profitability level of 15.6%, which is 4.6 percentage points less than the average in Ukraine and 23.6 percentage points less than the leader. Such results allow Odesa region to take the 17th place in the ranking of milk sales effectiveness.

So, despite the fact that the main specialization of the Odesa region is grain crops and sunflower, the region ranks last in terms of the effectiveness of the sale of these products, which indicates the low level of efficiency of the decisions made in agriculture and the need for deep research into this problem and identify the ways to overcome the crisis phenomena in agriculture of the region.

An important aspect in this regard is to structure the goals and identify specific tasks that can ensure positive changes in the agriculture of the Odesa region. It is advisable to carry out such an analysis based on the " Tree of Goals " methodology presented in Figure 6.

The mission of each agrarian enterprise is the production and sale of high-quality crop and livestock products and satisfaction of consumer needs.

The main strategic goals to achieve the presented mission of the enterprise are:

1. To increase the level of competitiveness of the company's products.

2. To ensure the growth of productivity of the dairy herd

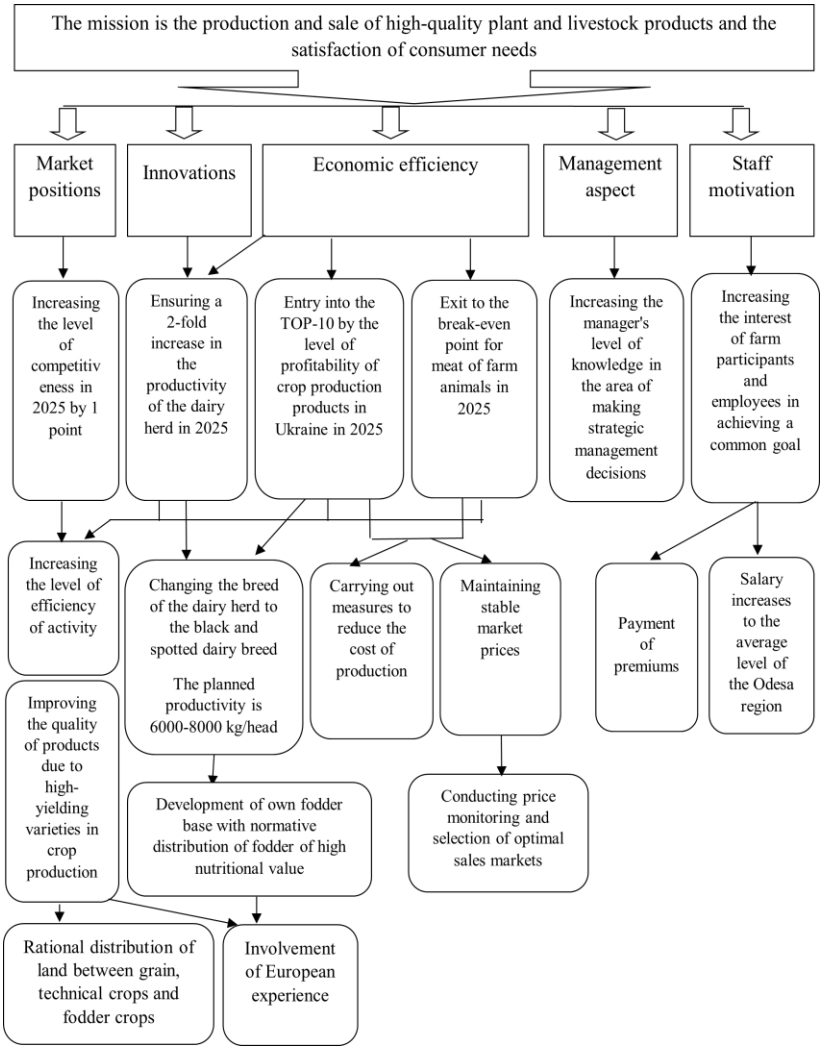


Fig. 6. **Tree of goals**

3. To enter the TOP-10 by the level of profitability of crop production products in Ukraine

4. Exit to the break-even point for meat of farm animals

5. To increase the manager's level of knowledge in the area of making strategic management decisions.

6.To increase the interest of farm participants and employees in achieving a common goal.

In our opinion, the most important strategic goal of the agricultural enterprises of the Odesa region now should be the development of dairy farming to meet the needs of the population. This strategy is especially important when, due to blocking the export of grain and industrial crops in the country, the market may be oversaturated with these goods. So, the livestock industry is promising in the current conditions.

Its construction primarily involves defining the main mission of the agricultural enterprise and its strategic goals.

To effectively management decision-making in the long term, it is necessary to apply a comprehensive strategic analysis. The simultaneous use of different methods provides a higher probability of making the right decision, choosing the optimal strategy and generally contribute to the stabilization of the market activity of business entities. Further prospects for the development of the identified research topic are related to the development of proposals for business entities to effectively identify ways to achieve the intended strategic goals, identify specific examples of solutions for the development of the livestock industry with the simultaneous stabilization of the crop industry of the Odesa region to ensure the optimization of agricultural enterprises and gain a high place on the market of agricultural products of Ukraine.

## CONCLUSIONS TO PART 1

The first chapter of the monograph analyzes modern trends in digital transformation in the marketing management system. The formation of a new paradigm of economic development in the conditions of digitalization requires the reorientation of all management functions and marketing tools into the system of the digital economy, which involves the use of new technologies.

In this context of research, the trends that arose as a result of the development of digitalization and contribute to the gradual transformation of socio-economic relations and the economic base were determined. The economic basis of business models in the conditions of digitalization is considered. It has been proven that the business models used in the digital economy are customer-oriented, which indicates their purely marketing nature. The conducted analysis made it possible to substantiate the influence of "Industry 4.0" technologies on the evolution of approaches to the definition and formation of business models.

It has been proven that the basis of mutual calculations, algorithmization of processes in the digital economy, and solving copyright problems in the digital economy is solved by blockchain technology. In the conducted research on the definition of blockchain as one of the fundamental tools of the digital economy, the conceptual foundations of management decisions based on blockchain technology were formed.

The author's research in the field of blockchain technologies and artificial intelligence allowed considering these technologies as the main direction of innovation implementation. The paper presents a model of activation of innovative capabilities of the enterprise based on the principles of "Industry 4.0" technologies.

Considerable attention is paid to the development of modern marketing tools in the digital economy. Trends in the use of NFT tokens and their implementation in the development of brand marketing strategies have been identified. Considered trends and features of traditional marketing techniques in combination with micro-segmentation of social media audiences and adaptation of their results to the supply chain.

A separate block of research is dedicated to digital solutions in the telecommunications field. The study of the market of cloud technologies in Ukraine and the determination of the features of the development of cloud technologies and the role of telecommunications companies in the digital transformation of business allowed us to develop approaches regarding the features of the use and development of cloud technologies in the conditions of digital transformation of business. The proposed recommendations made it possible to develop a model for reformatting the interaction of foreign providers, domestic operators and consumers.

Statistical indicators used in the sector of information and communication technologies (ICT) were proposed and formed, and its relationship with other sectors of the digital economy was investigated. Based on the analysis of various concepts of the digital economy, it was concluded that the ICT sector is its key driver of development in the field of telecommunications. The issue of improving the statistical methodology of telecommunication services market analysis as a basis for the development of the digital economy has been sharpened. The main system limitations of the existing approaches are identified and a conceptually new comprehensive approach to the statistics of the telecommunications services market in the conditions of digitalization of the economy is proposed.

## 2. DIGITAL TRANSFORMATIONS OF MANAGEMENT IN SOCIAL, LEGAL AND ADMINISTRATIVE SPHERES

### 2.1. THE SOCIO-PHILOSOPHICAL ASPECT OF THE TRANSFORMATION OF LEGAL AWARENESS OF CITIZENS IN THE PERIOD OF TRANSITIONAL DEVELOPMENT OF UKRAINIAN SOCIETY

The openness of power structures to the public, the ability of the people to competently and consciously control the activities of power structures, to develop a vital role in the renewal of all aspects of public life, as well as the increasing influence of citizens on the adoption of power decisions requires a certain level of legal awareness and legal culture of citizens and society as a whole. Radical changes in legal existence were primarily reflected in the understanding of legality, law and order, human and citizen rights and freedoms. In such a situation, the role of legal awareness as an essential factor in stabilising and developing Ukrainian society on the way to the European future is significantly growing.

We can state that the relevance of the chosen topic is determined by the importance of issues related to the study of legal awareness in society since the formation of legal understanding is closely interconnected with the problems of further transformation of Ukrainian society on democratic and national-patriotic bases.

In the modern socio-political process, legal consciousness is prone to constant transformations in the conditions of changing social consciousness. It should be stated that research on the transformation of legal consciousness is given considerable attention in the scientific literature, which again emphasises the importance of studying the outlined phenomenon. The transformation of legal consciousness that is taking place today in Ukrainian society, in particular - the change in the system of legal values, which are the main determinants of changes in the understanding of the law and legal relations, is an integral component of the general process of democratisation, because, from the state of the totality of ideological-political and other identities that consist in society, a lot depends on the transformation of the political and legal system of the state. As a result, the problem of finding and forming conditions to ensure the stability of the democratic process

turns out to be directly related to the fundamental reassessment of the values on which the institutions of democracy and the legal awareness of social groups and citizens are based, the change of the existing legal ideology and the transformation of legal psychology as a form of social, legal consciousness.

The content, structure, and functions of legal awareness at the general theoretical level were studied by O.V. Zaichuk, S.O. Bohachov, M.V. Pampura, O.K. Tkalia, O.A. Lukasheva, N.M. Onishchenko, O.V. Petryshyn, P.M. Rabinovych, I.F. Riabko, O.F. Skakun, I.E. Farber, M.V. Tsvik and other legal scholars. Legal consciousness as a category of the philosophy of law is devoted to the works of O.O. Bandura, V.V. Holovchenko, O.A. Ivakin, Y.Y. Kalinovskyi, V.S. Kovalskyi, S.I. Maksymov, N.I. Nelipa, M.I. Nelipa and other scientists.

Many scientific works of Martin Mašľan[155], Jaroslav Slepecký[156] are devoted to the formation of the principles of security in the legal, social and socio-economic spheres.

At the same time, the state of scientific understanding of legal awareness as a sphere of Ukrainian society and its level does not meet today's requirements. The community's legal awareness crisis directly impacts legal life, leading to the devaluation of law and a nihilistic attitude to permitted values and power capabilities. The level of public

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[155] Aplikovaná politológia v manažérskej a bezpečnostnej praxi (Applied political science in managerial and security practice.) /Martin Mašľan [Author, 100%], Květoň Holcr [Recenzent]. Klimo Vladimír [Recenzent]. Marián Mesároš [Recenzent]. – 1.vyd. – Košice (Slovakia) : University of Security Management in Košice,2020. – 80 s.– [slovak language].– [reviewed]. – ISBN 978-80-8185-037-0

[156] Economy and economics of disasters as a theoretical basis of economic security / Slepecký, Jaroslav [Autor, 50%] ; Mašľan, Martin [Autor, 50%]. – [recenzované] In: *Košická bezpečnostná revue* [textový dokument (print)] [elektronický dokument]: polročník VŠBM v Košiciach. – Košice (Slovensko): Vysoká škola bezpečnostného manažérstva v Košiciach. – ISSN 1338-4880. – ISSN (online) 1338-6956. – Roč. 10, č. 2 (2020), s. 135-141 [tlačená forma] [online]

trust in the national legal system remains extremely low. When turning to such institutions as the police, the court, the prosecutor's office, and the attorney's office, citizens of Ukraine have no confidence in the positive resolution of issues, especially in the justice, reasonableness, expediency, and legality of such decisions. In addition, a comprehensive analysis of the theoretical provisions of the process of transformation of consciousness is needed, and further formation of the author's definition of the transformation of legal consciousness.

The aim of the research is a socio-philosophical analysis of the transformation of legal consciousness in modern Ukrainian society. Based on the set goal, the following tasks are ahead: first, to define the concept of “transformation of legal awareness”; secondly, to provide specific signs of the transformation of consciousness in modern Ukrainian society; thirdly, to single out the features of the transformation of consciousness in modern Ukrainian society.

Various scientific methods were used in the article for a complete and comprehensive study of the specified problem. In particular, the following research methods were used: dialectical approach, theoretical scientific method, empirical scientific method, systemic method, structural-functional and formal-logical method (analysis).

The theoretical scientific method was used when considering diverse views on the definitions and the transformation of legal consciousness. This method made it possible to analyse different approaches to interpreting the concepts mentioned above to determine the essence of legal consciousness and its transformation in current conditions. The empirical scientific method made it possible to consider the topic of the problem in a structured way by collecting information on the definition of the essence of legal awareness and the influence of factors present in society on the emergence of transformational processes in Ukraine. With the help of the structural-functional method, the study determined which structural elements were present.

The formal-logical method and the method of analysis were used as a way of thinking, which makes it possible to study the structure of the relationship between the influence of transformational processes in the state on the legal awareness of citizens. The system method was applied to clarify the theoretical component of the issue of defining transformational processes in the legal understanding of citizens.

The socio-philosophical approach to legal consciousness, which is interpreted as a specific form of social consciousness, has its specificity. It assumes, of course, the use of results and unique scientific research. However, issues outside the competence of individual disciplines come to the fore. They relate to the relationship between social existence and legal consciousness, the circumstances of the creation of legal consciousness, its meaningful core, structure and levels, its connections with other forms of social consciousness, and ways of influencing social practice.

Legal awareness is a rather complex phenomenon with various aspects of philosophical, legal, socio-political and moral content; it constitutes the sphere of social consciousness and acts as an element of legal existence as a mechanism of legal regulation[157]. Legal awareness as a legal category in the transition period requires increased attention from representatives of modern legal doctrine. In addition, the search for rationality in developing a unity of opinion regarding the concept of legal awareness and the justification of the definition "transformation of legal awareness" requires a systematic look at their essence and content. E. Farber noted that legal awareness is determined by social existence: a new social fact gives birth to a new legal awareness[158]. However, it is worth noting that the transformations characteristic of legal awareness contributes to the development of social relations and the state as a whole, not always in the same direction.

It is well known that a specific form of consciousness is legal consciousness - a system of reflection of legal reality in people's views, theories, concepts, feelings, ideas about law, its place and role in ensuring personal freedom and universal values. Legal awareness is an ideal phenomenon that cannot be directly observed. It is a sphere of consciousness that reflects legal reality in the form of legal knowledge and evaluative concepts regarding law and the practice of its implementation, socio-legal attitudes and value orientations that

[157] Fedin D.G. The importance of legal awareness in the system of social consciousness. *Law forum.* 2011. № 9. p. 814

[158] Farber I.E. Legal consciousness as a form of social consciousness. M., 1963. P. 28

regulate the behaviour (activity) of people in legally significant situations. In our opinion, legal consciousness forms a set of reflections of legal reality. Yes, it can reflect aspects of the legal validity of any country and reveal connections and interactions of specific elements in the form of legal phenomena. From an epistemological point of view, legal consciousness as a reflection of social existence can be characterised primarily as a peculiar form of human knowledge containing a certain level of information about the objective connections and relations in society. Another critical aspect of legal consciousness is cognition, expressed in the tendency to reflect the already known aspects of a social (lawful) object and new connections and relationships embedded in it. Legal consciousness is one of the most active types of social consciousness because the socio-practical side prevails over the cognitive and evaluative functions. Legal life is a system of various types and forms of activity, the behaviour of people, and their collectives in the legal sphere, aimed at ensuring conditions and means of livelihood, the realisation of private and public, individual and group interests, and affirmation of values corresponding to these interests. At the same time, it should be noted that legal life is a collection of precisely all forms of society's legal existence, not ideas about it. The legal awareness of citizens who wish to live in a democratic state cannot arise spontaneously and requires a consistent process of its formation, during which circumstances may arise that will affect the passage of this process both positively and negatively. At the current stage of the democratisation of the Ukrainian state, factors such as legal education, legal discipline, self-education and re-education, socialisation and the influence of the social environment exert a considerable impact on the process of forming and changing the legal awareness of citizens[159].

The transformational processes significantly affected the contradictions of legal consciousness, which are most often expressed in the discrepancy between the conservative nature of the values of legal consciousness and the dynamics of social change. It should be noted that transformation implies the so-called transition from one state to a qualitatively different one; this path is accompanied by

[159] Tsymbalyuk M.O. Formation of legal awareness of citizens in the process of building a civil society. Ostrog, 2005. p. 14

fundamentally new views and ideas that are gradually included in the system of opinions. This is also evidenced by the definitions given in the dictionary: transformation is a "conversion"; translated from Latin, “transformatio” also means transformation[160].

It should be noted that the concept of transformation of legal consciousness is multifaceted, and the expected changes concern the system of ideas and views, the spiritual component, and the concepts, theories, and attitudes regarding the legal reality. That is, we can observe the dynamics of the behaviour of the bearers of legal consciousness, which reflect the attitude to the law and carry it out with the help of a regulatory function in legally significant situations. This approach clearly shows the close relationship between legal consciousness and social consciousness, the internal organisation of the nature of legal consciousness, the connection between its components, the laws of its development and creation, as well as an important social role, which becomes a vital postulate of the concept of legal consciousness transformation.

As mentioned above, legal consciousness is a system of ideas, perceptions, emotions and feelings that express the attitude of an individual citizen in particular and society in general to the law, as well as to the various activities of state institutions related to the law. At our state's current stage of development, it is important to understand legal awareness in the context of ensuring fundamental human rights, and democratic values, which form the basis of the struggle of Ukrainian society. O.F. Skakun notes that the critical point of legal awareness is people's awareness of the importance of natural law, human rights and freedoms and the assessment of the current law given its compliance with universal human values, which have been enshrined in international documents on human rights. Legal

[160] Interpretive dictionary of the Ukrainian language [Electronic resource]: in 20 volumes: elect. version type / Nat. Acad. of Sciences of Ukraine, Ukrainian language and information stock; editor-in-chief V.M. Rusanivskyi. 2019
URL: http://test.ulif.org.ua:8000/expl/Entry/index?wordid=1&page=0

awareness expresses society's attitude to legal reality and directs it to specific legal environment changes that predict and model them[161].

It is known that legal awareness is one of the most conservative elements of the legal system. It painfully breaks up with established ideas about legal reality. To overcome established legal views and superstitions in transforming society, much more time is needed than to carry out a specific "revision" of normative legal acts, the prescriptions of which do not meet the needs and demands of modern social practice[161] Such conservatism of legal consciousness is one of the negative factors in transforming legal consciousness in the transitional period of state development.

Ukrainian society, which is in a state of transformation that is not too dynamic and full of contradictions, demonstrates several specific conditions that prevent the establishment of a parity society[162]. The most important among them are lack of political will to establish parity in power relations; the transmission of patriarchal stereotypes in the public consciousness and their active influence on the formation of power and social ties between citizens of the country; orientation to traditional forms of relations in the economic sphere, when there is an established traditional division into female and male professions, occupations, forms of economic activity; characteristic of post-colonial societies is the orientation towards the restored authentic past, which in turn forms the dominant myths oriented towards the heroic past; desire for strong power ("strong hand")[163].

It is worth noting that the concept of transformation of legal consciousness includes not only the understanding of this phenomenon as a process but also the influence on it of former, established and formed legal interpretations, concepts, views, theories, opinions, as well as new ones that are characteristic of the current stage of state development. Considering this, it is necessary to carefully

[161] Skakun O.F. General Comparative Law: The main types (families) of the world's legal systems. K.: In Yure, 2016. P. 511

[162] Pikovska T.V. Legal awareness as the basis of the mechanism for ensuring gender equality in Ukraine. *Information and law*. 2021. № 2(37). P 196-197

[163] Hrabovska I. Gender parity society in Ukraine: a social utopia or a real prospect. URL: http://www.krona.org.ua/uk/ya-magazine

approach its analysis and consider not only the prerequisites of this transformation but also the factors that influence it, the principles of its development, and the peculiarities of its content.

The transformation of legal consciousness has a direct impact on the process of law-making and the direction of the process of its development. Even in those situations where there is no declared legislative strategy or a strategy that would be approved at the official level, there is a specific direction of work in law-making as an activity aimed at changing, creating, cancelling and supplementing legal prescriptions. In our opinion, this is possible thanks to the development of society, which is conditioned by the action of laws of a socio-economic, political, and state-legal nature.

The transformation of post-Soviet Ukraine's political, economic, social and legal processes was characterised by complexity and contradictions, especially at the initial stage. Many destructive tendencies were revealed, which harmed social development. This was expressed in the reduction of the state's role in strengthening the formal-bureaucratic, corrupt, anti-social aspects of the functioning of the state apparatus. All this resulted from serious economic, political, and social consequences for Ukraine, which are still felt. The latter inhibits the formation and development of legal awareness of the population and causes several difficulties of a political and legal nature.

If we analyse the range of signs of legal awareness, it becomes clear that political changes in the system of power are connected with changes in legislation. As a result, the new political elite introduces radical changes to the bill; of course, this also applies to Ukrainian legislation. Let us emphasise that the former Soviet legislation has changed radically, but Soviet traditions and stereotypes of thinking remain practically unchanged. The significant politicisation of the issue of the essence of law and legal awareness as interconnected social phenomena should be pointed out.

Attention should be paid to the fact that a socio-cultural transformation is currently taking place in society. This affects the process of transformation of legal awareness in Ukrainian society. In this context, it is worth noting that special attention should be paid to the development of the legal culture of the individual, overcoming legal nihilism, legal idealism and legal demagoguery, that is, those

phenomena that take place in Ukrainian society in the conditions of transformation, where: 1) the legal culture of the individual is knowledge, understanding and conscious fulfilment of the requirements of the law in the life of an individual; 2) legal nihilism is the antithesis of legal culture, which means a negative attitude to law, legislation, and all legal forms of organization of social relations; 3) legal idealism is an overestimation of the possibilities of law, relying on legislation for impossible tasks; 4) legal demagoguery is a particular type of social demagoguery, which consists in the conflictual, outwardly effective, deliberate and socially dangerous influence of an individual or different groups of people on the actions, knowledge, and feelings of those people who trust them, through various forms of one-sided or erroneous ideas about legal reality to achieve their own selfish goals, usually hidden under the guise of benefiting the people[164].

It is worth supporting the opinion of M. Sukhodolia that the legal consciousness of the population of Ukraine should be analysed in a differentiated way and not monolithically since certain features are characteristic of different social groups. For ordinary citizens, legal nihilism, legal pessimism and legal infantilism are the most common forms of legal consciousness[165].

Considering the above, a question arises regarding the role of the citizens of Ukraine themselves in developing a democratic, social and legal state. From world experience, a certain regularity can be seen: people with a better social order live better. Moreover, such an order, as the basis of general well-being, is generated by the social culture of people, which includes, in particular, their political, economic, legal and moral cultures. From this, we believe we can draw a logical conclusion - the problems of law and order in Ukraine are a consequence of the crisis of the legal culture of its citizens in the

[164] Theory of the state and law. Education manual / [Y.V. Bilozorov, V.P. Vlasenko, O.B. Horova, A.M. Zavalnui, N.V. Zaiats and others]; in general ed. S.D. Husarieva, O.D. Tykhomyrova. K.: National Academy of Internal Affairs, Education of Ukraine. 2019. P. 227.

[165] Sukhodolia M. The actual state of the legal culture of the population of Ukraine as a reflection of the deformed legal consciousness. *Enterprise, economy and law*. 2021. № 1. P. 202

broadest sense of the term. For example, O. Kostenko sees the correction of such a situation in the purposeful formation of legal culture in people, which is characterised by the consistency of their will and consciousness with the natural laws of social life (laws of natural law) through the introduction of a new concept of legal education[166].

In this regard, it is necessary to increase the legal culture of society, which is a complex of forms, states, processes, legal institutions, values and norms that implement the function of the socio-legal orientation of people in a particular society. We agree with S.G. Pevkom that among the ways to overcome the low level of legal awareness, it is worth highlighting the improvement of legal education in Ukraine. This task can be accomplished thanks to implementing a comprehensive state educational policy with the help of the development and implementation of general legal education programs, starting from the preschool level, to raise legal awareness in society. That is, the public legal discipline should be implemented for mandatory study at all levels of education, including preschool education[167].

Thus, the state and level of legal awareness in transforming society are determined by how all functions of legal understanding are performed and how they are coordinated among themselves. At the same time, it should be emphasised that legal awareness has a historical character; it is determined by the level of development of society itself and the influence of the main transformational processes of modern times. Legal awareness is closely connected with all forms of social consciousness: with moral and political views, philosophical concepts, and ideological theories; it reflects religious, national, household and other features of society and is produced in the process of personality formation under the influence of socio-economic,

[166] Kostenko O. Legal education and legal education as means of ensuring law and order (regarding legal education and legal education of the "social-naturalistic" type). *Law of Ukraine*. 2011. №8. URL: https//www.info-pressa.com/magazine-2.html

[167] Pevko S.H. The quintessence of legal consciousness as a factor of deviant behaviour. *Law and security*. 2021. № 4 (83). P. 138. DOI: https://doi.org/10.32631/pb.2021.4.13

political, cultural, psychological factors with the active participation of the individual himself.

In the modern post-industrial information society, legal consciousness is formed only at the initial stage of formation, based on traditions; its self-identifying definitions no longer strive for stable completion, are oriented on constant international dialogue, and are open to the most radical transformations. Needs and boundaries of what is acceptable change not in the process of changing generations but in the process of online communication; a social consensus is formed in a short time, while, without having time to be confirmed by experience, the imperatives of consciousness can change repeatedly. The legal consciousness of a modern Internet user reacts to changes earlier than the norms of positive law are formed. The everyday strategy of legal consciousness is ahead of scientific reflection. The freedom of self-awareness of one subject is locked on the freedom of self-awareness of another issue in voluntary contractual regulation. Under the conditions of contractual forms of law and local conventional definitions of equality, justice and freedom, the role of official versions of social memory is rapidly decreasing. At the same time, the time interval of historical memory increases, in which the needs for social identification find their basis. The source of such identification metamorphoses is not only national history interpreted in a certain way. The construction of official national myth-making is becoming more and more difficult. The possibilities of the global network are directly realised both in the transformation of primary socialisation and in the framework of the mechanism of the variability of identification models.

Complaints of modern jurists and sociologists about “legal nihilism” actually do not fully consider the dialectic of the formation of legal consciousness itself and the mechanisms of the construction of identity. In such a case, the point is not that consciousness has a negative attitude toward law but that the current legislation does not rely sufficiently and transparently on the mandatory attributes of law - justice, equality and freedom. This means that there are no legal intentions in the identification itself. Still, the process of self-identification takes place in parallel and independently of values and is devoid of feedback presented by positive legal norms. This means that socialisation and education are lined up according to dogmatic

schemes, which do not correspond to the dynamic, critical, reflexive nature of consciousness in general and legal consciousness in particular.

Pamura M.V. noted two main trends in the transformation of legal consciousness in Ukraine. On the one hand, there is a social need for the political and legal development of the individual, his active involvement in political and legal life, and the growth of his self-awareness. On the other hand, there is also an inhibiting tendency, which manifests itself in various forms of alienation of a person from the state, and its institutions, from making political decisions, and from participation in the political and legal life of society[168]. In the fight against these trends, new mechanisms for forming legal awareness and regulation of political and lawful behaviour, the constitution of a new subject of law: an active, informed person who makes independent and responsible decisions.

Thus, we can formulate the main signs of the transformation of legal consciousness, which, from our point of view, are decisive: - legal mediation and awareness of social phenomena, their correlation with necessary and sufficient legal requirements, as well as with ideas about the political expediency and social necessity of legal regulation of social work subjects, with legal assessments of people and relations between individual and other actors of the socio-political process; - the interaction of legal consciousness with different types of social consciousness (this is especially relevant for political consciousness), as well as the question of how such interaction is ultimately carried out within the framework of the socio-political process; - gradual genesis of democratic institutions; - close relationship between law and legal awareness; - interaction of different levels of legal understanding.

In addition, it is possible to single out the features of the transformation of legal consciousness in a specific society and state. Thus, the emergence of transformational prerequisites in Ukraine is due to the historical evolution of the state and the transition from socialist to democratic development. This was accompanied by the

[168] Pampura M.V. The main trends in the transformation of public legal awareness in Ukraine. *Law forum*. 2017. № 1. P. 153

formation and development of the rule of law, the construction of civil society, a new quality of the product of law-making activity; new conditions of reality contributed to the understanding of the importance of developing new means, methods and mechanisms for the development of legal awareness. This will allow reaching a new level of awareness of legal reality; the legal consciousness of modern Ukrainian society is characterised by heterogeneity and the presence of some deforming elements. In this regard, the importance of forming a high legal awareness among the population comes to the fore.

So, in the process of socio-philosophical analysis of the transformation of legal consciousness in Ukraine, we came to the following conclusions: firstly, this transformation is not just a simple transformation; it is a qualitatively new step in the life of the population, which opens up new opportunities for social development. The direct conversion of legal awareness is a directed change of legal awareness against the background of the objective conditions of modern realities. This is a process of fundamental changes in the legal system of society, which affects all legal phenomena that change under the influence of a complex of factors and trends that allow us to ascertain its transformations. In other words, the transformation of legal consciousness is an objective process that occurs in society through changes in the environment itself and the basis of interaction between subjects of legal relations; secondly, the transformation of legal awareness involves the activation of the functional role of legal awareness in society, where law-making activity is the primary tool of legal understanding. The change of legal awareness takes place along the lines of moving away from destructive legal tendencies in society and the gradual formation of positive legal attention with all its attributes; thirdly, the transformational processes in Ukrainian society led to the intensive development of legal science, which has a favourable effect on the formation of democratic legal awareness of the population by increasing the level of legal culture and literacy. The gradual development of legal culture in the transformation of legal understanding will allow us to overcome the weak internal differentiation of typological properties of legal awareness in modern Ukrainian society.

## 2.2. ADAPTATION OF INFORMATION AND COMMUNICATION TECHNOLOGIES FOR THE NEEDS OF MANAGEMENT FOR BUSINESS ADMINISTRATION AND CUSTOMER ORIENTATION

The digital economy is changing the rules of doing business, forming a new type of organization that is undergoing reengineering of its business processes. The entire complex of business administration of an enterprise in connection with digitalization is changing management methods, introducing innovative technologies and products. The digitalization of the economy in modern business conditions leads to the transformation of business administration processes, since digital technologies are developing at a tremendous speed, changing the ways, methods of business management and the conditions of its functioning. Digital tools are embedded in the company's activities, completely transforming its business processes, while creating new opportunities, provided that new risks are successfully overcome.

Digital technologies involve unique features for individuals and organizations: re-programmability, homogenization of data, and a self-referential nature (Yoo et al., 2010)[169].

Improved information flows, combined with enhanced capabilities for analyzing complex data sets, promote consolidation and consensus building among various stakeholders, with positive socio-economic and environmental impacts (Gregori & Holzmann, 2020)[170].

In addition, they include new properties that make them generative, malleable, and combinatorial (Kallinikos et al., 2013[171]; Hanelt et al.,

[169] Yoo, Y., Henfridsson, O., and Lyytinen, K. (2010) The new organizing logic of digital innovation: an agenda for information systems research. Information Systems Research, 21, 4, 724–735.

[170] Gregori, P., & Holzmann, P. (2020). Digital sustainable entrepreneurship: A business model perspective on embedding digital technologies for social and environmental value creation. Journal of Cleaner Production, 272, Article 122817. https://doi.org/10.1016/j.jclepro.2020.122817

[171] Kallinikos, J., Aaltonen, A., and Marton, A. (2013) The ambivalent ontology of digital artifacts. MIS Quarterly, 37, 2, 357–370.

2020[172]; Kostis and Ritala, 2020[173]), blurring the boundaries between the physical and digital worlds and enabling both flexibility and scalability.

Several sources have concluded that by enabling automation, designing intelligent solutions, and facilitating direct communication between producers and customers, DT has the potential to increase business operations' sustainability significantly. (Dalenogare et al., 2018[174]; Mishra et al., 2007[175]; Sklyar et al., 2019[176]; Vendrell-Herrero et al., 2017[177]).

DT is inevitable, but it is not deterministic, since individuals, organizations, ecosystems, and governments affect – whether intentionally or not – how it evolves and shapes the world[178].

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[172] Hanelt, A., Bohnsack, R., Marz, D., and Antunes, C. (2020) A systematic review of the literature on digital transformation: insights and implications for strategy and organizational change. Journal of Management Studies, 58, 5, 1159–1197.

[173] Kostis, A. and Ritala, P. (2020) Digital artifacts in industrial co-creation: how to use VR technology to bridge the provider-customer boundary. California Management Review, 36, 4, 125–147.

[174] Dalenogare, LS, Benitez, GB, Ayala, NF, & Frank, AG (2018). The expected contribution of Industry 4.0 technologies for industrial performance. International Journal of Production Economics, 204, 383–394. https://doi.org/10.1016/j.ijpe.2018.08.019

[175] Mishra, A.N., Konana, P., & Barua, A. (2007). Antecedents and consequences of the Internet use in procurement: An empirical investigation of US manufacturing firms. Information Systems Research, 18(1), 103–120. https://doi.org/10.1287/ isre.1070.0115

[176] Sklyar, A., Kowalkowski, C., Tronvoll, B., & Sorhammar, D. (2019). Organizing for digital servitization: A service ecosystem perspective. Journal of Business Research, 104, 450–460. https://doi.org/10.1016/j.jbusres.2019.02.012

[177] Vendrell-Herrero, F., Bustinza, OF, Parry, G., & Georgantzis, N. (2017). service, digitalization and supply chain interdependency. Industrial Marketing Management, 60 (1), 69–81. https://doi.org/10.1016/j.indmarman.2016.06.013

[178] Dąbrowska, J., Almpanopoulou, A., Brem, A., Chesbrough, H., Cucino, V., Di Minin, A., Giones, F., Hakala, H., Marullo, C., Mention, AL, and

Digital platform ecosystems decrease information asymmetries and enable new interactions that previously were not possible due to the lack of information exchange channels among diverse stakeholders (Duch-Brown & Rossetti, 2020)[179].

The academic literature in our sample examined the positive outcomes of DT impact on sustainability. While several papers have shed light on the negative impacts of individual digital technologies (such as bitcoin and energy consumption), researchers have not explored whether or how DT can negatively impact sustainability. The digital economy significantly affects the conduct of business, forms a new type of organization that is undergoing a complete restructuring of its business processes. The entire complex of business administration of an enterprise is undergoing major changes that relate to management methods, newly introduced technologies, and products. The digitalization of the economy in modern economic conditions leads to the transformation of business administration processes, since digital technologies are developing at a tremendous speed, changing the ways and methods of business management and the conditions for its functioning. Digital tools are embedded in the company's activities, completely transforming its business processes.

The threats of digitalization include the insecurity of personal data and non-public content of any enterprise in cyberspace and the related inability of modern legal means to regulate and protect public relations and the measure of responsibility for data leakage. To hold accountable a structure or a person who violated the terms of the NDA and disclosed confidential information, it is necessary to follow the formal procedure for classifying information as confidential; notify the receiving party about what information is confidential, and record this (including the fact of signing the NDA); confirm the fact of disclosure of confidential information and justify the amount of damage as a result of such disclosure. World practice, unfortunately,

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Mortara, L. (2022) Digital transformation, for better or worse: a critical multi-level research agenda. R&D management. https://doi.org/10.1111/radm.12531 .

[179] Duch-Brown and Rossetti, 2020 N. Duch-Brown, F. Rossetti Digital platforms across the European regional energy markets Energy Policy, 144 (2020), p. 11, 10.1016/j.enpol.2020.111612

is characterized by the opposite process, when everyone is obliged to sign consent to the processing of personal data without alternative.

The problems of economic security of the activities of individual enterprises affect specific business participants, negatively affecting their competitiveness and business reputation (theft of corporate data, industrial espionage, hacker attacks, high cost and, accordingly, the lack of modern digital technologies and competent personnel for most participants in economic activity).

A new culture is being formed in the world - electronic. A person as a labor unit that does not acquire new competencies begins to lose its value, its knowledge, skills, experience are gradually digitized, flowing to online resources and transformed by artificial intelligence into the most appropriate formats for effective interaction with the business environment. A person is inherently innovative, but often lazy and capricious, deliberately and unknowingly can ruin the work process, at any time for various reasons can refuse to work, but at the same time in a critical situation find the right solution. Another thing is a program that has flaws, it may be imperfect, get sick and die, but still it is more obedient and does not change the employer when it wants to. A person has a strong competitor with whom he will have to fight for areas of responsibility and the quality of performance of job duties. In 2020-2022, the dominance of crises, pandemics and wars, undoubtedly, a person has demonstrated his weakness and inability to control the situation. There is a growth and rivalry of both sides, man and machine, both have strengths and weaknesses, but humanity is degrading on a global scale, and artificial intelligence is "gaining intelligence". But in critical conditions, without electricity, the Internet, in situations of large damage to computer systems, the person wins. Multitasking, soft skills - this is something that is expensive to buy and is still being replaced by a person. As long as the world is dominated by areas of increased risk (and they are only increasing), human skills will be in demand. Many skills can be replaced by artificial intelligence, but machine-human and human-human communication are very different in favor of the latter.

Soft skills are essential for every worker in the workplace. They include teamwork, attention to detail, critical and creative thinking, effective communication, and interpersonal skills, just to name a few. These soft skills are essential in every industry, and you must develop

them to be successful professionally. People, having received a dynamic competitor and at the same time an assistant, must be diversified, have the skills to understand digital tools, as well as the content that is beyond the control of a decision-making machine.

However, soft skills are alien to machines based on artificial intelligence (AI), which cannot develop these interpersonal skills, which are critical for strategic development in the workplace and overall growth. Developing these skills requires a higher level of thinking and emotional intelligence. AI is designed to enhance human abilities and intelligence by providing high-quality content for learning and decision making (processing and analysis of large digital data arrays, their primary diagnostics), and not compete with them. AI applications are already gaining a foothold in the workplace and will replace many of the jobs people do today. However, the features you will manage are limited to repetitive tasks that require less sharp thinking. In addition, rising job demands will create new roles for people as the world moves towards a more integrated technology landscape.

Artificial intelligence motivates the activation of human skills to some extent forcing everyone to communicate with him. For example: increase your earnings, stay up to date with the latest trends in your field and be creative, but only within the content we offer: subscribe, register, participate, pay. Thus, an asset will be formed for which the business owner is willing to pay more. This process has been developing for many years, but the 2020-2022 pandemic, having selected the format of live communication, has imposed a trend of transferring various processes, phenomena, procedures, and in fact parts of our life and freedom, to an online format. Everything that was possible was transferred as much as possible to an electronic and "remote" format (labor activity, training, scientific and educational public events, excursions and cultural events, dissertation defenses, holding meetings, meetings, including in the public sector).

Due to multidirectional risks and limitations, digitalization is gradually reducing the number of managerial personnel in the public and commercial sectors, replacing these functions with various digitalization programs.

Since the beginning of the pandemic, digital forms of restrictions have affected such basic human rights as the right to free movement,

the right to reliable information and equal access to it, the right to protection of personal data (including health data), the right to privacy, freedom language and religion of a person and a citizen, protected and regulated both at the international level and within the framework of the national legislation of states.

At the international level, the Siracusa Principles on Limitation and Derogation Provisions in the International Covenant on Civil and Political Rights establish that restrictive measures:

– must be prescribed by law and carried out in accordance with the law;

– must pursue a legitimate aim consistent with a pressing social need;

– must be strictly necessary in a democratic society for the achievement of such purpose;

– must ensure the achievement of such a goal with minimal infringements and restrictions;

– must be based on scientific facts, and the application of restrictive measures must not be arbitrary or discriminatory;

– must be limited in time, respect human dignity and be subject to verification.

In the modern world, human rights have long been the subject of state policy, both local, within the framework of national states, and global, at the level of the world community. Different countries have different attitudes towards human rights, which is expressed in law, as well as at the level of state policy and management, political decision-making. Often, states clearly distinguish between the rights and freedoms of their own citizens and the rights and freedoms of other people - citizens of other states, protecting the rights of their citizens by all available means and demonstrating disregard for the rights of citizens of other states.

The legal relationship between artificial intelligence and humans is becoming relevant - digital rights and freedoms, restrictions and prohibitions are becoming the subject of discussion in society, the scientific community, and at the level of state policy formation.

Any human rights, both traditional and digital, can suffer from rash and chaotic digitalization. Digital technologies are often recognized as a boon that can bring the economy, public life, public administration to a completely new technological level. But at the same time,

selectivity and compulsion, methods and mechanisms for the total introduction of digital technologies and artificial intelligence, illegal surveillance of a person through several tools should not become the norm for the future of human civilization. The speed of digitalization both at the state level and in the private sector should be carried out with the prediction of possible risks and modelling of social consequences. One of the most important risks is the gradual displacement of a person from many areas of economic and social life under the guise of making managerial decisions by artificial intelligence. The differentiation of the levels of penetration of digitalization into various sectors of the economy and public life is not taken into account. Information and communication technologies, media, finance, trade are characterized by a level of digitalization that is much higher than industries related to the direct interaction of people at all levels, such as public services, agriculture, healthcare, education, and construction.

Not all sectors of the economy and societies require total digitalization, it is necessary to avoid a gap in communications and culture, therefore setting limits for the introduction of digital technologies based on the real needs of industries is a reality, since there are sectors of the economy where the human factor that can be replaced as a result of implementation digitalization is not so unambiguous. Consider an example of a sphere that tends to have a limited understanding of the risks and threats of total digitalization. We are talking about the sphere of ensuring transport security, in which the human factor, on the one hand, is the main source of risk, and on the other hand, it is the human factor that can help identify a terrorist, make a decision to conduct a second inspection and detain the offender.

The main risk of a total transfer of processes and services in the field of ensuring economic security to a digital format is the lack of development and unavailability of technologies for processing, transmitting and protecting information. Since many processes become completely electronic, databases are formed, often containing highly confidential information, and cloud solutions are used to store it, which, without reliable and effective protection, become available for illegal information interference. A myth is spreading that a person ’s work is becoming less profitable, and in some areas

unproductive and unnecessary, live communication is reduced to a minimum, personal presence at the workplace is in many ways no longer necessary, however, in force majeure situations (lack of electricity for several days, hostilities that we are witnessing in Ukraine) there are very big doubts that the computer will cope with the risks that have arisen better and faster.

A review of the scientific literature in our sample indicates a positive impact of DT on business process speed, customer focus, and sustainability. Although the negative consequences of digital technologies such as bitcoin, with its scale of consumption of energy resources, digital footprints of a person, which include credit card transactions, search queries, email correspondence, information about financial transactions, phone calls, messages, video from surveillance cameras with face recognition, computer activity on the Internet, communication in social networks - everything that unites artificial intelligence as a chain in a single communicative environment and gradually becomes the norm and forms new laws.

At the same time, big data contributes to total digital surveillance and forms another branch of power in global digital scale. At the moment, there are no legal and ethical aspects of the legality and implementation of these processes in existing legal acts. Today, communication policy is one of the foundations for the development of any type of organization, from a small firm to a whole state, since the development of Internet technologies has significantly changed the communication environment. The Internet, the key unit of the modern communication system, is actively replacing all other forms and methods of communication, transforming the information and communication field and creating new public institutions. The experience of China has shown the extremes and risks that make "digital totalitarianism" possible, when every person, every legal entity and enterprise in the state is under total surveillance and control around the clock. From the point of view of global security, total digitalization is both a blessing and a risk. It is a blessing, since with the help of digital technologies it is possible to significantly simplify the monitoring, creation and maintenance of large databases, and the risk is because artificial intelligence cannot yet replace the analytical, predictive and logical work of the human brain, when it is constantly necessary to anticipate and calculate the likelihood of new threats and

challenges with the possibility of preventive and prompt response. Total digitalization does not create opportunities for the development and improvement of democratic procedures and the expansion of citizens' rights, but, on the contrary, largely limits the basic rights of a person and a citizen. The collection and use of digital content of each person is gaining more and more popularity, a trace in Internet resources, which, in the absence of transparent digital rights of citizens, becomes an instrument of restrictions and pressure in the social, political and economic aspects of confrontation both at the local level and on the global arena. The response to the pandemic has demonstrated significant difficulties in the development and implementation of new digital technologies in the field of interaction between the citizen and the state, as well as in the field of protecting the rights of citizens. Digitalization is just a method, a mechanism that formalizes within the digital space those restrictions that are being developed and applied by political and state institutions in connection with the pandemic. Active digitalization of public life is carried out in most states in various sectors of the economy, spheres of society, the main goal being transparency, accessibility and simplification of various procedures. In practice, digital transparency means that the amount and quality of information that Internet users leave about themselves is increasing, which leads to both new opportunities and new threats.

In China, information about users is accumulated and collected officially; in other states, a digital footprint allows you to quickly collect maximum information about a person, his contacts, his life, hobbies, and online expenses. Digitalization is really becoming total and affects all spheres of public life: social, political, economic, cultural. Some researchers see the risk of the gradual displacement of state functions by global artificial intelligence, the transfer of state functions to a digital format. In politics, the risk of digitalization is the absolutization of network connections, when it is no longer people who manage their networks, but vice versa. A large amount of information, some of which is relevant and useful for making managerial decisions, is recorded and posted on Internet resources in the form of voice, which the computer translates into text and processes. Natural Language Processing (NLP) is a field of computer science that deals with applying linguistic and statistical algorithms to

text to extract meaning from human language - here's how it can boost your business goals. In computer science, natural language processing (NLP) is the ability of artificial intelligence (AI) products and services to add context and extract meaning from human speech or written text using statistical methods and machine learning algorithms. Natural language processing takes it one step further, allowing you to parse complex terminology and phrases and extract more abstract qualities such as mood. Natural language generation, also known as NLG, uses natural language processing to generate text, written or spoken language from structured and unstructured data. The most common NLG methods are extractive and abstract. About 95% of customer data is in the form of unstructured text - in emails, written responses to surveys, messages in instant messengers, online reviews, reviews, comments on forums. Natural Language Processing automates the reading of text using sophisticated speech and human language recognition algorithms. NLP engines are fast, consistent, and programmable, and can identify words and grammar to find meaning in large amounts of text. All previous millennia of the development of civilization were characterized by the loss of the unique content of each person, the use of which can and should be directed to creation. Small written evidence that has survived to some extent shaped the worldview and direction of human development, but as we can see, the number of global cataclysms is growing and the future of mankind is extremely unstable, subject to many risks. Now we are witnessing the period of development of the “post-industrial society”, the information age, globalization, the expanding system of mass communications and the “information explosion”, the main characteristics of which are chaos, infinity and redundancy. Huge arrays of information are constantly mixed, replenished, combined and duplicated, expanding (often littering and distorting) the social memory of the individual and global society. There is a process of formation of "global" thinking, the existence of individuals whose needs are motivated not so much by biological as by social and mercantile interests and needs; it is a sphere for the implementation of precisely intellectual and social needs. Among these needs, first of all, the desire for creation and communication stands out. A full-fledged personality goes through a long development, and in the process of socialization a person interacts with many members of his society, the

“cultivation” of a person occurs precisely in the process of communication, in later life people are also in constant interaction with the team, exchange experience, necessary information, communication is no less important. process on an emotional level. An individual person can be a bearer of culture, can actively participate in its development, nevertheless, by its nature, culture, like language, is a public, social phenomenon.

The dominance of artificial intelligence makes the prospects for the development of a spiritual worldview and education vague for humanity, in the context of globalization, the problems of forming a civic identity are exacerbated and the transformation of existing moral and ethical values begins, which, after a short time, gain followers and become part of society. Fundamental and system-forming values can be called "traditional values" because they are formed on the basis of universal principles, national, religious origins and are personal identifiers. The active development of information technologies and social networks has contributed to the emergence of destructive ideologies among the population, in particular, among young people. The word "destructive", from the Latin word "destructo", means destructive, accompanied by the disintegration of structural relationships, organizational ties, functional dependencies, software that can take advantage of machine learning methods can have huge benefits and big risks for companies seeking to optimize your customer support systems.

Computational linguistics and natural language processing can take a stream of data from a huge number of channels and organize it into practical ideas in a fraction of the time it would take a human. Qualtrics XM Discover, for example, can transcribe up to 1000 audio hours of speech in just 1 hour. What's more, integrated software like this can handle the tedious task of tracking customer sentiment at every touchpoint and delivering insights instantly. In call centers, NLP automates time-consuming tasks such as post-call reporting and compliance checks, freeing up agents to do what they do best.

Smart chatbots. Chatbots are a great virtual assistant in business administration, a promising way to allow customers to serve themselves when the number of simultaneous calls is high, but if the proposed bot cannot resolve issues, you will only get angry customers. Natural Language Processing and Computational Linguistics could

make bots infinitely more capable, allowing them to speak with human-level understanding in any language, respond appropriately to positive or negative feelings, and even extract meaning from emoji, ultimately eliminating human intervention when solving most standard and repetitive tasks of the same type.

Engagement with customers is not always related to one topic. Fortunately, natural language processing can identify all topics within a single interaction, with "root cause" analysis that ensures action is taken. The same applies to various channels of communication with customers. A fully integrated natural language processing experience management tool can view everything from emails and phone calls to reviews on third-party websites, and learn where customers run into disagreement - both on an individual basis and at scale - by analyzing human language.

Natural language processing is a general area of artificial intelligence and linguistics. In terms of artificial intelligence, analysis means understanding language, and synthesis means generating intelligent text. Solving these problems will mean creating a more convenient form of computer-human interaction. The most common way people communicate is by speaking or writing one of the "natural" languages, such as English, French, or Ukrainian. On the other hand, computer programming languages seem awkward to humans.

These "artificial" languages are designed so that sentences have a rigid format or syntax. Natural language processing is an area of research in computer science and artificial intelligence (AI). Processing usually involves translating natural language into numerical data that a computer can use to obtain information about the world around it. For these purposes, so-called NLP (Natural Language Processing) technologies are being developed. In the 2010s, natural language processing and dialogue machines (chatbots) based on NLP began to gain the most popularity. The generation of an increasing amount of entertainment, advertising and financial reporting content does not require human participation. Computer games and virtual worlds contain NLP bots capable of communicating with humans. NLP provides effective information search and with the help of filtering mechanisms or promotion of certain pages affects the information consumed by the user.

Autocomplete using NLP has become widespread in search engines and mobile keyboards. Many word processors, browser plug-ins, and text editors have built-in spell checkers, grammar checkers, and word matching tools. Some of the dialog machines (chatbots) use natural language search to find the answer to the message of their interlocutor. NLP systems can be used not only to create short answers in dialogue machines, virtual assistants, to generate short posts in social networks, but also to organize longer passages of text. The Associated Press uses NLP-based journalistic robots to write entire financial articles and sports reports. NLP-based spam filters in early e-mail programs helped e-mail overtake telephone and fax as a communication channel in the 1990s. A good NLP system is a system that solves a set of tasks.

For our part, we recommend conducting NLP systems for consulting clients. We will present the option of integration in the company. Chatbots are widely used to answer questions and solve simple customer problems (for example, changing the phone number of the recipient of the package on the invoice), which can be done without human intervention.

Principle of operation (NLP):

– The solution automatically determines the topic of the request and sends the request to the appropriate department, reducing non-core workload on the staff.

– You can provide more relevant offers to customers by analyzing their needs; enrich data about them from corporate systems; to prevent the outflow of customers, due to the identification of the share of dissatisfied and relevant problems.

- Analyze the operator's work using voice recognition to control the compliance of his actions with corporate ethics.

- The solution ensures efficient work of employees and saving of labor and material resources. The operator has more opportunities to meet the needs of customers and improve their attitude towards the company.

functional capabilities:

– Speech to text conversion

– Automatic detection of the subject of the appeal, the subject of the appeal, keywords and prohibited words

– Voice identification of the operator

- Determination of the emotional coloring of the conversation

– Identifying trends, popular requests, researching customer satisfaction levels

– Creation of templates, reports and their automatic filling

– Search and classification of audio materials

Voice commands will be interpreted by the auto attendant. Depending on how the auto attendant system is managed, one of two things will happen at this stage:

The call is directed to the manager of the relevant department. The system provides an automatic response to the client's request. First, it becomes possible to rank and prioritize calls based on urgency. This will be based on a set of rules established by the call center for call routing. In the second case, informative questions and answers. The second case means that the system is programmed to answer frequently asked questions. Banks often use this function for phone calls - customers ask their questions, and based on their answers, they receive a set of ready-made answers. Think of it as customer self-service. This system can save companies up to 30% when it comes to customer support. These automated customer representatives can work around the clock, providing customers with 24/7 service when they need it. As a direct result, call centres that use NLP see improved customer service.

This leads to an increase in customer satisfaction - waiting time is reduced, and the speed of solving is significantly improved. Using interactive self-service and intelligent routing, callers are directed to the appropriate call handlers where appropriate.

Also, to improve agent productivity - calls are routed to call handlers who can provide the best solutions based on the customer's specific issues. Call handler time is also used more efficiently by handling requests that self-service cannot answer.

Lower operating costs - more customers can be served in less time. Machines can quickly route calls to the right department. Meanwhile, call operators can focus their time and effort where it's needed most.

Agency support. NLPs are not just useful tools for customers, but actually provide much-needed support to agents during their working hours. Customers are often in a hurry to figure out their problem. Invoca found that 53% of respondents will wait up to 5 minutes on hold before cancelling. So, speed is important.

Analytics:

Filter by keywords and phrases.

Identification of positive and negative tone.

Setting the classification parameters.

Flexible filtering and search system.

Customization of analytical panels and extensive export capabilities.

Result:

Increase in customer satisfaction by 20-25%.

Identification of the share of dissatisfied customers and corresponding problems, prevention of customer outflow.

Speeding up the processing of customer requests.

Reducing the number of repeat requests.

Increasing control over compliance of staff speech with scripts and corporate ethics.

More effective formation of marketing offers and competitive advantages. Obtaining additional information for making effective management decisions.

By combining two solutions, namely NLP technology and automated control systems, we will get the following result: the first support line will be closed with the help of NLP technology, for the second support line we will apply automatic recording systems, which will make it possible to control the quality-of-service provision to customers of the second support line.

NLP can also significantly improve marketing effectiveness. According to a study by TechTarget, artificial intelligence increases the level of customer satisfaction with communication with the company by 57.3%.

According to our data, the average call center employee makes 45–50 effective calls and 90–100 follow-up calls per day.

A study by IWG, one of the world's largest office space lessors, shows that 80% of workers in the US would prefer a flexible schedule, and almost a third (30%) would like to work without being tied to a specific workplace. But in the case of a call center, such flexibility can cause additional information security risks. After all, when you give access to your customer data to a large number of people, the likelihood of a leak increases. The human factor plays a significant

role here: call center operators can be bribed or blackmailed, and the leak can be caused by ordinary carelessness.

Staff turnover in call centers has reached 45% today. This means that employees are less loyal and willing to steal customer data for profit. In this way, it will be possible to reduce the staff of employees by about 15-20 people, the need to engage outsourcers for peak hours will disappear, it will prevent unplanned situations with personnel and greatly facilitate control thanks to automation. Due to the implementation of these, it will be simplified to make changes to the regulations and it will be possible to respond to changes instantly, for example, when the light goes out in the branch, one notification technologies about this will be enough for high -quality customer advice.

In addition, using these methods, we will be able to set up outgoing calls for customers who do not have a mobile application. Upon contacting the support service, it will be possible to initiate a call with a notification about the arrival of the parcel, money transfer to the branch. In this way, we will be able to take care of elderly customers who often do not notice the arrival of a message about a parcel and do not have the opportunity to install a mobile application.

We have considered the technologies of implementing NLP and substantiated the reasons for the transition to automatic recording systems due to a detailed examination of the currently existing manual ones in terms of advantages and disadvantages. In the realities of strengthening the processes of digitization and digitization of services in Ukraine, it is important to keep up with the times. The advantages of automatic recording solutions for the company and the functions that will be available after implementation were given. Tracking performance is extremely important for a successful business. Automated recording systems provide the ability to receive analytics at any time, analytics options and options and expected results have been provided.

The seller's market has now turned into a buyer's market, and as of today, buyers pay more attention to the company's service than to the price of the product. In this way, an individual approach to the client and improvement of client service companies is the key to increasing customer loyalty, improving the image and level of recognition of the company. Several options are offered to increase customer loyalty by

verifying the customer's phone number, conducting surveys based on the example of mobile application design and social networks with a reward. It is recommended to implement the possibility of connecting outgoing information calls, which will make it possible to quickly provide information to people who do not have a mobile application about the arrival of a parcel or money transfer and will reduce the number of calls from customers to the call center.

Although chat bots and call centers serve as a point of contact for customer service and support, they are often fast-growing, high-quality tasks, and many employees need to be managed. Online administration management includes hiring employees, onboarding and training, regular communication between team members, task scheduling, performance monitoring, technology use, and compliance with applicable laws. From selecting team members and training them to provide the best service to structuring tasks and communicating regularly to ensure the best possible customer experience, you need to know how to deliver a top-notch customer experience. For many years, the business process management system has remained a reliable aid in the competition, helping companies to improve quality, reduce costs and increase the speed of customer service. Moreover, it served as a tool for increasing the interaction of different divisions of the company to achieve joint results, in contrast to the usual functional barriers. However, modern capabilities and technologies open up a new, as yet poorly researched area for manufacturers of goods and services: how to manage not only the interaction between different sides of the processes within the organization, but also how to manage the customer's experience of interacting with the company. Having considered the ways of strategic development and new channels of communication with clients, we conclude that every company has a large staff of people and partners that conduct digital processing of requests. Therefore, we recommend the implementation of modern natural language processing (NLP) technologies and automated recording systems in a complex manner. Let's consider in more detail what advantages we can get.

Natural Language Processing (NLP) is a branch of information technology, artificial intelligence and linguistics, the purpose of which is to study the problems of computer analysis and synthesis of natural language. In Ukraine, contact and call centers occupy about 70% of

the total service sector. A significant part of call centers and chat bots were created according to typical projects, practically without taking into account automation technologies and optimization of operators' work. In connection with the significant increase in the number of appeals and their types, the introduction of modern automation technologies, as well as the modernization of existing business processes, is an important component of ensuring the stability of their work.

Over the past 10 years, the popularity of voice channels, such as messengers, which recreated the need for asynchronous communication, created new rules for the administration of companies and customer communications. Companies of small, medium and international size all over the world are investing in technologies that allow reducing the burden on operators of all-centers, sellers, managers of technical support. New technologies are being introduced that optimize the work of various company departments for scaling and increasing the volume of communications with existing human resources. Special departments are being created to control and integrate text and voice communication channel automation systems. In order to create a more personalized experience, NLP technology can be used to analyze call recording data about customers. A large number of phone calls and text messages can be arranged automatically using natural language processing. By recording and storing customer service data, the technician can even gauge and analyze the customer's emotions and intentions. It can then use this qualitative data to predict trends and potential customer dissatisfaction. This helps customer service agents to significantly reduce the number of customer complaints. Because this development is beneficial to both the company and the client, the updated NLP technology continues to be in high demand. The use of natural language processing will enable the use of natural language processing systems for sentiment estimation. The principle of operation of the NLP system can be seen in Fig. 1.

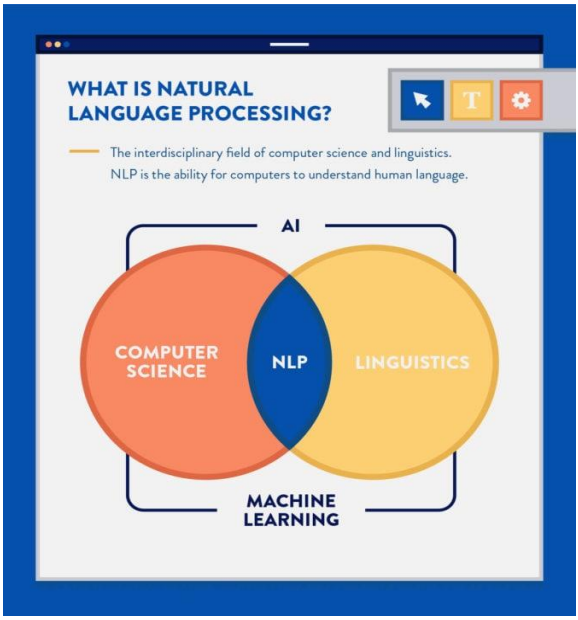


Fig. 1. **The principle of operation of the NLP system**

Of course, customer reviews are valuable data for strategizing business processes. This is what allows businesses to recognize if they are doing things right. And if not, that's how they determine where they need the most improvement. In the past, companies relied on focus groups and post-call surveys to measure customer service performance. In a recent survey, 95% said a lack of customer data was the biggest challenge when marketing their products. NLP can now access and analyze customer feedback from multiple channels. This is called sentiment analysis. Sentiment analysis is the process of analyzing customer emotions and intentions, translating them into real-time data. And it can be used not only to detect feelings in phone calls. This technology can also help when it comes to linear or other online feedback. For example, it can take from customer feedback forms such typical words as “great” or “fast”, and interpret them as emotions.

Digital communication centers can use this information to obtain valuable customer preferences. Airlines used this information to track

customer sentiment during a customer service call, to improve service methods, convenience or delay, this feature can be used to assess customer satisfaction with the service and implement changes if service deficiencies are identified. Sentiment analysis can also allow companies to study churn rates by analyzing the negative experiences customers have during calls.

These trends are important because they paint a more personal picture of contemporary socioeconomic relations than post-call surveys. Such data can help a company find more specific ways to improve customer service. The system can then determine the data in context as positive or not. This allows the cloud center to review their services without having to spend hours analyzing customer feedback from the network itself. Estimated or actual specific costs for servicing incoming requests should be smaller relative to their maximum allowable values. This requirement can be verified as a result of experimental tests according to the financial model according to the results of calculations according to or according to the results of the quarterly analysis of the coefficient of effectiveness. Automation systems of communication channels in our country and in the world in general are gaining relevance for several reasons:

– population growth and globalization of the market (every year, companies that increase their capital increase the number of customers who need to manage the entire customer life cycle);

– development of new communication channels that have means for integrations;

– the need to communicate and report to various qualified human groups.

In early 2020, ICMI published a major survey of international quality monitoring methods. The survey showed that in 2020, 92% of American call centers monitored the interactions of operators with customers. Phone calls were checked by all who participated in the survey of contact centers, while e-mail was checked by less than half. 58% reported having automatic recording systems.

The percentage dropped to 44% in contact centers, where the number of operators is from 21 to 50. Due to the lack of automatic recording systems, manual methods and remote monitoring are used. Manual monitoring involves a supervisor joining the operators at their workstation and listening to conversations through headphones. With

remote monitoring, the supervisor listens to calls from his office or workstation. In the latter case, the operators do not know that the calls are being listened to. Both methods have their advantages and disadvantages. The main role of the supervisor is that they should spend 75% of their time training and mentoring operators. Manual monitoring and evaluation waste valuable time, as the supervisor must wait for the appropriate event to control. This means being on the line all the time in case of remote control or just sitting next to the operator waiting for an incoming call. Most calls will be fairly routine. For a more meaningful assessment of the quality of the supervisor, you need to see how the operator copes with more difficult cases and situations. It is not enough to control only one call. It makes sense to check 5 to 10 operators per month. It boils down to passively sitting close to the operator or constantly being on the line, ignoring other responsibilities. After the call, the supervisor needs to analyze the call, fill out the evaluation form. Manual assessment requires the completion of an annual report. The annual report shows non-productive hours spent on collecting information from individual evaluation forms, which are transferred to the electronic summary statement and preparation of the report. This contrasts with modern automatic systems that already contain forms and a counting mechanism. With automated systems, the supervisor can better prioritize with the ability to monitor and evaluate interactions according to his schedule. A significant disadvantage of the administration of communications with clients is the lack of a permanent record and its analysis. In organizations with manual control, once the interaction (call) is complete, that action is lost forever. It is very difficult to make a quality check and evaluation, there is no reliable way to return to the source and repeat the interaction once again with a better quality. So, the information center loses the opportunity to choose a model of interaction in accordance with coaching and training goals.

In our time, it is necessary to comply with laws, to have a legal basis for compliance and verification, this is very essential and important. We live in a society that resolves any problem in court. Violations can be costly. More importantly, not taking into account such risks harms business reputation and can permanently spoil the perception of your company's brand and pranking among competitors.

The only reliable way to verify compliance is to record interactions. About 60% of information centers with automatic recording systems record every interaction. Today, the cost difference between systems that record only selective calls and systems that record all interactions is minimal. Applications that record all calls can quickly find and restore past phone and email interactions when needed, on-site or over the Internet. Then it is very easy to determine whether there was a violation and its degree. Distorted perception of quality based on evaluation of typical behavior Sidebyside monitoring is difficult for the operator. The operator may become agitated and perform poorly if the supervisor is constantly sitting next to him. Often the opposite happens. The operator performs excellently knowing that the call will form the basis of the evaluation. None of these cases represent adequate daily operator behavior. Therefore, such estimates are a poor basis for judging the behavior of individual operators, and even worse for the information center as a whole, since errors multiply. On the other hand, automated call monitoring systems allow the supervisor to search for training calls based on various conditions. Operators are rated anonymously. Quality administration requires strict criteria for rules of etiquette (courtesy), degree of "usefulness", clarity of voice, control over the call and most others on which the evaluation is based. If the assessment is performed by only one supervisor, then the criteria used must be at least justified. But if several people do the evaluation, the same operator may be evaluated differently at the same moments, depending on the supervisor. Well-run information centers deal with this through "attestation" meetings: all evaluators listen together to recorded interactions, draw their own conclusions, and then reconcile differences as a group. This improves the quality of the assessment. Such a process is not possible when evaluation is done by manual methods.

Automatic monitoring systems differ greatly from each other in terms of functionality, processing speed, scalability, ease of use, technology, while all systems for contact centers provide at least 5 basic capabilities.

The main functions of automatic recording solutions:

– record, archive and store voice interactions;

- assign telephone and business signs to interactions so that they are easy to find, based on certain search conditions;

– find and play saved records by command;

– automate the assessment process;

- provide a report as needed.

These systems have a low cost, various types of sound recording devices, reliability, and long-term storage. Advantages of automatic recording systems:

- quality monitoring and evaluation of operators can be carried out at any time at the supervisor's discretion;

– operators do not know when they are being checked;

– managers can select calls for monitoring based on pre-established or retrospective conditions related to business objectives;

– the operator can start a recording process or easily mark an important recording when all calls are already recorded;

– sample calls can be used for everyone else for training purposes;

– the assessment process is transparent and occurs automatically;

– supervisors can view records and ratings of operators;

- provide an opportunity to carry out attestation, which improves subjective assessment;

- help reduce prejudice or favoritism;

– operators can observe their progress and manage the process of self-improvement;

– automatic generation of reports;

– provide a basis for resolving disagreements in assessments;

– provide a basis for checking compliance with laws and verification;

- record customer opinions.

– there is permanent recording compared to selective recording.

– Recording systems can be classified into 2 large categories:

- those that record all calls are called "loggers" - a system of automatic permanent recording;

- those that record only a part of conversations - a quality monitoring system or a selective recording system.

Such systems record absolutely all voice interactions. They also record all interactions with the database. They are usually installed where verification is important, for example, in banks, insurance companies or online stores.

In our case, when a call is received with a request to change the delivery address or the postpaid amount, verification by the

questionnaire method is used. Over time, customers, especially top executives, get tired of spending time on questionnaires every time, which in their eyes reduces the company's customer-orientation. The implementation of this solution will provide an opportunity to verify the client's contact. As a result, we will receive the following advantages: provision of a higher quality service and reduction of call duration. The main reason for spending the supervisor's time in centers with manual control is passive waiting for a call, a "decent" record. The approach of an automatic recording system is toto authorize managers to set the criteria for selecting a call - a sample for evaluation. All calls are marked with operator, answer time, end time, date, and other identifying information that is automatically collected from the system or manually added by operators or supervisors as comments, tags, or flags.

Managers can simply sample calls with certain attributes. For example, they can select calls that were made by a specific operator during a certain period of time. At the same time, all transactions are stored for a period of time determined by management, even if this means storing different interactions for different periods of time until the moment of automatic cleaning. These functionalities for more advanced and intelligent management of storage methods than standard selective recording - they take into account those events that occurred before, during and after the end of the conversation and automatically determine whether the recording is saved and for how long.

Driving forces of the tendency to use the system of automatic permanent recording:

– increased interest in customer verification and compliance with the law;

– reducing the difference in price, reducing database storage costs, reducing the cost of equipment, which often provides the customer with a turnkey solution;

- the desire for a more representative and unbiased evaluation of the operator;

- promising development of language technologies.

It is necessary to develop in terms of linguistic analytical technologies. This technology has advanced very far. The language engine can now search for meaning as well as words and phrases.

Advanced programs automatically categorize and count the number of user interactions so that managers can get quick and accurate answers to the main questions:

- why do customers call?
- why does the level of customer satisfaction increase or decrease?
- why are we seeing an increase/decrease in customers?
- what is the influence of companies on the behavior and attitude of the client?
- what disadvantages in the product or service require immediate attention?

– do the operators use inappropriate language of communication?

– have there been incidents with customer verification?

Speech technologies have great power and potential to transform voice and speech into valuable contact center assets. The information center may not be ready for voice traffic recognition technology this year or next, but without an automatic persistent recording system platform, call center management will never be able to take advantage of this technology. Choosing automatic recording systems. Small call centers now have more alternatives than ever, as the choice of an automated solution is gaining popularity every year and the number of companies providing this kind of service is constantly growing, giving the opportunity to choose the best option at a favorable price policy.

The recording system should be well integrated with the applications with which the operator works - for example, with software for personnel management, managers, electronic training systems, which will give an advantage in fast communication.

Ease of use. In small call centers, as a rule, there is no technical support department. HR solutions should be easy to manage and easy to use. "Simplicity in circulation" goes to our days. Like a smile and courtesy when calling, ease of use is better observed than measured. Users should be able to build their own evaluation forms from templates using properties with appropriate scoring scales and design styles. Operators should be able to record or save a call if necessary. The record should be easily selectable from the list of workstation records. The operator should easily send voice or multimedia files as simply as PDF documents. Everyone inherently wants to be "part of something important" and a regular survey for clients and employees regarding the design and the principled position "your opinion is

important to us" - we draw attention to ourselves and show our customer orientation.

Customer loyalty plays a big role in the company's success. To ensure loyalty, it is not enough to simply create an attractive product or a convenient delivery system. Customers should feel that they have a good relationship with the brand. This requires investment in loyalty programs. A brand without loyal customers will quickly lag behind its competitors or will be forced to invest more and more money in advertising. But if everything is done right, your regular customers will provide a stable income and, as a result, high profits.

An example of the implementation of a loyalty system for a company:

- arranging a survey about the mobile application, its design and other components, as a reward for each survey participant to use a promotional code for sending;

– make a vote about the screen saver in social networks, and for the best offer - a branded cup/cap/thermos/t-shirt;

- the result will be atreturning attention to the mobile application, which will reduce the number of calls to the call center and increase the number of downloads, will contribute to the increase of followers in social networks to increase brand awareness;

Reliability. No call center wants to be forced out of action due to equipment breakdowns. Reliability is especially important for small contact centers with limited IT resources. It is necessary to know whether the system notifies about problems, the system should have self-monitoring of the system, self-recovery and remote diagnostics. To get the most out of the system, there are special options:

– only permanent automatic recording;
– only selective recording;
– the possibility of both permanent and selective recording;
– selection of calls based on certain rules;
- arbitrary entry;
– recording at the command of the operator;
– voice and data recording;
– recording via VoIP;
– tags for searching and re-listening later;
– browser-based data request;
– access to records based on access delineation;

– edited evaluation forms;
– values for evaluation criteria are adapted;
– search by customer base;
– edited reports;
– reports in real time;
– possibility to set flags and comments;
– analysis of information/ detailing of the report;
– speech analysis and recognition;
– e-learning and e-coaching;
- customer survey;
– operator portals.

Basically, these special options are easy to interpret by their name. One feature we haven't discussed is customer surveys. Automated surveys integrated with a recording system are a means of collecting quality information directly from the customer. Research shows that supervisors and operators almost always rate customer satisfaction higher than customer calls. Combined with advanced tools such as language analysis, it is possible to tap into the database to find out which points are important in increasing customer satisfaction. There are many opportunities to add survey ratings or "voice of the customer" to your customer service application arsenal.

Better call center management. For call center managers, a tool like Qualtrics XM Discover can listen in on help desk calls, analyze what both parties are saying, and automatically evaluate agent performance after each call. If they stick to the script and the customers are happy, you can use that information to celebrate. If not, the program will recommend activities to help your agents develop their skills.

Task automation provides business benefits related to customer service through natural language processing. Real-time data can help fine-tune many aspects of a business, whether it's staff in need of support, ensuring managers use inclusive language, or sentiment scanning in a new ad campaign.

How to implement NLP in your business? The best way to use natural language processing and machine learning in your business is to implement a software package designed to process the complex data that these functions work with and turn it into actions that are easy to interpret.

Experience management software tools such as Qualtrics Experience iD and XM Discover make large-scale natural language statistical processing useful to business managers by transforming huge amounts of customer service data and making it useful—with immediate results.

Artificial intelligence is a field of computer science that deals with the development of intelligent computer systems, that is, systems with capabilities that we traditionally associate with the human mind - language understanding, learning, the ability to reason, solve problems.

Natural Language Processing (NLP) is a branch of artificial intelligence (AI) that allows computers to understand, generate and manipulate human language. Natural language processing allows you to query data using natural language text or voice. This is also called "tongue inside". Most consumers have probably interacted with NLP without realizing it. For example, NLP is the core technology of virtual assistants such as Oracle Digital Assistant (ODA), Siri, Cortana, or Alexa. When we ask questions to these virtual assistants, it is NLP that allows them not only to understand the user's request, but also to respond in natural language. NLP is applicable to both written text and speech, and can be applied to all human languages. Other examples of NLP-based tools include web search, email spam filtering, automatic text or speech translation, document summarization, sentiment analysis, and grammar/spelling checking. For example, some email programs can automatically suggest an appropriate response to a message based on its content—these programs use NLP to read, parse, and respond to your message.

There are several other terms that are roughly synonymous with NLP. Natural language understanding (NLU) and natural language generation (NLG) refer to the use of computers to understand and reproduce human language, respectively. The NLG can provide a verbal description of what happened. This is also called "language output" by summarizing meaningful information into text using a concept known as "graphic grammar".

In practice, NLU is used to refer to NLP. The understanding by computers of the structure and meaning of all human languages, allowing developers and users to interact with computers using natural sentences and communication. Computational linguistics (CL) is the

scientific field that studies the computational aspects of human language, while NLP is the engineering discipline concerned with creating computational artifacts that understand, generate, or manipulate human language.

Research in NLP began shortly after the invention of digital computers in the 1950s, and NLP draws on both linguistics and artificial intelligence. However, the main breakthroughs of the last few years have been in machine learning, which is a branch of AI that develops systems that learn and generalize from data. Deep learning is a type of machine learning that can learn very complex patterns from large datasets, which means it is ideal for learning natural language complexities from web-derived datasets.

Natural language processing applications

Automate routine tasks: NLP-based chatbots can handle a large number of routine tasks that are performed by human agents today, freeing up employees to work on more complex and interesting tasks. For example, chatbots and digital assistants can recognize a wide range of user queries, match them with a corresponding entry in a corporate database, and formulate an appropriate response to the user.

Search Improvement: NLP can improve document search by keyword match and FAQ search by disambiguating the meaning of words depending on the context (e.g. "carrier" means something different in biomedical and industrial contexts), matching synonyms (e.g. search documents that mention "car"). when searching for the word "car") and taking into account morphological variations (which is important for non-English queries). Effective NLP-based academic search systems can greatly improve access to up-to-date cutting-edge research for physicians, lawyers, and other professionals.

Search Engine Optimization: NLP is a great tool to improve your online search rankings by analyzing search terms to optimize your content. Search engines use NLP to rank their results, and knowing how to use these techniques effectively makes it easier for your competitors to rank. This will lead to more visibility for your business.

Analyzing and organizing large collections of documents: NLP techniques such as document clustering and topic modeling make it easier to understand the diversity of content in large collections of documents such as corporate reports, news articles, or academic

documents. These methods are often used for legal disclosure purposes.

Social media analytics: NLP can analyze customer feedback and social media comments to better understand vast amounts of information. Sentiment Analysis identifies positive and negative comments in the social media comment thread, providing a direct, real-time assessment of customer sentiment. This can lead to huge future benefits such as improved customer satisfaction and revenue.

Market Understanding: With NLP working to analyze the language of your business customers, you will better understand what they want and also better understand how to communicate with them. Aspect-Based Sentiment Analysis reveals sentiments associated with certain aspects or products on social media (e.g., "keyboard is great, but screen is too dim"), providing directly useful information for product design and marketing.

Content moderation. If your business attracts a lot of user or customer comments, NLP allows you to moderate what has been said to maintain quality and courtesy by analyzing not only the words but also the tone and intent of the comments.

NLP simplifies and automates a wide range of business processes, especially those that involve large amounts of unstructured text such as emails, surveys, social media conversations, and more. With NLP, businesses can better analyze their data to make the right decisions. Here are just a few examples of the practical application of NLP:

Healthcare. As healthcare systems around the world move to electronic health records, they are confronted with large amounts of unstructured data. NLP can be used to analyze and gain new insights into medical records.

Legal: To prepare for a case, lawyers often have to spend hours poring through large collections of documents and looking for materials relevant to a particular case. NLP technology can automate the legal investigation process, reducing time and human error by sifting through large volumes of documents.

Finance: The financial world moves very fast and any competitive advantage is important. In the financial arena, traders use NLP technology to automatically extract information from corporate documents and news releases in order to extract information relevant to their portfolios and trading decisions.

Customer service. Many large companies use virtual assistants or chatbots to answer basic customer and information requests (such as FAQs), relaying difficult questions to people when needed.

Insurance. Large insurance companies use NLP to sift through claims related documents and reports to make it easier to do business.

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Machine Learning Models for NLP: Modern NLP relies heavily on an AI approach called machine learning. Machine learning makes predictions by summarizing the examples in the dataset. This dataset is called training data and machine learning algorithms are trained on this training data to create a machine learning model that performs the target task.

For example, sentiment analysis training data consists of sentences along with their sentiment (eg, positive, negative, or neutral sentiment). The machine learning algorithm reads this dataset and builds a model that takes sentences as input and returns their sentiments. Such a model that takes sentences or documents as input and returns a label for that input is called a document classification model. Document classifiers can also be used to classify documents by the topics they mention (eg sports, finance, politics).

Deep learning is the most widely used type of machine learning in NLP. In the 1980s, researchers developed neural networks that combine a large number of primitive machine learning models into a single network: by analogy with the brain, simple machine learning models are sometimes called “neurons.” These neurons are arranged in layers, and a deep neural network consists of many layers. Deep learning is machine learning using deep neural network models. Due to their complexity, training a deep neural network usually requires a lot of data, and their processing requires a lot of computing power and time. Modern NLP deep neural network models are trained from a variety of sources such as the entire Wikipedia and data pulled from the Internet. The training data may be on the order of 10 GB or more, and on a high-performance cluster, it may take a week or more to train a deep neural network. (Researchers have found that training even deeper models from even larger datasets gives even better performance, so there is now a race to train bigger and bigger models from bigger and bigger datasets.)

The voracious data and computational demands of Deep Neural Networks would seem to severely limit their usefulness. However, transfer learning allows you to train a trained deep neural network to perform a new task with much less training data and computational cost. The simplest form of transfer learning is called fine-tuning. It simply consists of first training the model on a large general dataset (like Wikipedia) and then further training ("fine tuning") the model on a much smaller task-specific dataset that is labeled with the actual target. Surprisingly, fine-tuning datasets can be very small, containing only hundreds or even dozens of training examples, and fine-tuning takes only a few minutes on a single processor.

There is now an entire ecosystem of vendors providing pre-trained deep learning models that are trained on various combinations of languages, data sets, and pre-training tasks. These pre-trained models can be downloaded and customized for a wide variety of targets.

Tokenization: Tokenization breaks up raw text (such as a sentence or document) into a sequence of tokens, such as words or subwords. Tokenization is often the first step in the NLP processing pipeline. Tokens are usually repeating sequences of text that are treated as atomic units in subsequent processing. These can be words, units of subwords called morphemes (such as prefixes like "un-" or suffixes like "-ing" in English), or even individual characters.

Bag of words models: Bag of words models treat documents as unordered collections of tokens or words (a bag is like a set, except that it keeps track of the number of occurrences of each element). Because they completely ignore word order, bag-of-word models confuse sentences like "dog bites man" with "man bites dog". However, bag of words models is often used for efficiency reasons in large information retrieval tasks such as search engines. They can produce near modern results with longer documents.

Removing Stop Words: A "stop word" is a token that is ignored in subsequent processing. As a rule, these are short, frequent words, such as "a", "that" or "an". Word bag models and search engines often ignore stop words to reduce processing time and memory footprint in the database. Deep neural networks usually respect word order (i.e., they are not models of a set of words) and do not remove stop words because stop words can convey subtle differences in meaning (e.g.

“message was lost”.” and “packet lost” do not mean the same thing, although after removing the stop words they are the same).

Stemming and Lemmatization: Morphemes are the smallest semantic elements of a language. Usually, morphemes are smaller than words. For example, "revisited" consists of the prefix "re-", the stem "visit", and the past tense suffix "-ed". Stems and lemmatization match words with their stem forms (e.g., "revisit" + PAST). Stemming and lemmatization are important steps in pre-deep learning models, but deep learning models typically learn these patterns from their training data and therefore do not require explicit stemming or lemmatization steps.

Part-of-speech tagging and parsing. Parts of Speech (PoS) tagging is the process of tagging each word with its part of speech (e.g., noun, verb, adjective, etc.). The parser determines how words are combined into phrases, sentences, and whole sentences. PoS tagging is a sequence tagging task, parsing is an extended kind of sequence tagging task, and Nntworks deep neural networks is a state-of-the-art technology for both PoS tagging and parsing. Prior to deep learning, PoS tags and parsing were essential steps in understanding sentences. However, current deep learning NLP models tend to benefit only marginally (if at all) from PoS or syntax information, so neither PoS tagging nor parsing is widely used in deep learning NLP.

As such, natural language processing is an exciting area of AI development that is fuelling a wide range of new products such as search engines, chatbots, recommendation systems, and speech-to-text systems. As human interfaces with computers continue to move away from buttons, forms, and domain-specific languages, the need for the growth of natural language processing will continue to grow. For this reason, Oracle Cloud Infrastructure strives to deliver local performance with performance-optimized forms of computing and tools for NLP. Oracle Cloud Infrastructure offers a set of GPU forms that can be deployed in minutes to start experimenting with NLP.

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Information systems contain information about significant people, places, and things within an organization or in its environment. By information, we mean data that has been transformed into a form that is meaningful and useful to people. Data, in contrast, are streams of raw facts representing events occurring in organizations or the physical environment before they were organized and put into a form that people can understand and use.

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The three activities in an information system produce the information organizations need to make decisions, manage operations, analyze problems, and create new products or services. These activities are input, processing, and output. Input captures or collects raw data within an organization or from its external environment. Processing transforms this raw input into a more meaningful form. The output conveys the processed information to the people who will use it or the activities for which it will be used. Information systems also require feedback, which is output that is returned to the appropriate members of the organization to help them evaluate or correct the input step. Although computer information systems use computer technology to transform raw data into meaningful information, there is a clear distinction between a computer and a computer program on the one hand, and an information system on the other. Electronic computers and related programs are the technical basis, tools and materials of modern information systems. Computers provide equipment for storing and processing information. Computer programs or software are sets of operating instructions that direct and control computer processing. Knowing how computers and computer programs work is important for developing solutions to organizational problems, but computers are only part of an information system.

**Conclusions.** This chapter was aimed at researching priority areas for the formation of digital infrastructure, predicting possible risks, arguing the need to increase the level of digital literacy of people, their

participation in the formation and development of digital resources, customer orientation, and the formation of an appropriate investment base to achieve planned indicators for the development of the national economy using digital tools. Prospects for rapid changes, communication systems for visualization and modeling of business processes, programs for their administration, interaction with a large amount of information, including, apart from humans, artificial intelligence in the form of online objects and machines, together require an update of the theoretical management base.

## 2.3. MODERNIZATION OF ECONOMIC LEGISLATION OF UKRAINE IN THE CONDITIONS OF DIGITALIZATION OF BUSINESS ADMINISTRATION

Of the many factors that affect the digital transformation of enterprises, the legal framework for ownership and protection of intellectual property, state support, accounting, control and taxation, clear parameters of business administration of digital transformation of enterprises require careful study. Digital transformation is an irreversible process that requires long-term investment strategies from management, taking into account all possible risks and potential returns within the framework of global sustainable development. Stable and sufficient financial resources of the enterprise, the rights to which are properly legally established, are an important factor in its stability.

The purpose of the article is identifying trends in the development and organization of business processes of economic entities in modern conditions, using modern means of process organization, and direct digitalization, analysis of measures to ensure competitive market conditions and clear regulatory requirements in the modern period of healthy digital transformation of the economy of Ukraine. Smart rules and principles are needed to protect consumers and infrastructure in the digital environment, for which it is necessary to remove regulatory barriers that slow down digitalization and innovation in general. Clarity, which is provided by a carefully developed legal framework, its implementation into global standards will provide an opportunity for enterprises to develop a "road map" to digital transformation.

Results of the research. Comprehensive study of the problems of efficiency assessment and prospects for the development of digitalization at enterprises was conducted by such scientists as: Ayeta A.[180] Gunasekaran, McGaughey, Ngai, Rai [181], Tavera, J. F., Sánchez, J.C., Ballesteros[182], B. Borges, Hoppen, Luce[183], Venkatesh, Thong, Xu[184], Chong, S [185] and many others.

As A. Ayeta (2019) notes, in the 21st century the main challenge in the field of managing a business organization is the industrial (technological) revolution, which transforms the traditional idea of managing the organization itself, its personnel and resources, with the mandatory use of digitalization.

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Despite significant positive developments in the field of digitization of enterprises, there are a number of unsolved problems: high costs at the early stage of operation of information systems; relatively large costs of a transactional and transformational nature, which are associated with the transition to the use of digital technologies by all economic agents; shortage of professional personnel, associated with the established disproportion between the demand for highly qualified specialists and their insufficient training by educational institutions; the absence of the necessary uniform standards, technical regulations and relevant legislative norms that regulate relations between participants in the field of digital technologies; insufficient level of protection of digital technologies against illegal encroachments (Tavera et al., 2011).

The harmonization of the fundamentals of the digital market is an important step on the way to removing barriers for citizens, public administrations and businesses to access online services, resulting in better quality at better prices and in conditions of wider choice. Bringing the legislation of the EaP countries into compliance with EU standards has significant advantages for trade, especially cross-border trade.

When businesses move online, one of the key challenges they face is meeting legal and contractual obligations without physical paperwork. Electronic signatures can vary in the form of different levels of verification, where mathematical algorithms are used to establish identity. Common electronic trust services such as mobile ID, electronic ID, and time-tagging services are gradually being rolled out. Electronic signatures are recognized as functionally equal to physical signatures. In most Eastern Partnership countries, electronic signature verification is tied to national identity cards. The legal framework facilitates the flexible use of electronic documents and signatures in domestic markets, but the lack of regionally agreed standards or mutual recognition causes problems in cross-border trade transactions. In the European Union, the eIDAS (electronic Identification, Authentication and trust Services) regulation distinguishes three levels of electronic signature: simple electronic signature, enhanced electronic signature and qualified electronic signature, which provides the highest level of data security and is equivalent to a physical signature. Of all the Eastern Partnership

countries, only Moldova and Ukraine brought their electronic signature standards into line with the EU eIDAS standards.

We can single out the following typology of threats to digital security, which require the attention of management and the legal department.

Phishing. A masked attacker contacts the victim to obtain sensitive information, such as usernames and passwords, to gain access to personal accounts or IT systems. In terms of sophistication, phishing attacks range from untargeted mass campaigns imitating messages from e-commerce or other online services to highly sophisticated targeted phishing emails in which the attacker claims to be an employee of the victim, such as IT support, or manager and requests confidential information about users.

Malicious software. This term includes viruses, trojans (malicious software that looks like regular software), spyware/adware (installed on a device, for example when a user opens an attachment) and worms. The technological sophistication of malware has grown significantly over the years: metamorphic malware completely rewrites its code with each version that is further distributed, making it extremely difficult for antivirus programs to detect such threats.

Ransomware. This type of software encrypts the victim's access to data or IT systems and demands a ransom to unlock such access. This form of digital extortion is becoming more common and targeted. For example, in 2017, the Wannacry and NotPetya attacks caused damage estimated at billions of dollars and affected such multinational corporations as Boeing, DHL, Honda, Renault.

Distributed denial of service (DDoS) attack.

DDos attacks seek to undermine the availability of an online service by sending excessive traffic to the system, overloading its servers by using a network of compromised devices called drones or zombies. Such attacks are usually used to extort money from victims.

Cybersquatting. This growing threat to e-commerce businesses is the registration or use of an Internet domain name similar to the real name of an existing business in order to profit from the use of its trademark. After some time, the attacker offers to sell the domain name to the owner of the trademark. The success of all these threats is based on two common vulnerabilities - the human factor and outdated software. For example, in the case of ransomware attacks in 2017,

firms such as Microsoft were able to respond to the threat with software updates within days.

Therefore, it is relevant to assess the level of digital maturity and resistance to threats of various sectors. Some sectors of the economy may be at an advanced stage of digital transformation, while others will lag behind them, but at the same time have great potential for digitalization. In order to establish the level of digital maturity of a particular industry, it is possible to conduct a survey of representative samples of enterprises to collect information on a number of indicators that reflect both the development of digital culture and the scale of implementation of digital solutions in various spheres of activity (such as legal relations with clients, communication, production, inventory management, accounting, control, taxation, business processes).

The threats of digitization include the insecurity of personal data and non-public content of any enterprise in cyberspace and the related inability of modern legal means to regulate and protect public relations and justify the extent of responsibility for data leakage. In order to prosecute a structure or a person who violated the terms of the NDA and disclosed confidential information, it is necessary to follow the formal procedure for classifying information as confidential; inform the receiving party about exactly what information is confidential and record it (including by signing an NDA); confirm the fact of disclosure of confidential information and justify the number of damages as a result of such disclosure. World practice, unfortunately, is characterized by the opposite process, when everyone is obliged to sign consent to the processing of personal data without alternative.

The adoption of changes to the Economic Code of Ukraine can serve, first of all, to implement the regulatory and static function of law, which will allow economic relations to be provided with legal forms of their progressive development. Therefore, the task of modernization is the most urgent issue of economic and legal research. Of course, the modern era is characterized by a tendency towards increasing interdependence of the states of the world community. Powerful integration processes have further expanded the movement across national borders of ideas and concepts of global coexistence. As a result, a diverse, interdependent and, in many respects, whole world is formed.

At the same time, the processes of international integration, unification and harmonization, especially in the economic sphere, require the improvement of the forms of expression of law, in particular, the solution of economic problems (especially its corruption component) in the sphere of legal regulation, the development of a system of scientifically substantiated requirements, rules, methods, methods and means of development and improvement of regulatory and other legal acts, their adaptation to European law, clarification of the conceptual apparatus of many branches of law. These trends are a manifestation of a more general pattern: legislation can be a regulator of social relations only when its internal and external forms meet the highest standards of legal technique. Of course, normative legal acts and legal practice are one of the important indicators of the level of development of the legal system of any country. Therefore, the interest in the qualitative level is a motivating factor, and the improvement of the corresponding quality is an adequate awareness by the subjects of the state authorities of the content of the legal requirement.

Sometimes international legal experience is an effective means of solving some problems; relevant acts, contracts, the implementation of which the country has undertaken to implement, an effectively implemented set of measures. After all, the critical mass of scientific works in this direction is still not adapted to international legal standards.

Mastering the system of requirements for the process of creating laws and by-laws is a key element of improving economic legislation. These requirements are formed both for the system of legislation as a whole as a complex object of research, and for its individual areas - markets (or complexes) regarding a unified methodological support both in the middle of economic legislation and in all legislative latitudes of national and international legal regulation of relations. As you can imagine, the consequence of the corresponding imperfection is the absence of an objective comprehensive systematization of standards. One of the breakthroughs of legal science was the creation of the Economic Code of Ukraine, which contained basic concepts, however, modern state policy in the direction of economic relations in connection with their dynamics, the emergence of new markets, the creation of new business spheres, business structures (ideas) should

respond by expanding the content of the modern basic economic act - the Economic Code of Ukraine.

The first step that needs to be taken is to expand the content of the Commercial Code of Ukraine in the context of newly created business areas and business terms that did not fall into its content, as well as to establish a unified approach to a uniform terminological burden on all legislative levels.

In Ukraine, corruption affected not only the apparatus of state power, but also penetrated into almost all spheres of public life. Citizens are faced with manifestations of corruption when addressing both state authorities and private enterprises and institutions. The highest level of corruption is in the spheres of education, health care, housing and communal services, housing construction, etc. With the transition to a market economy, the legal regulation of these areas is mainly of a private legal nature. In this regard, it seems that there is a ripe need for monitoring the corruption of legislation in the field of legal regulation. However, this approach needs additional theoretical justification, as it does not fully correspond to the idea of corruption as an abuse of state power.

When studying the experience of the leading states in this rating, it becomes obvious that their governments were able to conduct a multifactorial analysis of the situation when developing anti-corruption measures, and in the end were based on both social and institutional factors. The USA, as a country with one of the most developed legal systems, focused on legislation in the fight against corruption. In the criminal code of the United States, the concept of criminally punishable corruption has a broader interpretation than in European countries. For example, according to US law, civil servants in various departments cannot receive gifts that cost more than a certain price. This experience is also used in other countries, for example, in Great Britain and Singapore. The latter is considered one of the positive examples of the operational fight against corruption. In addition to standard mechanisms, one can highlight the fact that "collective responsibility" for bribery was used in the country. If one of the officials was accused of corruption, his colleagues, who were expected to be fired, were also attacked. Among other notable measures adopted in Asia, one can note the "presumption of corruption" in Hong Kong, which consists in the fact that an official

must prove the legitimate origin of his property. In addition, the "Independent Commission against Corruption" was created in Hong Kong, which consisted of independent observers, including public figures and businessmen. Employees of the created department had high salaries. It should be noted that the high level of rewards and incentives has also become an important tool in the fight against corruption. Sweden, for example, followed this path and sharply raised the salaries of civil servants. Subsequently, wages decreased, but the reduction in corruption ties was able to be preserved. In the Netherlands, officials could receive material incentives for the absence of corruption connections or assistance in the investigation of such. The strictest legislation regarding corrupt persons can be called Chinese - there, according to the law, a corrupt person can be sentenced to the death penalty. Despite a wide range of anti-corruption measures in different regions of the world, the leaders of the Transparency International rating still adhere to a single strategy in the methods of fighting corruption, using generally accepted mechanisms. Among them, the following can be mentioned:

- simplification of bureaucratic mechanisms and other administrative procedures;
- improvement of anti-corruption legislation;
- increasing punishment for corruption both at the legislative level and at the level of public condemnation (for example, publication of lists of corrupt persons);
- transparency of the work of state agencies and officials;
- increasing the independence of the judicial system when conducting trials of corrupt individuals;
- changing personnel policy in the civil service;
- separation of powers of civil servants;
- strengthening audit and regulatory measures to combat corruption.

At the same time, the government of the leaders of the anti-corruption rating, forming appropriate measures for the destruction of corruption mechanisms, focused both on world experience and on individual social, economic and political features of the country.

The first feature of the fight against corruption in the USA is the diversity and unevenness of regulatory acts. Here is the second feature - decentralized decision-making, as in all other areas in the USA. The

main anti-corruption legislation (along with those discussed above) is included in the US Code. However, the laws on this list may not apply in all states. For example, bribery of officials of private organizations (commercial bribery) is officially prohibited by criminal law in only 37 states. However, in other states, commercial bribery may result in criminal charges for fraud. That is, essentially the same actions are subject to different laws, different formulations. RICO is enacted in only 29 of the 50 states. States can make their own rules and so on. Among other legislative norms, the Code of Ethics of Government Service should be singled out, adopted in 1958, supplemented by the law "On Ethics of Government Officials" in 1978 and reformed in 1998. Finally, the executive order of the President of the USA No. 12731 "Principles of ethical behaviour of officials and employees of the state apparatus" is in force in the country. All these acts are relevant to this day and are an important reference point for civil servants. The third feature is the broadest interpretation of the concept of corruption and bribery, the severity of punishment for crimes. So, in addition to open bribery, the American law also distinguishes passive bribery - in this case, the composition of the crime does not require that the bribe be paid in favour of the official himself. It can be paid to another person or organization, as indicated by the official12. There is a separate penalty for kick backing (payment of "reward" based on the results of the agreement). According to Art. 201 of title 18 of the US Code, the amount of the fine for giving and receiving a bribe is three times the amount of the bribe, or provides imprisonment for a term of up to 15 years (in case of aggravating circumstances - imprisonment for up to 20 years).

For most groups of civil servants, the possibilities of receiving additional income above the basic salary are significantly limited (the amount of additional earnings should not exceed 15% of the salary for the position). approval of specific laws by the Senate, "if the value of the gifts during the calendar year in aggregate exceeds $100" 14. Corrupt agreements between any persons with a request for employment in the federal public service are recognized as corrupt. Another, fourth feature of American law is the lack of immunity. According to Art. II (chapter 4) of the US Constitution, Congress can remove from office by impeachment not only the president of the country, but also any civil official of the US. Deprived of powers can

be members of Congress, etc. Finally, the last, fifth feature can be called the fact that corruption at the grassroots level (for rank-and-file civil servants, policemen, judges) becomes unprofitable. It's no secret that social services - medicine, education - are extremely expensive in the USA. American civil servants receive a whole set of benefits (including pension), and not only for themselves personally, but also for their family - close relatives are provided with one or another type of insurance, there are benefits for children. However, any, even the smallest bribe, let's say for a police officer, turns into deprivation of these benefits and loss of job. Moreover, the loss of a position means the need not only to change the direct place of work, but also to change the profession in general. Accusations of corruption become a kind of stigma, a "wolf ticket" for an employee. Perhaps this is an echo of the RICO law, which forces a choice between the well-being of the family and petty fraud. That is why in the USA it is difficult to imagine a policeman or a judge taking a bribe. The application of this certainly useful experience for Russia is complicated by the possibility of organizing the same system of benefits and incentives. These features do not mean that corruption in the US has been completely eradicated. It is difficult to imagine a policeman or a judge taking a bribe, but it is not difficult to imagine a high-ranking official accepting gifts of millions in this situation.

Finally, with American law there is such a feature as open, legalized lobbying. The points of view on this issue are sometimes diametrically opposed: for some, it is the best prevention of corruption, for others, it is its manifestation. Scandalous in this regard was a study by Princeton University, which showed that the US Congress in its legislative practice reflects the interests of a small layer of people (acting through lobbyists) to a much greater extent than the common American people. Thus, the United States managed to achieve considerable results in the fight against corruption in certain areas. However, in the political and business circles of the USA, methods of deception, blackmail, bribery and other fraud are still used for various purposes, which is logical for a state characterized by global financial and political opportunities.

A successful example of the fight against corruption is the Danish experience. According to various estimates, in recent years Denmark has been consistently in the top three world rankings for the minimum

level of corruption. The highest successes in the fight against corruption were achieved in the 2000s through the interaction of the state and the commercial sector. At the same time, there is no special anti-corruption agency in Denmark. Law enforcement agencies investigate cases related to corruption. Cases of corruption at the international level are within the competence of the prosecutor's office for special economic crimes. The main anti-corruption legislation in Denmark is the "Corruption Act", adopted in 2002. This law obliges representatives of the Danish government to annually publicly disclose information about their income and available property. Also, according to it, civil servants are prohibited from owning shares of foreign companies in order to exclude the possibility of lobbying foreign counterparties inside the country. In addition, according to the law, any citizen has the right to inform the law enforcement authorities if he has suspicions of corruption, including anonymously. According to Danish law, one of the controllers of the corps of officials is the members of the Folketing (Danish Parliament). Yes, any member of the Danish Parliament has the right to receive information about the activities of ministers. This is implemented in practice during parliamentary sessions, where ministers give a report, responding to parliamentarians' inquiries regarding suspicions of involvement in corrupt practices. In total, Denmark currently has about 20 laws that provide for liability for acts of a corrupt nature. In turn, corporations sign special provisions among themselves and create joint associations to fight corruption. In this way, the policy of "absolute intolerance" to corruption is implemented, both within the same company and when they cooperate with each other.

The main component of anti-corruption activities in Denmark is conducted jointly by the state and business, by concluding special agreements within the framework of economic organizations. One of the main platforms is the Trade Council of Denmark (TCD), which provides support to Danish companies and individuals when they encounter corruption at the international level. We are talking about both daily business operations and government assistance in the implementation of global projects. TCD conducts negotiations with the governments of foreign countries where Danish companies operate, in case of controversial issues, including those of a corruption nature. Another such anti-corruption organization is the Danish

International Development Agency (DANIDA) under the Ministry of Foreign Affairs of Denmark. When joining DANIDA, the company enters into a number of agreements, which include a declaration of "non-bribery". If the company participates in corrupt practices, the contract with it is terminated. In addition, the offending company loses its image and practically has no access to further cooperation in an associative format. A similar practice is implemented by other large Danish government organizations that provide business support, such as the Danish Export Credit Agency, the Industrialization Fund for Developing Countries, and the Confederation of Danish Industry.

To ensure a successful fight against corruption, it is necessary, among other things, to implement the twenty guiding anti-corruption principles that were approved in the resolution of the Council of Europe. These principles establish the most important requirements for those bodies that must fight corruption. These conditions include: independence and autonomy, absence of undue pressure on these bodies, sufficient resources and clear specialization of these bodies. At the same time, the principles allow that there can be more than one anti-corruption body in the country. This should be determined by the actual political situation and legislation of each individual country. Such bodies can be either only bodies that carry out punitive measures or preventive measures, or combine both those and other measures. But, in any case, these bodies must carry out the measures that are formulated in the policy of fighting against corruption in this country. In some countries, legislators have come to the conclusion that it is enough to have effective police bodies, to have a good system of public prosecution and this is enough to fight corruption. But recent practice shows that this is not enough. And that is why the UN Convention against Corruption was adopted. As a result, many countries began to revise their attitude to the creation of specialized anti-corruption bodies.

In order to create an effective and beneficial anti-corruption body, first of all, it is necessary to identify and define specific problems facing the country. It is also necessary to find out what kind of corruption we are talking about, what kind of corruption citizens and businesses in this country face. Is this corruption comprehensive in terms of coverage of various sectors of public administration, or is it large-scale in terms of the amount of funds involved in it. It is also

necessary to analyze the experience of already existing institutions and find out whether these problems can be solved by creating new bodies, or it is better to act through better coordination of existing bodies, deepening their interdepartmental cooperation. Analyzing these issues, states may come to the conclusion that they may need specialized anti-corruption bodies. At the same time, they will have to make such bodies truly effective. First, it is necessary to decide on what legal basis such anti-corruption bodies will be created. There are countries, for example, Serbia, where anti-corruption bodies were created only to meet the expectations of international organizations and the international public. A simple government decree created the so-called anti-corruption committee there. As soon as this committee began its activities, the Government immediately began to put pressure on it, and only public attention protected it from this. But the very development of events showed that the creation of a specialized body should not be based on by-laws, but on a law, a legal act adopted by the parliament in order to reduce the risk of the destruction of a specialized anti-corruption body by political forces dissatisfied with its work. Unfortunately, this is what is currently happening in a number of countries, in particular, in Slovenia. Secondly, it is necessary to determine the nature of the future body. Should this body have repressive or preventive functions. If there is no express need to create a new body with a repressive function, then it should not be created. If the population still trusts the existing law enforcement agencies and the judicial system, then there is a great danger in creating yet another new repressive anti-corruption body with investigative functions. The division of labor between the existing law enforcement agencies and the new agency will create problems that may be very difficult to resolve. Thirdly, it is necessary to determine the position of the future anti-corruption body in the system of state authorities. There are requirements for this body to be independent. Of course, this independence is not completely absolute. Such an independent anti-corruption body must be accountable to someone. Usually, such a body is accountable to the legislative body, and the regulation of the activity of such a body should be very detailed, especially if it is entrusted with repressive functions, in particular, related to a certain intrusion into the sphere of restriction of human rights. A system of control over its activities should be built so that

such a body does not violate these rights. Fourthly, it is necessary to predict in advance ways of effectively solving the problem of providing such a body with the necessary resources. There are countries that have created excellent anti-corruption bodies and given them a wide variety of functions. These bodies received independence in the structure of society. But they were not provided with the necessary resources. And if such a body is created only on paper, this does not solve the problem. Specialized anti-corruption bodies should have their own independent budget. They should be able to independently attract the best specialists in the field. The adoption of legislative acts and the creation of anti-corruption bodies only on paper prove little in terms of political will. It is the allocation of finances that proves the presence of political will. Because without finances, such bodies will not bring any benefit. There are other conditions associated with the activity of such anti-corruption bodies: objectivity, professionalism, impartiality, honesty, principledness, efficiency. If these principles are violated, it is very easy to discredit the activities of these bodies, as well as to achieve their restructuring or even their destruction. This has already happened in such countries as Albania, Macedonia, Serbia, and Slovenia. Specialized anti-corruption bodies in Latvia, Lithuania and Estonia are still free from such pressure. The GRECO group, a group of countries fighting against corruption, analyzes the functioning of such bodies and evaluates their activities. In the course of the activities of the GRECO group, it turned out that the so-called transition period countries really want to create such bodies and develop them. On the other hand, the old members of the European Union, which also have a high level of corruption, do not even think about the need to create special anti-corruption bodies (Italy, Spain, Greece). It is clear that there are double standards between the old EU members and the new EU members. It is also obvious that in most countries there is a lack of well-educated workers specializing in the fight against corruption. If we analyse the generalized experience of the creation and functioning of specialized anti-corruption bodies in Europe, we can conclude that all countries to one degree or another tried to create something like such bodies: somewhere with only repressive functions, somewhere only with preventive functions, and somewhere with mixed functions. For example, the activity of repressive anti-corruption bodies in Italy,

as part of the "Clean Hands" campaign, is well known. In this case, the role of the anti-corruption body was performed by a group of prosecutors with a central office in Milan. They investigated the activities of almost three thousand suspects, including members of parliament, and about 500 people were convicted of corruption. After political forces began to oppose this activity, it had to be curtailed. According to a similar scenario, events developed in Romania, where the activities of an independent anti-corruption body were significantly limited after it affected the interests of the country's top political leadership. As for preventive bodies, they include commissions existing in France, Slovenia and a number of other countries. But the most effective bodies that combine both functions: repressive and preventive, as, for example, it was done in Croatia, Latvia, Lithuania.

Demands to clean up legislation from norms that can be used and are being used for corrupt purposes are especially relevant today. The above recommendations make sense for a more detailed study and should become a priority and especially important, strengthened in every possible way by parliamentarians, scientists, experts and journalists.

The digital transformation of society is a coin with two sides: achievements and benefits, as well as ethical and legal challenges. Today, digital changes are practically not accompanied by adequate legal regulation. For the legal sphere, it is unacceptable to replace a person with a robot. Human intelligence is necessary for law-making in connection with the frequent uncertainty of legal interpretation and, as a result, the complexity and contradictions of the behaviour of interested parties. On the other hand, technical, archival work, secretarial and translator work can be partially automated by digitizing materials, their accumulation on appropriate resources.

Elements of artificial intelligence are widely used in insurance, accounting, banking, and administrative practice. Digital technologies give rise to new social relations that need to be regulated: online business, virtual property and money that work around the traditional financial system. The emergence of cyber security and digitization lawyers is connected with the need to find, interpret and apply legal norms in a situation of legal uncertainty, which leads to conflict situations. At the same time, the application of artificial intelligence

in the field of law-making can minimize the factor of legal uncertainty and the corruption component, which will lead to the transformation of "human law" into an electronic algorithm that fully allows mathematical accuracy and logical sequence, and in the future, the application of law will take place based on algorithms that exclude one's own selfish discretion and arbitrariness. But sometimes it is very difficult and completely impossible to explain to the computer where lies and where the truth is in certain texts and testimonies of people. Eliminating abuses and ensuring court transparency is important, so IT solutions can help to some extent. By analogy with the state services in the smartphone in Ukraine, the bill "court in the smartphone", as well as "trial by jury" is being developed. Most bureaucratic procedures will go online, which will speed up the judicial process and minimize corruption and opportunities for abuse. Artificial intelligence and citizens must participate directly in the administration of justice. A jury trial also raises the authority of the judiciary in society, since decisions are not made by state officials, but by citizens of the country, representatives of the people. As a result, it can be predicted that in countries with a high corruption rating, a smaller role will be assigned to a person in such a legal system, and all legally significant actions will be accompanied by a digital code that applies artificial intelligence.

Conclusions. Therefore, there are undeniable advantages of digitalization due to its contribution to the transparency, traceability, efficiency and effectiveness of all processes, for example, the presence of a clear digital trail, the possibility of online monitoring, the maximum elimination of the "human factor" from the process of issuing permit documentation, increasing the tools for bringing violators to justice , the possibility of choosing control and inspection bodies, which will undoubtedly lead to accountability for illegal actions and improvement of the quality of business administration.

## 2.4. COMMUNICATIONS AS A POTENTIAL FOR SOCIO-ECONOMIC AND SUSTAINABLE DEVELOPMENT

Crisis phenomena in the economy affected almost all countries of the world. The speed of overcoming them depends on the socio-economic features of Ukraine's development and, in particular, on communications formed by individual enterprises. The main goal of the study is to consider the concept and features of developing a customer-oriented company strategy.

The involvement of enterprises in the model of socio-economic development largely depends on the existing potential for expanded reproduction of the resource base of socio-economic development on a new institutional basis. The experience of European countries shows that real shifts in the direction of the formation of prerequisites for the sustainable development of enterprises are possible only under the condition of increasing not only production, but also natural-resource, demographic, scientific-technical, recreational, informational and social-cultural potential. That is, we are talking about effective communication between the components of the socio-economic potential, as well as the elevation of the human factor as an innovative component in the digital system of modern economic relations.

The purpose of the article is to identify trends in the organization and optimization of communication of business processes in modern conditions using modern means of organizing processes, especially during the period of digital transformation of the Ukrainian economy.

Results of the research. Communication management is a planned and well-controlled process in which analysis prevails over empirical knowledge, where the purpose of communication clearly determines its structure, the choice of means and methods of influence. Relations with customers, partners and suppliers, investors must be under control and management - this is the key to the success of projects. Customers are the most significant target audience for an organization, so relationships with different customer groups must be carefully planned and built. If the clientele is determined by the criterion of consumption of the subject's products, then for the subject, its clientele is a social support group. The company attracts customers to sell its products using modern communication tools. The bank is looking for depositors who need loans. The state structure is looking for public

support, and the theater attracts the audience. Equally important audiences for the organization can be partners, suppliers and investors, since not only the activity of this company, the degree of interest in the organization, but also the balance of forces in this market segment depends on their activity. Ideal communication depends on the strength and degree of reliability and strength of business ties both inside the organization and outside it. Communication links function continuously in the internal and external environment of any organization. And one of the manager's tasks is to prevent, fight and eliminate negative information and communication flows, which today for us, residents of the "global village", can mean a loss of business reputation, which is the life or death of a business. The internal environment of each organization is formed under the influence of variables that directly affect the transformation process (production, products, services, organizational and administrative processes, such as the structure of the organization, its corporate culture and resources, in which the human factor plays a decisive role, its knowledge, abilities and the art of interaction. These factors operate within the organization, but usually without proper accounting and management control. In its activities, the organization is constantly faced with changing energy, information and risks. other players in the business space, which is usually called the external environment of the organization, which is characterized as a set variable that are outside the organization and are often not in the field of view and direct influence of management. These are competitors, suppliers, consumers, shareholders, creditors, government structures, consumers, government bodies and potential partners, investors, customers and detractors of various levels and influence. In addition, the social factors and conditions are significant: economic, political, moral and ethical, international, legal, ecological, technological, geographical. Their importance is growing in connection with the complication of the entire system of social relations, which constitute the environment of both management and employees. The purpose of management is to ensure at the level of state and business structures, public and political associations maximum mutual understanding between people who make up the governing and governed subsystems, as well as the functioning of these subsystems in accordance with the general mission of sustainable development of an individual

enterprise, industry, economic condition of the country and its share in world production, redistribution and consumption of resources. Using these levers, state and other bodies get the opportunity to regularly provide the leadership of the state, parties, companies with meaningful information about their activities, plans and their implementation. Human communication is a little-studied, multifaceted socio-economic process, the importance of which is currently growing many times thanks to the Internet, online platforms for negotiations, educational discussions, social networks, which is based on a multitude of messages of different content and flow. To the extent that promotion is effective, information affects people, but each person has his own influence. People influence each other to no small extent: it develops and motivates some, others learn from other people's mistakes; amuses some, disappoints others. In the process of communication, there are many collisions in achieving mutual understanding between the source of the message and its addressee, because there are not only obstacles and obstacles in the channels of information, but also a strong negative influence of influencing factors – people relations with each other. Since a person is at the heart of the communication process, these processes must be controlled.

We propose an extended definition of DT as "a socioeconomic change across individuals, organizations, ecosystems, and societies that are shaped by the adoption and utilization of digital technologies." We suggest four lenses to interpret the DT phenomenon: individuals (utilizing and adopting digital technologies), organizations (strategizing and coordinating both internal and external transformation), ecosystems (harnessing digital technologies in governance and co-producing value propositions), and geopolitical frameworks (regulating the environments in which individuals and organizations are embedded)[186].

The emergence of the Internet, the information and communication technologies (ICTs), and recently the Internet of things, Artificial

[186] Dąbrowska J. Almpanopoulou A. Brem A. Chesbrough H. Cucino V. Di Minin A. Giones F. Hakala H. Marullo C. Mention A.-L. Mortara L. Nørskov S. Nylund P. A. Oddo C. M. Radziwon A. Ritala P. (2022). Digital transformation, for better or worse: A critical multi-level research agenda.R & D Management, radm.12531. 10.1111/radm.12531

Intelligence (AI), and smart devices have revolutionized the digital economy and increased its rapid growth (Marcus et al., 2015)[187].

Bukht and Heeks (2017) reviewed many definitions before arriving at a concise and solid digital economy based solely on the economic output derived from digital technologies with a business model based on digital goods or services. Another perspective of the digital economy is its transformational effect[188].

Effective communications with interested parties today are based on socially responsible, or "sustainable", image, reputation capital and a strategy aimed at achieving sustainability, which must be fixed and properly disclosed in the relevant non-financial reporting documents. The use of these parameters creates an opportunity for interested subjects to obtain data that ensure the value and effectiveness of integrated information regarding the innovative development[189].

Dąbrowska et al. (2022) proposed a multi-perspective to include individuals, organizations, ecosystems and geopolitical frameworks. Hence, they extended the definition to "a socioeconomic change across individuals, organizations, ecosystems, and societies that are shaped by the adoption and utilization of digital technologies." [190]

COVID-19 has accelerated the growth of digital-based sectors. In the pandemic, firms were forced to swiftly make drastic measures such as changing customer demands to digital channels, reconfigured supply chains, additional necessary workforce collaboration capacity and bandwidth, licenses and equipment to support remote work, and

[187] Marcus, A., Weinelt, B., & Goutrobe, A. (2015). Expanding Participation and Boosting Growth: The Infrastructure Needs of the Digital Economy. Academic Press

[188] Bukht, R., & Heeks, R. (2017). Defining, conceptualising and measuring the digital economy. Development Informatics Working Paper (68).

[189] V. Zamlynskyi et al 2023 IOP Conf. Ser.: Earth Environ. Sci. 1126 012002 DOI 10.1088/1755-1315/1126/1/012002

[190] Dąbrowska J. Almpanopoulou A. Brem A. Chesbrough H. Cucino V. Di Minin A. Giones F. Hakala H. Marullo C. Mention A.-L. Mortara L. Nørskov S. Nylund P. A. Oddo C. M. Radziwon A. Ritala P. (2022). Digital transformation, for better or worse: A critical multi-level research agenda. R & D Management, radm.12531. 10.1111/radm.12531

other issues requiring immediate scale and resiliency (Lillie et al., 2020).[191]

According to McKinsey, such digital transformation usually takes five years, but it was completed in around eight weeks due to the pandemic pressure (Baig et al., 2020)[192].

A defining issue in the study of modern economic phenomena is the model of human development. In modern conditions, the attention of scientists is focused on the development of the concept of sustainable development, which involves a harmonious combination of economic, social and ecological components. In the conditions of rapid dynamic changes, a systematic view of the permanent settings of the management system is needed, in which there are multidirectional processes of struggle of moral and ethical principles with economic expediency, search for the meaning of life and changes of values in the individual and social aspects.

In our opinion, business should be considered as an imperfect system, distorted by false slogans of social justice, a set of material and spiritual values, created by all members of the organization in the communication process of socio-economic activity.

Despite the theoretical development of humanistic ideas, the desire to create conditions for a person's orientation to the expansion of his consciousness, the development of socio-cultural abilities, the accumulation of positive experience and the disclosure of personal talents, self-development and assistance in the development of others - directly leads to the satisfaction of the egoistic welcome needs of a person, which are understandable to him demonstrate material goods and ways of satisfaction and can be quickly realized. As a result, we observe that the quality of human life is determined by unfavorable environmental conditions, and not by genetically determined natural opportunities.

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[191] Lillie M. Kark K. Mossburg E. Tweardy J. (2020). COVID-19: shaping the future through digital business. Deloitte Global.

[192] Baig, A., Hall, B., Jenkins, P., Lamarre, E., & McCarthy, B. (2020). The COVID-19 recovery will be digital: A plan for the first 90 days. McKinsey Digital, 14.

The effectiveness of the functioning of the modern socio-economic environment depends not only on the economic laws that regulate the activities of market subjects and the forms of cooperation between them, but also on the degree of their social responsibility and moral and ethical norms. Ethical aspects of all participants in the business space are determined by the level of development of their culture. In the communication interaction between market subjects, the main elements of their corporate cultures are manifested, and, at the same time, a new specific form of organizational culture is formed. How are the cultures of each participant related and how to build an effective model of their coexistence in conditions of sustainable development - these are the urgent questions of today that need to be answered in the formation of economic potential.

In order for business interaction to be effective, it is important to be able to create a favorable "climate of necessity and value in relations" during communication, to analyze problems by joint efforts with interaction partners and to find options for mutually beneficial solutions.

In other words, communicative competence in managerial communication requires the manager to know the basic laws and rules of interpersonal interaction, good adaptability and freedom of possession of all means of communication, flexibility and adequacy in choosing psychological positions, developed communication abilities, abilities and skills. In communication with subordinates, the manager needs to be able to find the right word, the appropriate tone, the right "addition" to the partner, so that the desire to convince in something achieves the necessary goal. For this, it is necessary to constantly improve relations between colleagues, such communication training methods as increasing the level of communicative competence are widely used, such as discussion (group discussion, analysis of specific situations of moral choice), games, social-psychological training, psychodrama, transactional analysis by E. Bern, sensitive training (training of interpersonal sensitivity).

In the conditions of conducting business online, it is impossible to be present next to the person with whom the manager wants to establish contact and achieve the desired result, whether it is the desire to motivate his subordinate or to reach a contract with a desired partner. But the manager can always remotely improve his

communication competence by using various methods to persuade others to take actions that will lead him to the expected result without personal presence.

For a modern company, corporate culture is the culture of positioning itself on the market. Having an impact on the positioning of the company in the industry, corporate culture can become a powerful engine for the development of its relations with the corporate audience.

According to many experts, the elements of corporate culture include: corporate values; symbols; rituals, traditions, events; norms and rules of behavior of employees; norms and standards of internal interaction; standards of interaction with customers, creditors, counterparties and other interested parties; management style developed in the organization; ideology in the form of a formed system of ideas and beliefs; communications; knowledge and application by employees of the company's strategic goals and values; attitude of employees and management to setting goals, changes, innovations; commitment of employees to the company.

Corporate values are the core of corporate culture, on the basis of which norms and rules of behavior in the organization are developed. Corporate culture, described in terms of values, norms and rules of conduct, is perceived as the business climate of the organization. It affects the style and methods of management, determines the conditions of positioning and perception of the company as a whole.

The pursuit of common values is able to unite the members of the organization, creating a powerful force in achieving the set goals. The company forms its own cultural image, which is based on corporate values, rules, ethical norms and culture. It is a system of ideas and approaches adopted in the organization to the setting of the case, to the forms of relations, to the achievement of activity results, which ultimately determines one company from another.

A team whose members are aware of their personal goals, their importance and the place of influence of their values and experience on increasing the efficiency of business processes and behavior is practically invincible. Culture and behavior are genetically embedded in everyone from birth, and are also formed during life in accordance with the surrounding conditions. Many communication tools do not work because they mentally contradict the norms of behavior, beliefs,

and expectations laid down from conscious childhood, which in turn bind the organization into a single whole and are supported by its members. Also, the constant change of the workplace requires everyone to have a general understanding of cultural norms, spiritual values and ideas of sustainable development. This will allow not only to add the necessary competencies to the available labor resources, but also to keep a person in the team for a long time, making him an effective player, and not a serf of the master.

The transformation of Ukraine's economy requires qualitative changes in the management system, which requires a change in approaches to the selection of adequate management tools. Modern management tools should be aimed at strengthening the innovative potential of the enterprise, increasing its competitiveness and adaptive, socially responsible capabilities. Since knowledge, sustainable development and culture are the main factors of innovative development in the 21st century, the management toolkit will be effective if it is directed not at the technical component, but at the human factor. Transformational processes in the economy are carried out by people who have their own system of values, rules, norms of behavior, traditions and business models united by the concept of corporate culture.

Corporate culture belongs to complex material and spiritual phenomena, the study of which faces a number of problems that strengthen the growing interest in considering it as an internal source of organizational changes and subtly planned management tool. Management systems must work in advance to avoid a negative future scenario. It is impossible to eliminate the problem that hangs over society without affecting the moral and ethical essence of each person, his attitude to the quality level of consumption of products and services, and the use of resources. The study of the culture factor today is gradually turning from academic knowledge into a necessary component of practical activity, which can be singled out as a reputational component of business, as we are witnessing total crises: political, economic, ecological, spiritual; a way out of which is possible only if cultural canons are accepted. Guided by logical considerations, the characteristic of corporate culture can be deduced on the basis of the phrase itself, which contains both the meaning of the concept of "culture" and the qualitative feature - "corporate". The

nature of word combinations is quite complex, and representatives of various fields of knowledge and worldview worked on its research: philosophers, cultural experts, psychologists, linguists, managers, sociologists.

The cultural level, cultural values and norms of behavior largely determine the nature of management decisions. Culture is an established set of value orientations and behavioral stereotypes accepted in the country and assimilated by the individual as the basic principles of life and norms of behavior. This is a permanent commitment to the main traditional cultural values, norms generally recognized in society, values and customs that determine uniform forms of behavior in the team and the team and is a determining factor in achieving the goal.

The idea of sustainable development has existed for a long time, when a person's life, his aspirations and efforts in society are compared to a garden that must be cultivated, kept in order, bear fruit, and expand. If it is not cared for properly, it will quickly become overgrown with weeds, or if it is cut down, the ecosystem will be disturbed, which will cause a whole chain of catastrophic consequences. The deep meaning of the word "culture" refers to two main types of activity: material and spiritual. The first is an activity related to the transformation of nature for the good of man (agriculture), the second is an activity for improving the spiritual powers of a person, his mind and system of thinking (philosophy). Our global problems originate from a misunderstanding of the essence and meaning of the existence of a living organism and our place in the evolutionary chain, responsibility for the destruction of the flora and fauna of which we are a part, thanks to which we exist.

Approaches to the study of culture as a social phenomenon are represented by two main directions. The first is philosophical, from the standpoint of which the essence of culture is considered as a universal property of society. Values are considered to be its determining factors. The disadvantages of this approach are that the researchers focused on the spiritual aspect, while neglecting the material component of culture.

The second is an activity approach, which made it possible to create different models of culture as a whole system, highlighting the following priorities:

- the vision of culture as a process of creative activity, within which not only the spiritual enrichment of society with new values takes place, but also the very creation of a person as a subject of the cultural-historical process;

- consideration of culture as a specific way of human activity, which ensures the preservation and reproduction of civilization in the conditions of the variability of the surrounding world;

- definition of culture as a social practice, a way of human existence.

The active approach reveals universal essential features of culture as a social reality. It is also a methodological basis for the study of both local cultures and those types of culture that have developed historically. The active approach in the meaningful characteristic of culture contains a productive impulse, since the socio-economic sphere of the subject's life is saturated with active, purposeful, transformative activity, which the cultural substance helps to implement. An active approach to the analysis of culture allows you to understand it as a way of reproduction, regulation, preservation in the future, as well as further development of the socio-economic sphere of the subject's life. Thanks to the activity approach, culture is a kind of coordinating and reproducing principle of the subject's connection with the world and the way of its entry into social life. Culture is created by a person and it itself creates a person, that is, culture is a kind of internal subjectively creative act. Culture reflects the multifaceted nature of human experience, preserves and transmits knowledge, traditions, experience of coexistence, and spiritual values to new generations. Culture is a method and consequence of human activity that reproduces personal and social existence in all its manifestations. Therefore, culture manifests itself primarily in everything that guarantees human life. This is especially important in conditions when the social nature of human activity began to manifest itself in universal forms.

That is, culture can be attributed to the universal characteristics of the human world and the relationship of a person to the world. According to the sphere of life activities society's main types of culture are distinguished, such as: material (economic), social, spiritual, political, informational, technological, and others. Among the mentioned types of cultures, material, social and spiritual cultures are

especially important. Material culture is considered to be everything that relates to the relationship between man and the environment, meeting his needs, ensuring his continued existence, and the technological side of life. Social culture refers to the relationship of people to each other, the system of statuses and social institutions. Spiritual culture is the subjective aspects of life, ideas, attitudes, values and ways of behavior oriented towards them.

The nature of interpersonal relations differs significantly from the nature of social relations, since their most important specific feature is an emotional basis, therefore interpersonal relations can be considered as a factor in the psychological climate groups. The emotional basis of interpersonal relationships means that they arise and develop on the basis of certain feelings that people have in relation to each other. Effective interpersonal communication is essential for success in the management process for a number of reasons. Firstly, the solution of most management tasks is based on the direct interaction of people (manager with subordinates, employees with each other) within the framework of various events and activities. Secondly, interpersonal communication is perhaps the best way to discuss and resolve issues characterized by uncertainty and ambiguity. In the implementation of interpersonal communications, separate individuals act as the sender and recipient. Interpersonal communications are realized through direct contacts between the subjects of communication. Such communication is characterized by a close feedback communication that has a regulatory effect on the course of communication, simultaneous two-way communication. The psychological aspect of communication significantly enriches the process of communication. In some cases, participation in communication itself has a dominant value, in other cases, communication is formalized in its manifestations, the content and form are determined by the role functions of the parties in communication.

Among the informational, expressive, pragmatic and social functions of interpersonal communication, socially significant functions are of the greatest importance. The basis for the theoretical substantiation of interpersonal communication is the theory of speech activity. The key factors of speech communication in this theory are motive and purpose. The motive correlates with communicative activity and performs the function of inducing the subject to activity.

The goal is almost always conscious, while the motive may or may not be conscious. When the intention is achieved, the motive and the goal may coincide. In the process of interpersonal communication, it is important to correctly identify the motive of the interlocutor, especially if the meaning of his statements is unclear. Interpersonal communication can contribute to changing the opinions and social attitudes of individuals involved in the exchange of information. Having received any information that is significant to them, some people check its perception in interpersonal communication, as a result of which they can strengthen their opinion or radically change attitude towards the advertised product or the political image of the leader. At the same time, the effectiveness of interpersonal communication will be determined by the parameters of individuals as communicative personalities.

In modern realities, company managers must be aware of the importance of evaluating their roles, approaches and methods in management due to unexpected changes in the external environment. Real top managers are ready to take advantage of new opportunities to modernize not only their work, but also their subordinates or the entire company. They strive to unite the entire team and agree on the direction of achieving the organization's goals. In the majority of scientific works devoted to the managerial role in the management system, the manager must perform only two main tasks, the first is to set priorities, and the second is to be able to allocate working time for the implementation of managerial decisions. Perceptions of companies are changing and evolving, which also implies the emergence of new leadership roles, new companies that value the director not for distributing the owner's needs and controlling compliance with relevant standards, but for modern views and skills.

The implementation of socio-economic reforms in the state led to the creation of modern human resource management strategies. At the same time, the so-called entrepreneurial strategy is put forward, which is aimed at meeting the needs of customers, but does not calculate their results. In such situations, personnel management selects employees who are willing to take risks, are friendly, and aim for mutual understanding and long-term cooperation. And most importantly, the incentive system is developed on a competitive basis and meets the expectations of employees, their needs are also taken into account.

Personnel management is characterized by the involvement of employees who resort to risky actions, are loyal to management and do not hesitate to change their opinion based on the needs of the organization. The work of such people will be evaluated according to the established rules and will be properly encouraged by the management, which will provide an opportunity for prospective employees to improve their professional qualifications and business skills.

The main function of management communication is that without communication it is impossible to solve management tasks, make management decisions and improve the qualifications of the manager and his employees. When analyzing the issue of communication and communication, the problem of defining and connecting these concepts arises. In the scientific literature, there are different (and even contradictory) approaches to defining the essence, content, and relationship of these concepts. Communication is a condition (process) of coexistence and cooperation between a person (a social group) and the world.

Communication is interpersonal communication based on sign systems.

But in the field of human activity, communication is not only coexistence (communication) between people and interaction based on sign systems. In interpersonal interactions, communication dominates as a form and means of communication. This is determined by the role that communication plays in human life at the first level, and the meaning and function of language communication at the second level. Therefore, in the field of interpersonal communication, we use the terms "communication" and "communication" as synonyms. Without communication between the manager and the employees, there can be no real interaction, for example mutual exchange of ideas, opinions and information, and therefore management.

The managerial activity of the manager is carried out in the conditions of joint activity, interaction and discussion, in the process of organizing the system by solving management tasks through communication, transferring knowledge and experience to the participants of the interaction at the levels of "manager - subordinate", "manager - team", "manager - other managers" etc., as well as in

creating conditions for personality development. When a manager talks on the phone, conducts an operational meeting, an interview or participates in business negotiations, resolves conflicts, etc. Success in every situation depends on the quality of communication, the manager's ability to listen and convey information, and the ability to understand the interlocutor. A manager needs a variety of communicative knowledge, skills and abilities.

The content of management communication is the exchange of information with the manager, the organization of interaction and mutual understanding. Analysis of the nature of communication in management allows to determine the following communication functions of the manager:

- in the process of management, everything is in interaction and unity - communication;

– communication is given the ability to integrate as a management function, which ensures the performance of other functions;

- manager and subordinate are active participants in joint activities in the process of information exchange, communication and mutual understanding;

– managerial activity, covering relations in the organization and its external relations, takes place in a certain socio-psychological space;

- in the process of management, the communication potential of the participants of joint activities and communication will be realized;

- effectiveness of communication is the nature of management activity, individual and psychological characteristics of communication participants, choice of communication method, level of group compatibility;

- the management process is not only work with a person or a group of people, but also hidden problems, conflicts, obstacles in the process of communication, which creates a definition of agreement - misunderstanding, trust - mistrust, respect - lack of respect.

Therefore, in practical activities, the manager must take into account demographic changes and apply different management methods, since all subordinates are not the same, differ in their needs, interests, educational level, culture, qualifications, etc., and psychological and moral working conditions require an individual approach to each employee. In addition, the manager must create such conditions that a group of employees working together turns into a

team. Practice shows that the following are considered very important: joint work on the project for a certain period of time, mutual understanding, mutual self-sacrifice, as well as common efforts, valuable motivational unity to achieve a certain result. The leader must achieve such a psychological state in the group that he leads, which ensures the moral climate of the members, the desire to communicate, help each other, in accordance with the norms of supremacy of mutual aid and principledness. At the same time, it is necessary to remember that such an understanding does not happen immediately, for which a manager-leader who has time and a strong will is ready to obey employees. And above all, in our opinion, the central part of creating such a team is the ability as a manager to conduct communication, which solves problems and makes decisions. At the same time, practice shows that no matter how many meetings and trainings the head of a business structure conducts, the number one priority for subordinates may not be the constant execution of planned tasks, but sometimes thinking, waiting, and only at the end of the working day may an understanding of a continuous task and inspiration to complete the task. However, this is not always supported by the team, some are dominated by their selfish thoughts and personal lives. By understanding the relationship with subordinates, the manager will be able to effectively manage both the business and them. But if he perceives employees only as his friends, relatives, comrades and colleagues, he will easily go bankrupt. And therefore, in our time, the accuracy of perception and understanding is the basis of stable success. It helps distinguish facts from current information, which gives the manager the opportunity to learn how to build realistic strategic plans for work solutions based on verified facts.

Correctly, clearly and logically formed communicative business processes are the key to the successful operation of any organization. However, to ensure their correct construction it is necessary to take into account many organizational and management points that will ensure the effectiveness of the process as a result. In general, business communications are the basis of management decisions, the result of management activities: after all, it is thanks to them that a general concept is formed regarding the implementation of certain assigned tasks and the solution of individual tasks, which ultimately reflect success and efficiency in achieving the set goal (goals). It is thanks to

properly formed communicative relationships that not only clear management of the solution of the assigned tasks takes place, but also a certain harmony is achieved (everyone gets what expect) between the participants of this process who are involved in this matter. After all, clear management relations between them will contribute to the fact that fewer mistakes will be made, there will be no duplication repeated information, conflicting and incomprehensible situations and events, etc. will not arise, also, all this will contribute to faster and more effective solving of certain situational tasks, etc.

The corporate culture of an organization is a set of certain material and spiritual values, rules, norms, customs, manifestations, etc., which are interconnected and inherent in a certain organization, and which reflect its individuality in the general business environment of its functioning.

It consists of organizational culture - a system of basic collective ideas that is used in decision-making the presence of problems regarding adaptation to modern changes in the external business environment of the organization's functioning;

culture of the labor (production) process - the presence of prerequisites for the need to apply and use modern equipment and technologies for the success of both self-organization in general and the effectiveness of the performance of business tasks (business tasks);

communicative culture - a system for ensuring the socio-psychological and moral-ethical climate, the use of collectivism in solving certain tasks, application of mutual assistance and mutual support, flexibility and adaptation to existing business situations, etc.;

management culture - a system that combines management methods, leadership style, humanism, individual approach, communicative competence, stimulation methods, control methods, etc.; employee culture - a system regarding the totality of moral and ethical and business culture, as well as culture regarding the ability to successfully perform both individual and collective business tasks for the organization;

culture of working conditions - a set of objective conditions and subjective factors that determine the behaviour of the employee/employees (manager/managers) in the process of carrying out organizational and production activities.

It is sometimes quite difficult for managers and employees to be able to find and apply in practice common interconnected relationships for the performance of assigned tasks, moreover, it must be done quickly and efficiently, that is, there is not much time for procrastination, because the task needs to be performed at the moment. Therefore, in such a case, it comes to the rescue communicative culture, which should reflect the main and secondary roles of the participants in the organization in terms of the performance of the assigned tasks, and in the end - the implemented task. In general, the main task of the communicative culture of the organization is the search, establishment and implementation of clear, effective and optimized communication relationships between participants in order to maximally ensure the effectiveness of solving the assigned tasks with minimal costs, that is, it should be clear and defined optimization in relation to all existing levels of communication business processes.

It is worth understanding that communicative culture is an important constituent element for any organization or company: after all, it is this component that will ensure certain clear and effectively directed relationships between participants who will perform certain stages of work - solving a certain range of organizational and management tasks or solving business tasks of a global nature, etc. Communicative culture in the modern world of business is an important link for successful interaction not only for employees of a separate organization, that is, its internal environment, but also for participants who will contribute to the effective implementation of certain business issues from the side, that is, its external environment. After all, at present, mostly all organizations function at the international level, and here, as you know, there are also certain rules for business behavior and the performance of certain business tasks. Therefore, the application and the use of rules for the successful construction and establishment of certain business communications and the provision of relationships between participants in business processes is an extremely important procedure that should include many different management elements. So, communication is an integral part of the culture of the head of any legal entity or individual. This shows a useful attitude to language, as well as the need for immediate recognition and understanding of social and psychological elements of communication events, which allows for administrative

organization of language and moral and ethical behavior in these events. As experience shows, the main part of the manager's relations are commercial or administrative relations. The latter requires them to improve the culture of oral and written business communication, convey the company's mission and sustainable development strategy to the team and clients. Effective communication is of great importance for organizational development, interaction and feedback in the organization, which allows you to align business processes with the goals, values and tasks of the company. An open and maximally transparent communication system allows employees to understand the importance of changes in the organization and take an active part in them. Organizational development is important in a manager's work because it helps organizations move into a more productive phase. Change helps produce new ideas and ways of doing things, and ensures that the organization is innovative and profitable.

The concept of strategic management of enterprises in conditions of sustainable development involves a serious transformation of the methodological toolkit, which should take into account the presence and use of the main competitive advantages of the enterprise. Under modern conditions, the process of weakening economic positions is accompanied by the need to determine the available potential, the vector of activity and the resources necessary for this, which correspond to the possibilities of achieving business goals in the current period and in the future. One of the important tasks that requires the development of cardinal strategies aimed at ensuring the sustainable development of the economy is the activation of the activities of enterprises. This process involves revitalizing the pace of production activity based on marketing approaches, finding, using reserves and improving the components of the internal potential of enterprises in order to increase their competitiveness. The priority tasks for product manufacturers are to maintain the achieved level of production, economic and social results of activity, to improve relations on a partnership and mutually beneficial basis, to modernize outdated economic ties and communication methods of management, to enter new segments of the industry market, to accelerate the pace of organizational development. From an ecological point of view, sustainable development will ensure the stability of biological and physical systems, reduce the ecologically destructive impact on the

surrounding natural environment, and improve agricultural landscapes. The main goals of the social component of development are to increase the number of jobs, that is, to reduce unemployment and eliminate population poverty, to promote social integration into the European environment.

The competitiveness of enterprises is achieved by strengthening their competitive advantages, which can be achieved with the help of the economic potential of communication interaction, which affects the entire range of management issues and is characterized by indicators of high production efficiency, which is realized thanks to modern equipment, technologies, cultural factors of sustainable development and qualified employees, their the ability to win and maintain stable positions on the market for a long time. Every company strives to sustainably manage our business. Understanding and managing the environmental and social consequences of activities is a priority, as the strategy should untangle options for the positive impact of activities on the environment and effective management of resources at the local, national and global levels,

which will enable the achievement of the UN's Sustainable Development Goals and help identify and accelerate sustainable solutions to the world's biggest challenges.

Society today, transunder the influence of an ever-increasing and continuous flow of news and information, prohibitions, and material difficulties, it has turned into an oversaturated informational and morally unstable audience, in which a special place is given to high-quality communications, which are designed to wage a competitive struggle with negative, morally destructive sources of information.

## 2.5. NON-FICTION: GENRE BOUNDARIES AND SPECIFICITY

Non-fiction as a concept and a special genre of literature, which implies a specific way of constructing texts different from fiction, has been active for more than half a century, rapidly gaining popularity, especially in the post-Soviet space. Particular interest in it emerged in the journalistic environment, but quickly spread to writers' circles, as

writers felt serious competition[193]. They became interested in it from the very moment when special journalism, later called literary journalism, was introduced into the sphere of non-fiction, which distinguishes itself from fiction, and which actively applied artistic forms of presenting material, thus questioning the legitimacy of the term "non-fiction" itself. "To me," wrote T. Wolfe, who became the founder not only of the new journalism, but also of a new understanding of non-fiction, "not only opened up the possibility of working in non-fiction with the techniques of writing traditionally used by novelists and short story writers. That, too, but something else as well. The opening was to use the entire fiction arsenal in journalism and nonfiction prose, from conventional dialogue to stream of consciousness, and to apply these different techniques simultaneously or one by one ... to ignite the reader and make him think"[194]. The new term, or rather its new understanding, began to be tried on many genres beyond journalism, to biographies, diaries, memoirs, textbooks, popular science fiction[195], which were considered non-fiction before, but did not qualify for more. A lot of researchers of this phenomenon appeared, the flow of which does not dry up, and recently sharply increased[196]. Attempts have been made to trace its preconditions[197], frontiers of application[198], structure, stylistics[199], etc. At the same time, it remains highly uncertain. Research over several decades has not provided any precise definition of non-fiction, has not revealed its boundaries, and even the term has not been established. A long line of

[193] Zaharov D. V. "Expensive pleasures": letters from Truman to Capote and reconstruction of the creative history of "Cold-blooded murder", p. 164—180.
[194] Vulf T. New journalism and an anthology of new journalism, 574 p.
[195] Gvozdev A.B. The art of fact. Creative non-fiction concept, p.241-249.
[196] Protasova G. On the inter-reportage to the novel. Korydor. 10 zhovtnya. [online]. [Cited 10.08.2021] Available online: http://old.korydor.in.ua/texts/1689-na-mezhi-zhurnalistyky-na-mezhi-zhurnalistyky
[197] Hartsock J. A History of American Literary Journalism, 294 p
[198] Sims Norman. The Problem and the Promise of Literary Journalism Studies, P.7-16.
[199] Lounsberry B. The Art of Fact: Contemporary Artists of Nonfiction, 214 p.

names includes the journalistic novel, literary journalism, literature of fact, and documentary prose. Sometimes the term even extends to historical and philosophical texts, which in principle does not contradict the scope of the term non-fiction. Without claiming to solve all the above problems, we will limit our goal to methodological considerations concerning the clarification of the genre boundaries of non-fiction, taking into account the desire of non-fiction to disassociate itself from fiction and, at the same time, the attempts to borrow artistic means of text construction.

Non-fiction as literary journalism. The phenomenon of non-fiction.

The path to this goal usually begins with a classification. It should be noted at once that there are n1o best classifications at all. They are all relative, depending on the starting points and the results the classification produces. The latter circumstance is especially important because classification is not an end in itself, but opens up some possibilities. It is well known that the classification of chemical elements by Dmitri Mendeleev was not the best in its time, but it opened the possibility of predicting new elements. New results obtained by science thanks to this or that classification are precisely the measure of its success, since the meaning of science is the production of new knowledge.

The simplest, but perhaps not the most successful way of classification is to divide literature into fiction, i.e. fictional, and non-fiction, i.e. non-fictional, non-fiction. Difficulties immediately arise when one begins to enumerate types, genres and other headings and grounds for these or other classifications, particularly in the case of "literary journalism. Indeed, if the same Wolf and other classics believe that it requires the use of an artistic arsenal, then why should it not already be considered fiction? Attempts to find the preconditions of new journalism or something similar in earlier literature, including fiction, for the sake of solidity have significantly complicated, if not confused, the situation, since we had to include individual works of fiction in non-fiction. As a result, there are two main requirements for the text of non-fiction: factual accuracy and artistic form of presentation[200], which is very contradictory. Attempts to resolve the

[200] Vulf T. New journalism and an anthology of new journalism;
Lounsberry B. The Art of Fact: Contemporary Artists of Nonfiction.

contradiction result in journalists, literary scholars, and researchers putting different meanings into these requirements.

Journalists consider literary, in addition to all kinds of artistic techniques, a detailed description of the place of the event, the socio-cultural context, the presence of a large number of dialogues, and most importantly the fixation of the appearance and linguistic nuances of the characters. The latter circumstance enhances the effect of the reader's presence and arouses additional emotions. A well-known authority in the field, the American journalist, writer and researcher Tom Wolfe called this phenomenon a new journalism. The idea of novelty consisted in the fact that journalistic texts should be made so that they could be read as a novel[201]. This is how you get artistic, but still reportage, although it is considerably delayed in time, has a larger volume of material and is unwieldy compared to traditional reportage. These usually include personal essays, journalistic chronicles, journalism and especially travel-blogs, which are unusually popular nowadays. The above requirements, especially the non-fictional detailed descriptions of the scene, as well as the appearance and speech features of the characters, allow the reader to be in the thick of the event like a witness, and at the same time, due to the requirement of literary presentation, enjoy the literary ways of presentation[202].

From the point of view of writers, the feature of non-fiction is the factual accuracy of the narrative, say, a novel, short story, with appropriate references, testimonials, sometimes photographic material, video footage and other evidence of the authenticity of events and characters, which previously was not required of a literary work[203]. It is important for the reader, a lover of fiction, who wants to experience, to comprehend and to be in the real world, not in a fictional one. The reader has made such a demand before, and it is no accident that the prefaces and annotations specifically state that the work in question is based on real events. Sometimes, however, this was not

[201] Vulf T. New journalism and an anthology of new journalism.

[202]Gvozdev A.B. The art of fact. The concept of creative non-fiction, p.241-249.

[203]Basinskiy P. Compose without fiction. Available online: https://rg.ru/2015/07/13/basinskii.html; Konovalova J.G. New journalism: theoretical principles and their artistic, p. 245-258.

enough, and to distinguish the fictional from the non-fictional, there are special clauses stating, for example, that the names of the characters or the name of the area are fictitious. When they are real, however, the construction of non-fiction novels looms. Their difference from non-fiction reports is the presence of fiction, which is mainly concerned not with facts and characters, but with the composition of the material, implies the prevalence of narrativity, plot, figurative speech and other typical literary components that evoke strong emotional reactions from readers. In this case, facts, their accuracy and authenticity are also important, but still secondary to fiction and are a way of presenting a problem essential to the writer. For journalistic non-fiction, by contrast, fact is the determining factor, and fiction serves as an auxiliary means of presentation. However, both are often referred to as "literary journalism," as Norman Sims dubbed this genre[204].

The phenomenon of such non-fiction has attracted the interest not only of journalists and writers who write in this genre and make sense of it, but also of scientists from various fields: literary scholars, sociologists, historians, philosophers, who are trying to comprehensively analyze this phenomenon. Defended quite a few dissertations [205], non-fiction entered the textbooks in various specialties[206], although there is still no unity of opinion.

Nonfiction and Documentary Prose.

Some researchers expand the scope of non-fiction so much that they include all non-fiction and even some types of fiction, emphasizing the non-fiction of the presented factual material and

[204] Sims N. The Problem and the Promise of Literary Journalism Studies, p. 2-17.

[205] Mestergazi E. G. Artistic literature and reality: the documentary beginning in the national literature of the twentieth century, 246 p., Shutyak L. M. "New journalism" in Ukrainian media discourse: genesis and genre and stylistic features. https://chtyvo.org.ua/authors/Shutiak_Liliia/Novyi_zhurnalizm_u_mediinomu_dyskursi_Ukrainy_geneza_ta_zhanrovo-stylistychni_oznaky/

[206] Zdorovega V. Theory and methodology of journalistic creativity, 268 p.; Denisova T. History of American Literature, 487 p.

implying a literal translation of the term[207]. Others pay attention to the fact that within the framework of non-fiction there is the formation of a new genre modification, which combines the essay, reportage, memoirs with elements of fiction, with the signs of artistic, emotionally coloured prose[208].

Controversial, although appropriate to the term, is the attribution to non-fiction biographies, autobiographies, diaries, popular science and educational literature or history of certain phenomena, places, phenomena, as some authors do[209]. Although, of course, there is a certain similarity, especially in the apparent accuracy of the factual material and the literary way of presenting the events of the lives of famous people or scientific data. After all, a scholarly work, a textbook, and a biography are all supposed to be interesting, not just fictional plots, events, and characters.

At the same time, biographies and autobiographies, as well as memoirs, diaries, letters, etc., which are often classified as documentary prose, differ from literary journalism in many ways. First, in non-fiction, the selection of facts and their particular grouping is quite arbitrary, although important to the author and interesting to the reader, whereas in "literary journalism", as the genre was conceived and developed, the fact itself determines the material that is chosen for it. Second, documentary prose focuses on the specific position of the author, whereas in journalism the author is absent, as it were, materials, witnesses, and testimonies speak for him. Thirdly, the reader of prose is interested not only in the facts presented, but to no lesser or even greater extent, the author's attitude to the events described. Fourthly, the events of diaries, memoirs, biographies present some evolution of the events described and the author's position, while journalism reveals, rather, the causes of the phenomenon presented. Fifth, the reader is usually well acquainted with the sociocultural or historical situation in which the documentalist works, and documentary prose merely clarifies individual details, whereas literary journalism focuses on details,

[207]Komlev N.G. Dictionary of foreign words. Available online: http://rus-yaz.niv.ru/doc/foreign-wordskomlev/index-205.htm#205

[208] Denisova T. History of American Literature, 487 p.

[209] Komlev N.G. Dictionary of foreign words.

making them an independent object of study and presentation. Sixth, in the documentary prose the main character is the author, who is worthy of attention as a glorified expert, an authoritative participant, a well-known personality and, again, the author's interesting position is highlighted, making him worthy of attention, while in journalism the author is far from in first place, and if he deserves attention, it is as a master of material presentation. Seventh, documentary prose does not have that hype around exclusivity[210], as in non-fiction, especially in "literary fiction".

A biography or autobiography at first glance seems to be a statement of facts, a concentration of "pure information." In fact, they are narratives with a rather arbitrary plot, entirely dependent on the author. Therefore, biographies of the same person, written by different people, will be very different. Everything depends on the idea that forms the basis of the biographical plot. With the orientation on it will be selected facts and fit into a natural, logically consistent chain of events, where each subsequent as if naturally follows from the previous. If we add relevant comments, in which the same phenomenon will be interpreted in an opposite way, we will see opposite pictures of the life of the same person. Suffice it to recall the biographies of Lenin, Stalin, Hitler, Mazepa, Bender, Catherine the Great and other leaders, tsars, politicians, presenting them as heroes and, as time passes or simply in a different presentation, as criminals.

The problem of factual accuracy in non-fiction.

The aforementioned dependence of any fact on the way it is presented and interpreted significantly narrows the scope of "non-fiction" literature. There we can talk about relatively neutral facts, little dependent on ideological, political and in general value preferences. The latter is the case when universal human values or common-sense values are explicitly or implicitly implied. In their light, the facts take on considerable resilience. Therefore, this type of popular non-fiction reporting is not questioned as to its factual accuracy, which increases its popularity. But even in this case not everything is unambiguous, since the artistic presentation of a fact always changes it significantly. According to the expression of a

[210] Zakharov D. V. "Expensive pleasures": letters of Truman Capote and reconstruction of the creative history of "Cold Blooded Murder", p. 164-180

prominent representative of American "new journalism" Norman Mailer, a fact in non-fiction literature turns into a factoid[211].

A particular danger is the attribution to non-fiction of pseudoscientific literature, in particular, pseudoscientific texts on behavioural psychology, the so-called textbooks of life[212], as well as the entire corpus of pseudoscientific literature. The fact that it is sometimes written in a very interesting manner does not make the data presented there factual, in particular scientific facts. There is an essential difference between popular psychological, historical, or other scientific literature and pseudoscientific literature[213].

It is true that non-scientific literature of the "pseudo" type, in particular, various pseudoscientific texts or pseudo biographies, enjoys considerable popularity[214]. There is a deliberate mixing of fact and fiction. This sometimes generates persuasiveness on the part of the author and piques the reader's interest. Perhaps such literature has a right to exist. However, is it legitimate to classify such literature, where facts are treated arbitrarily, as non-fiction, which, by definition, requires truth and accuracy of fact?

The classification of scientific literature or textbooks as non-fiction also requires a definition and clarification of genre boundaries and the measure of literary means of presentation. Appealing to scientific fact as a distinctive feature also requires clarification. Scientific factual reporting is quite different from journalistic, writerly, and generally everyday factual reporting. Science does not deal with mundane facts, and the reduction of scientific facts to mundane facts can destroy science. Therefore, by the way, it is extremely important that journalists who popularize science, scientific discoveries, theories or other scientific positions have good general scientific training.

A common reason for the demand for new journalistic non-fiction is the existence of a huge amount of contradictory, confusing,

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[211] Gvozdev A.B. The art of fact. The concept of creativity non-fiction, p. 242

[212] Mestergazi E.G. Literature of non-fiction, 327 p.

[213] Afanasev A.I. Vasilenko I.L. Methodology of science in the fight against pseudoscience, p.36-42.

[214] Gvozdev A.B. The art of fact. The concept of creative non-fiction, p.241-249.

unverified and unreliable information on virtually any issue, often laced with ideological, political and similar comments expressing certain, often criminal, group and individual interests. In the mass consciousness, the sublime and the inferior, the scientific and the pseudoscientific, the artistic and the nonfiction, theory and common sense are not clearly distinguished and are often mixed. Accordingly, the seeming truthfulness and factual accuracy of nonfiction is greatly exaggerated.

Few people pay attention to the fact that accuracy, be it accuracy of definition, accuracy of fact, accuracy of statement, accuracy of testimony, is a very relative thing. The measure of relativity depends on time, scope, degree, etc. These situations are well developed in the methodology of science, including scientific fact. A scientific fact is always theoretically loaded, depends on a theory, the provisions of which predetermine the degree of its accuracy and even the form and mode of its existence. A mundane fact is always dependent on an interpretation, in the mundane sense, performing the role of theory. There are no pure independent facts, nor is there pure information in general. Relatively pure, accurate facts are sometimes considered date of birth, time of occurrence and the like. But firstly, their role is not so great, and secondly, they are confirmed by something or someone, such as testimonies, documents, which can be false.

Regarding accurate eyewitness testimony, one must remember the immutable scientific formula: "lies as an eyewitness." The fact is that an eyewitness can never accurately recreate a picture of the incident. First, he did not see everything, second, he experienced emotions that "overshadowed reason," third, the main defined not what was important, and fourth, he involuntarily gave his interpretation and through it recalls the events. You can continue this list ad infinitum. It is a well-known fact that survivors of war, for instance, do not remember so much what they saw as what they read about it; at any rate, through what they read or saw in the movies they recall and interpret the past.

A journalistic or writer's investigation of a fact resembles the situation in science when a hypothesis (theory) is formulated ad-hoc. Such hypotheses (theories) are very unsatisfactory in science, since they explain only a given case. They are tolerated for some time, since there is nothing better, but they strive to find the best, to build a theory

explaining something else besides the given case. The theory must have a norm of generality, explaining all cases of a given group, and even predicting new ones. Analogous to this generality in fiction is typification. What is important about the artistic type is that it is a universality that is recognizable and applicable to other similar cases. The expression "familiar stranger" has developed on this occasion. Literature of nonfiction lacks this dignity. Of course, it has its advantages, but its individual, single case, unlike typical ones, teaches little, is poorly extrapolated and generalized, so it does not provide the educational zest inherent in fiction, although it does have an emotional impact, one would like to believe, a positive one. The experience or empathy that literary journalism evokes is an important, but perhaps the only virtue of literary journalism. The other virtue attributed to the genre, that of factual accuracy, is questionable.

Non-fiction and Philosophy. The problem of the literary nature of philosophy.

Recently, the question of the literary nature of not only the humanities, which include journalism, but also many humanities disciplines, which include, among others, psychology, history and philosophy, has been brought up to date. Intuitively, it is clear that these disciplines are not fiction. Although Plato's dialogues can be classified as both philosophical and fictional texts. The same is true of the texts of Herodotus, the "father of history". The literary fictionality of many texts of philosophy and history is no exaggeration. Nevertheless, philosophy, history, or religious texts are numbered outside the realm of fiction. They should then be considered, based on the definition, literature of nonfiction. But these disciplines are also far from journalism, including literary journalism, although journalistic texts play an important role in popularizing philosophical or historical knowledge. However, the problem of differentiating a text, whether journalistic or philosophical, from literary fiction is a common one. In this respect, irrespective of whether or not we classify philosophy as non-fiction, the question of the boundaries between philosophy and fiction, and the possibilities of using artistic means in philosophical texts, is relevant.

In general, philosophy and fiction have been relatively independent players in the field of culture since antiquity, and since then they have periodically entered into some relations with each other and with other

phenomena of human existence. They relate to the natural world in a certain way, comprehending and expressing it in ontological philosophical concepts and, accordingly, describing it in various artistic literary ways. Similarly, they relate to the world of culture, society, man: somehow, they reflect this world when they set such a goal, or, on the contrary, they impose something on this world, formulating ideals, norms, goals, values, doing it in different ways. Here philosophy and fiction look like competing subjects, mastering their common object: the human world.

The differences between them were formed immediately at birth: philosophy is distinguished by the formulation of a problem or question and an answer, necessarily reasoned, while literature is oriented toward the description of an interesting adventure. The fact that in Plato, Herodotus, or other ancient, and sometimes later authors, these orientations were intertwined does not cancel out the differences. Institutionalization has fixed specificity and permanently separated philosophy and fiction, and their evolution in independent niches has led to the accumulation of a huge number of differences in both means, ends, and perception. Nonetheless, from time to time, philosophy and fiction interacted and even "stepped into" other people's territory. Philosophy as "queen of the sciences" sinned more in this respect, periodically attempting to analyze literature, its means and the literary world it created[215], and occasionally using the style of fiction, as Nietzsche did, for example. But fiction was not left to its own devices either, sometimes posing philosophical problems in its great works.

Until recently, however, philosophy looked more significant and solid than fiction, claiming to be the most adequate representation of the world. Rationality, rigor, and complexity of philosophical knowledge and the means of obtaining and presenting it earned it enormous prestige and popularity among intellectuals. But recently the situation has changed considerably. The intellectual sphere, especially the scientific and technical sphere, has proliferated, with a huge number of specializations, where philosophy does not look preferable to others. Philosophy has lost its former coherence and has divided into a great number of directions and research fields. Finally, philosophy has been thoroughly criticized for its rigid, dry rationalism,

[215] Hajdegger, M. The Source of Artistic Creativity, 528 p.

its generality far removed from immediate human needs, its language understood by only a few, which was not the case in fiction, and, last but not least, its lack of vivid imagery, beautiful metaphors, engaging narrativity, sensual-emotional impact that provokes special experiences, and all the things that fiction has always been the domain of literature. Artistic and literary temptations are manifold: from special literary means of expression to a literary style of thinking, from raising universal problems to special ways of representing the world, from researching literary phenomena to following them. The question of the perspective of using some specific features of fiction in philosophy, and consequently in any sphere of non-fiction, will be the subject of discussion in this section.

Relationship of terms**.**

The term's "philosophy" and "fiction" have, on the one hand, a fairly unambiguous understanding, based on the specifics of approaches, methods, main tasks, means of expression, etc. On the other hand, the content of the terms has undergone considerable transformation in the course of cultural evolution. Thus, philosophy combines under its roof quite a lot of philosophical directions and independent fields of research. For example, modern structural or dynamic ontology, as well as the former metaphysics, are realized almost entirely on the material of natural science and are quite far from artistic temptations. But those fields of philosophical knowledge, which raise the problems of the human world proper and of being in it, the problems of the meaning of life, the essence of man, the great and the base in man, and other philosophical and moral, philosophical and aesthetic, philosophical and cultural, philosophical and humanitarian questions, correlate with some great literary works, which raise essentially the same problems and sometimes better than philosophy, though in a different form and by different means. One can cite as an example F. Dostoevsky (the writer!), known and authoritative in philosophical circles better and more than many philosophers.

Fiction seems to have changed even more in the course of social and cultural evolution, and lately it has changed radically. The important thing is not even that along with "great literature," there is adventure, detective, popular science, children's literature, and other "light reading. It is important that the number of books written with

the claim of literary fiction is multiplied to infinity, especially taking into account the texts of mass media, the World Wide Web, all kinds of Internet channels and websites. This gives the right to state that literature is by no means an unchangeable ontological category or objective essence, but only a changeable functional term[216].

The following circumstance is also important. Traditional fiction, in the recent past, produced integral texts, of considerable volume, which were included in an integral artistic and cultural fabric, the bearers of which were individuals with an integral worldview. Now the traditional wholenesses have disintegrated. This applies to socio-cultural, religious, scientific and philosophical formations. There is no holistic worldview. The modern reader as a consumer of all kinds of texts does not need integrity. Clip thinking and clip-chaotic worldview perceive short, often unrelated and contradictory texts. Under such conditions, the postmodern novel is not only in keeping with the spirit of the times, but is a powerful temptation and a kind of model for the producers and consumers of other texts, including philosophical texts.

It is often said that philosophy tends to imitate science, to be constructed like science, especially in terms of rationality, logicality, rigor of argumentation, and proof. However, it is rather the opposite: science imitated philosophy. Philosophy, two thousand years before the formation of science, was actively implementing the mentioned qualities. Science adopted them from philosophy, adding its own specific ones, such as special scientific observation and experiment, and later, verifiability, deducibility, reproducibility, and so on. Galileo, the father of science, also greatly simplified its tasks by describing the phenomena under study, leaving philosophy to explain and cognize the underlying essence of the world. It was the latter circumstance, coupled with a special categorical apparatus, that made philosophy understandable to only a few, unlike simpler science and, in particular, fiction, which was entertaining and understandable to everyone, even to the illiterate.

The Literary and Artistic Temptations of Philosophy.

Despite the seeming simplicity of fiction, it fulfils a very important and rather complex mission to which R. Rorty drew attention: literature provides man with a boundary stock of words with which he

[216]Iglton T. Theory of Literature: Introduction, 296 p.

operates in thinking and in action[217]. Indeed, one cannot think outside of this stock. Fiction can be said to provide not only the vocabulary, but also the rules for its operation and, importantly, the systems of thought schemes and images in relation to reality, even though fiction represents a fictional world.

Obviously, the stock of words and thought patterns has always formed the basis of philosophical reflection. In this respect, fiction is primary to philosophy. But philosophy gave a deeper understanding of the world, important in a universal sense, although little understood by the average reader. Becoming more understandable was, apparently, one of the first temptations of philosophy. The desire for comprehensibility caused, among other reasons, the appearance of encyclopaedias, various propaedeutics, and simplified courses of philosophy. Whether the specific influence of fiction is great there is debatable, but the temptation is perhaps undeniable. As a result, new forms of organizing and presenting knowledge emerged. And when children's literature became unprecedentedly widespread, philosophy thought about exploiting this niche as well. The temptation is great, the success is not so great yet, but the beginning has been made[218].

A characteristic feature of fiction is its emotional impact. Often it is seen as a deficiency and weakness of literature as a representative of human existence in comparison with philosophy, the rationality of which allows to express the deep bases of existence. It is true that the culture of the post-Soviet (as well as the Soviet and pre-Soviet) space is literature-centred, and here the influence of philosophy is not as great as in the West. In this sense, in East Slavic culture philosophy has lost the struggle to fiction[219]. But even the "winning" literature cannot cope with the function of the mistress of minds alone, with the function of representation of culture and anthropological representation proper. Philosophy is needed. However, philosophical reflexion loses out to the literary style in entertainment, comprehensibility, and sensuality.

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[217] Rorti R. Chance, Irony and Solidarity, 282 p.

[218] Gordner J. The World of Sophia. St. Petersburg. Amphora. 2013. 655p.; Andrianov M. Philosophy for Children. Moscow. Book House. 2018. 352 c.

[219]Philosophy and Literature. Kruglij stil redakciyi chasopisu «Filosofska dumka», p.14.

In the emotional impact of fiction can be seen not as a limitation, but rather as an advantage. Reading literature does not only and even not so much involve the search for meanings, ideas, special meanings, the author's intentions in a literary work, as it is the experience of some special mood that arose in the course and as a result of reading. In this sense, reading is more bodily-emotional than rational[220]. It is known that unprepared readers, and they seem to be the majority, experience emotional impact and fall under the appropriate mood, which, in turn, determines their actions in a certain way. And in a prepared reader, the appropriate mood can provide a more adequate experience of, say, some past era than even its contemporaries. This is another artistic and literary temptation for philosophy. The demand for entertaining, vividly emotional exposition has long been imposed on philosophy in the teaching environment, particularly in lectures and academic literature. However, the entertaining of new ideas in scientific and philosophical circles has been in demand relatively recently. Literary scholars, who were better acquainted with the peculiarities of fiction and literary style than others, contributed greatly to this process when they began to write philosophical works. It is also no coincidence that at the end of the twentieth century, literary studies became, in a sense, the trendsetter in the production of theories "for export. A number of humanities disciplines - law, anthropology, art history, even psychoanalysis - have followed philosophy in using literary theories[221].

The temptation to take advantage of the emotional impact of the text is especially noticeable when philosophy collaborates with literary studies. The famous philosopher and literary critic Vitaly Mahlin recalls a 1973 conversation between M. Bakhtin and the philologist V. Duvakin. Bakhtin quotes a line from V. Mayakovsky's "lick poetry's calloused hands" from the poet's unfinished poem "I know the power of words; I know the words' chime..." and asks: "What did he mean?" Duvakin responds with a remarkable question: "Do you

[220] Philosophy and Literature. Kruglij stil redakciyi chasopisu «Filosofska dumka», p. 17.
[221] Kaller Dzh. Literature Theory: A Brief Introduction, 158 p.

like it or don't you like it?"[222]. According to Mahlin, this answer-question clearly reveals the peculiarity of the approach of a literary scholar, but not of a philosopher. A personal emotional attitude of the type "I like" caused by exposure to a certain text may be a sufficient basis for the scholarly work of a humanist. The traditional philosopher has always needed rational grounds, but the subject of study is sometimes tempting.

In this connection, the debate about M. Bakhtin's philosophical and literary legacy has not subsided. For example, the outstanding scholar of philology and literature, Academician M. Gasparov, believed that M. Bakhtin's works represent a kind of program of philosophical creativity, rather than strict scientific methods of literary research. Therefore, Bakhtin belongs to the field of knowledge where new pictures of the world are created, new values are introduced, which is what Bakhtin did in his works on Dostoevsky and Rabelais. Hence, Bakhtin should be considered a philosopher rather than a scholar-philologist[223]. Gasparov himself, using strict comparative and statistical methods, studied Russian and European verse, described the evolution of its forms and, more generally, studied verse not within the framework of subjective, personal aesthetic experience, but precisely "in terms of provable and demonstratable regularities"[224]. That is, he represented a typical scholar. However, many Bakhtinists believe that it is the Bakhtinian approach that is scientific. However, literature as a research object is such a complex phenomenon that philosophical, scientific and unscientific notions easily coexist in literary studies, complementing each other[225].

The Narrative as the Literary Seduction of Philosophy.

The most impressive temptation for philosophy seems to have been the narrative. For a long time, it has been studied only within the framework of literary theory. It has been established, in particular, that

[222] Philosophy and Literature: Problems of Mutual Relations. Available online: http://naukarus.com/filosofiya-i-literatura-problemy-vzaimnyh-otnosheniy-materialy-kruglogo-stola

[223] Gasparov M. M.M. Bakhtin in Russian culture of the XX century, p.496.

[224] Avtonomova N. S. Open structure: Yakobson – Bakhtin – Lotman – Gasparov, p.18.

[225] Afanasiev A. I. Humanitarian knowledge and humanities, 288 p.

the term "narrative" means something other than a narrative text, a story. The emphasis is not on the event of telling, but on the events being told, on the "story" itself, which is sort of ordered even before the textual presentation. But this ordering arises, as narratologists argue, precisely because of the narrative, only this work remains usually invisible, giving rise to the illusion of an objective description of real events ordered in space and time. Philosophers established that narrative is inherent in any sphere of human activity, after which interest in narrative quickly moved beyond literary theory. The concept of narrative was generalized, expanded, and at the same time specified in a wide range of issues studied by philosophy, law, history, psychology, not to mention literary studies and linguistics.

Narrative has become more than just a subject of many theoretical studies. It has become a real paradigm for the methodology of humanitarian and not only humanitarian knowledge. The main source of the narrative turn was the discovery by philosophers in the 1980s that narrative form - both spoken and written - constitutes the fundamental psychological, linguistic, cultural and philosophical basis of our attempts to describe nature, society and man[226]. On the one hand, this turned out to be a manifestation of the general crisis of rationalistic methodological models based on natural-scientific ideals, and on the other hand, a realization of the limitations of the well-known positivist and Marxist attitudes to the search for laws of human behaviour. The Narrative Turn came together with the so-called "linguistic turn" in the philosophy of history, with the search for new methodological foundations, provoked by literary narratological studies. It was then realized that historical concepts were conditioned not so much by facts or philosophical and ideological beliefs as by narrative schemes[227].

A necessary condition of the narrative is a plot developing in time[228]. This determines a number of important features: the presence of a final goal of the story, from which all mentioned events are

[226] Brokmejer J., Harre R. Narrative: Problems and Promises of One Alternative Paradigm, p. 30.
[227] White H. Methistory. Historical imagination in Europe of the XIX century, 528 p.
[228]Riceur P. Hermeneutics and Human Science, p.286.

explained, the selection of the most important events directly related to the final goal, the ordering of events in a certain temporal sequence, when each subsequent event is a consequence of the previous event. The narrative is framed in a certain way as stable, progressive or regressive, which makes it possible to describe any fragment of evolution.

Forms of narrative organization are found within the culture itself; moreover, they correspond to literary genres in their fundamental storyline. Thus, the famous Canadian literary scholar N. Fry identified the basic forms of narrative rooted in human experience, in particular "generic plot structures": tragedy, comedy, satire, novel. Later, H. White showed that the historian uses them by giving known historical facts a certain storyline and configuration in accordance with the requirements of this or that plot structure[229].

Narrative can generate not only fictional literary life, but also real events. In particular, the Marxist narrative or, more precisely, the metanarrative of the socio-historical process was not only passed off as reality, but it also produced a very real and, in a certain sense, quite viable Soviet reality. The fact that narrativization may not have been realized by its creators does not change the matter. Once realized, the writing and rewriting of the narrative in the corresponding discourse becomes a powerful instrument of transformation. The rewriting of the smoking narrative into a healthy lifestyle narrative has transformed the lives of entire peoples. It is now obvious, even to feminists, that gender problems can only be solved by a narrative re-description of gender stereotypes.

Philosophy, like the humanities, through the inclusion of narrative in its sphere, has a special role in cognitive activity and in human comprehension of its own nature and the world as a whole, because narrative has ample opportunities to set the order, organization, and consistency of human experience, and, most importantly, to change them through the flexibility and openness of its structure. Classical theoretical models like the natural sciences do not have this flexibility. In particular, this is why the humanities should not always and not in everything be modelled after the natural sciences. Moreover, the

[229] White H. Methistory. Historical imagination in Europe of the XIX century, 528 p.

humanities, through the study of narratives, can clarify many natural and technical texts and, most importantly, help to understand the foundations of any human activity, thus acquiring the methodological universality that methodologists have long dreamed of.

Advertising as nonfiction. Description in Advertising.

Advertising texts are nonfiction, although in many ways they represent a "fictional world." But the artistic means involved here are extremely broad, most likely in all types of advertising.

There are a great many types of advertising, and the grounds for classifying them are quite diverse. These are specific characteristics of the industries where the advertised goods or services are produced, the peculiarities of advertising goals and target audiences, geographic, ethnic or cultural areas of distribution, types of advertising media, exposure methods, location of advertising products, the nature of promotional activities, the functions performed in society, etc. It is difficult to build an exhaustive classification of advertising types by any criterion.

However, there are not many ways of presenting the advertised object, and they can apparently be reduced to two: description and narration. Description and storytelling are inherent even in non-verbal forms, such as visual forms. Thus, a photograph, drawing, and even more so a film or television image of an advertised object does not so much show it as talk about it[230]. Consideration of the descriptive and narrative features of advertising is important in many ways, particularly with regard to the study of those literary and artistic techniques that ensure the effectiveness of advertising.

Descriptive implies enumerating some noteworthy features of an object. Of course, their enumeration can be verbal or visual, using numerous means to enhance the impression produced.

Select the features we need is not as easy as it seems at first glance. After all, they must favourably distinguish the object from similar objects. It is clear that they are designed to immediately interest the potential buyer, for which it is necessary to know the needs of people, the volume of demand, the material capacity of consumers, socially

[230] Afanasiev A.I. Photo and narrative. Available online: http://philosophy-multidimensionality.com/index.php?option=com_content&view=article&id=238

accepted conventions, traditions, etc. The requirements for good descriptive advertising are quite numerous, and their observance gives a good effect. At the same time, the possibilities of descriptive advertising are limited. For example, how many features should be highlighted? Obviously, they should not be very many, otherwise the buyer will get bored with them to understand. But one or two is clearly not enough especially if the competitive object is represented by a large number of details and features. Empirical generalizations by trial and error, somehow set some optimal number of important features of the advertised object. But how optimal are they and why? Or such a question: what qualities should be emphasized in ads for dishwashing detergents in the first place: their impact on the dishes or on the hands of the consumer? Should the qualities of perfumes and cosmetics be listed and described, or is it better to show how an authority figure (an athlete, a movie star, a respected politician) uses them? These, and many other questions, once required a move toward a theory of advertising, where descriptions would be supplemented by explanations and other functions of theory. It is no coincidence that all sorts of disciplinary courses, textbooks, and manuals have come to be called advertising theory. However, it was, and often still is, mostly reduced to theoretical generalizations of the available experience of descriptive advertising, which is reflected even in the widespread definitions of advertising. For example, advertising is "the creation and/or dissemination of such information (read: descriptions) about a product that will make the consumer buy it"[231]. Advertising is "an indirect form of persuasion based on informational or emotional descriptions of the benefits of a product. Its task is to create a favourable impression of a product among consumers and "focus their thoughts" on making a purchase"[232].

*The Problem of Advertising Theory*.

Descriptions and their theoretical generalizations, loudly referred to as theory, are naturally better than a set of individual successful cases. Let us say that advertising education cannot be built on examples alone. However, in many respects they do not correspond to the signs of a scientific theory. However, it is possible that theory is

[231] Bernstein D. Advertising. Pretend to be its connoisseur, p. 7.

[232]Rossiter Dzh. R., Persi L. Advertising and promotion of goods, p.15.

impossible here. After all, there is a huge number of descriptive empirical disciplines that do not claim to be theoretical: from taxonomic to geological. Nevertheless, the authority of scientific theories is so high that there is a widespread belief that to deny a certain field of knowledge the status of theoreticality is to belittle it. At the same time, many specialists, especially practitioners of advertising, as well as representatives of other applied disciplines, are not quite clear on what a scientific theory is. They strangely combine, on the one hand, a desire to call their knowledge theory, and, on the other, a distrust of theory and its opposition to "practice. This is a consequence of methodological ill-preparedness, in particular, lack of understanding of the fact that good theory is more practical than any practice. But it is a good theory.

It has long been known in the methodology of science what qualities a good theory should possess: original theoretical principles, terminological apparatus with unequivocally defined notions, logic or at least basic rules for deducing certain statements and consequences of the theory, a set of laws or statistical regularities, an idealized model of the theory object, and, naturally, an empirical basis, whose limits are delineated by original principles, which make the whole theory integral and systemic. Such a system allows describing, understanding and explaining the objects under study and predicting new ones[233]. The advantages of such theories are obvious; first of all, they are "methodological," i.e., they allow us to develop a method for obtaining the necessary knowledge and product. A specialist armed with a method depends little on mood and inspiration, creative luck and insight, genius hunches and creative discoveries and all the rest, which will also be useful, but which is rather akin to art, and which cannot be taught: talent is either there or not. It is no coincidence that good, "expensive" advertisers are more likely to be talented creative artists than to be trained in reliable methods. Although an enormous amount has been written about these "creatives" and their "creatives," there are no theories here. However, if not to judge strictly, there is useful information in this sphere and it is necessary for becoming a professional at first. But are they sufficient?

[233] Afanasiev A. I. Humanitarian knowledge and humanities, 288 p.

It is impossible to build a good theory only by generalizing from practical experience, although one cannot do without such generalizations. Even the fact that the disciplines of modern natural science, mechanics, for example, began their development as empirical ideas, became real sciences when theories were created, confirmed by experience, but not inspired and limited by experience. Their theoretical starting points make it possible to go far beyond experience, for example, to make reliable predictions. Advertising knowledge does not seem to have such theoretical principles, which is why experts cannot decide which approach is better: economic (marketing), psychological, or linguistic. It is obvious that the empirical growth of advertising knowledge outpaces the theoretical one, which is considered to be a disadvantage in the methodology of science in general. It should be the other way around. Theoretical growth should outpace empirical growth[234]. Admittedly, it is not very clear whether advertising theory meets the criteria of a research program in the Lakatos sense, since the methodology of advertising knowledge is practically undeveloped. In addition, there are other indicators of the reliability of knowledge, such as empirical success, but even here things are not clear-cut, since it is currently very problematic to calculate the success of an advertising product.

Indeed, advertising effectiveness is a very serious practical and theoretical problem. There are multidimensional researches of this problem, various qualitative and quantitative methods[235], however, there is no reliable decision. Besides, if theorists try to systematize somehow such a diverse material on advertising and its efficiency, the practitioners criticize such attempts[236], demanding reliable methods. It is doubtful that they will appear without a good theory of advertising.

If empirical generalizations do not yield a good theory, the way of "grafting", hybridization, widespread in science, remains. It consists in applying a principle, concept, method, etc., that has proven itself in other theories and disciplines, even those far removed from

[234] Lakatos I. Selected works on philosophy and methodology of science, 475p.
[235] Kutlaliev A., Popov A. Efficiency of advertising, 416 p.
[236]Repev A. The effectiveness of advertising. Review. Available online: http://www.repiev.ru/recenz/Advert_Efficiency.htm

advertising, to this field. Intuitively and more or less consciously, this has long been done in advertising. It is true that well-developed theories are mixed, such as probability theory, economic and mathematical statistics, sociology, and theories that do not have the status of well-developed, say, from psychology, social psychology, marketing, communication theory. However, they usually have a good empirical effect, otherwise they simply would not be applied. But at the expense of what the effect is achieved and how to measure it is not very clear. And most importantly: wouldn't this effect grow with good theoretical and methodological development?

It was through hybridization that the current theory of advertising was formed. It is well known that the first book on advertising theory was written by William Scott. It was "The theory of advertising", published in Boston in 1904. Significantly, the author applied psychological knowledge to advertising. Not only did he summarize his experience in applying psychology to advertising, but he also put forward a number of new psychological ideas. In particular, Scott substantiated the idea that consumer behaviour is significantly less rational than supporters of rational behaviour believed, and also showed the importance for effective advertising of worldview beliefs as a psychological characteristic of consumers. Psychology has not lost its importance in modern advertising theory. Thus, the model of consistent behaviour in influencing the consumer audience[237] is rooted in psychological knowledge. But it is there, rather than in advertising theory, that it finds theoretical grounding. It is not surprising that it is psychologists who write scientific papers and textbooks on the psychology of advertising, and they have rather an applied psychology than a theory of advertising[238].

Perhaps not yet come to advertising his Philip Kotler, who would also systematize all knowledge of advertising, as Kotler on marketing. But Kotler presented advertising itself as a part of marketing, in the structure of which it occupies a very small place[239]. Such an approach is often challenged because in this case, advertising is characterized mainly in an economic way, for example, without taking into account

[237] Rossiter J. R., Percy L. Advertising and promotion of goods, p.96-106.
[238] Lebedev-Lyubimov A.N. Psychology of Advertising, 384 p.
[239] Kotler F. Fundamentals of Marketing, 752 p.

the values and interests of people[240]. In line with the criticism of technocratism and consumerism such an argument is very convincing. At the same time, in terms of marketing, good practical results of advertising and comprehended the role of advertising, its positive and negative consequences for firms, consumers, economy and society in general[241]. Meanwhile, it is very important to decide whether to include advertising theory in the department of economic disciplines or enrol it in the humanities, since theoretical and methodological support, not to mention methodological support, will be very different. It would be possible to declare advertising theory a complex science (interdisciplinary, transdisciplinary, multidisciplinary), but even in this case the initial theoretical principles cannot be several, it should be different in each case. It must be one and unite all the diverse multidisciplinary knowledge.

It is possible that such principles can be found in linguistics. In any case, any theoretical and practical models of advertising cannot fail to make use of texts. Some authors believe that texts make up 75% of all advertising[242]. Given that any information can be presented as a text: from verbal to visual, from artifact to natural object ("nature book"), the percentage of text in advertising can be increased to 100%. True, in this case the copywriter will have to be trained to construct texts not only of words.

Narrative in Advertising.

One of the characteristics of a text is its narrative organization. Some texts may have a descriptive or reasoning form, such as a deductive one. But in this case, they usually need interpretation, which is impossible without narrative.

By now probably everyone knows that the narrative form - both oral and written - constitutes the fundamental psychological, linguistic, cultural and philosophical basis of our attempts to describe nature, society and man[243] .

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[240] Lebedev-Lyubimov A.N. Psychology of Advertising, p. 11.

[241] Sandidge C., Freiburger V., Rottsoll K. Advertising: Theory and Practice. 632 p.

[242] Lebedev-Lyubimov A.N. Psychology of Advertising, p. 166.

[243] Brockmeyer J., Harre R. Narrative: problems and promises of one alternative paradigm, p. 30.

The essential features of the narrative are the actors (heroes) and the plot that develops in time, the finale of which appears as the goal of the narrative, in the light of which all the events mentioned in the narrative are explained. This is why, by the way, the narrative has an explanatory function. Narrative explanation, though different from scientific explanation, is an inherent characteristic of any text. Through narrative purpose, all the events mentioned are selected and arranged. This results in a connected, meaningful, often even interesting story. In a generalized sense, "narrative is the name of some ensemble of linguistic and psychological structures transmitted culturally and historically, limited by each individual's level of skill and a mixture of his or her social and communicative abilities with linguistic prowess"[244]. Narrative is a universal characteristic of culture and a way of accumulation and translation of cultural experience and its meanings, a form of socialization of individuals. Cultural, and in particular linguistic competence, is expressed in an individual's ability to tell and retell stories.

Through the named narrative attributes, meaning is given to this or that sequence of events, and the narrative appears as stable, progressive or regressive. For example, in a stable narrative, an actor who is a beautiful hero at the beginning cannot become a villain at the end. In progressive and regressive narratives, radical changes in evaluations are possible, but then the reasons for this transformation are specifically stated.

The narrative form is so familiar that people do not fixate on it; it seems natural. If this naturalness is given to advertising, it does not cause rejection. Almost all types of "natural" texts correspond to these attributes of the narrative: fables, myths, fairy tales, legends, evolutionary explanations and, of course, advertising texts, if they do not violate the mentioned naturalness. A narratologist, of course, will find narrative features in any advertising texts, even in slogans, advertisements, descriptions, etc. In this sense, it is possible that advertising theory can be constructed as an applied narratology. As for the practical meaning of effective advertising, storytelling, as an explicit narrative, seems to be preferable to other types of advertising.

[244] Brockmeyer J., Harre R. Narrative: problems and promises of one alternative paradigm, p. 31.

Narrative or narrative advertising is sometimes called storytelling. The emergence of two terms ("narrative" and "storytelling") that mean the same thing in translation - storytelling - could cause surprise and confusion for the unsophisticated reader. In fact, it's quite simple. "Narrative" is a term from the well-developed and highly ramified theory of narrative. "Storytelling" means the application of one or another of the tenets of narrative theory or just narratives (sometimes, unfortunately, of one's own homegrown or intuitive ideas) in one way or another, to one purpose or another. Storytelling is first and foremost the skill (perhaps the art) of selecting or composing narratives, preferably with the support of an appropriate theory, if only to avoid wasting energy and time on reinventing the bicycle.

In advertising, the narrative is usually presented as a mini-text, sometimes even the narrative is not deployed, but assumed. But behind the mini-narrative there is always a grand narrative, or even a metanarrative. An advertising appeal to the metanarrative, even if it is only implied, especially if it is historical-patriotic, ideological, mytho- and legend-like, has explanatory and persuasive power not only in political[245] or social advertising, but also in any other types of advertising. In marketing, as many authors have noted, narrative is increasingly replacing slogan and descriptive advertising, which have come to be perceived as intrusive. "People don't trust ads and slogans, but they still listen to stories," Boyle D. observed regarding political marketing[246]. I think it's not just about the novelty of the narrative compared to other forms of advertising. What is more important is that it is natural. Narrative does not simply recount events, but makes them understandable and systematizes cause-and-effect connections, explains.

The current simplistic division of literature into fiction and non-fiction is not without merit. However, the increasingly popular term and genre "literary journalism" should not be identified with all non-fiction literature, but should be considered a subspecies of non-fiction. Memoirs, biographies, diaries, letters, and popular science and academic literature are independent genres of "non-fiction" distinct

[245] Sheigal E. I. The Many Faces of Narrative, p. 86-93.
[246] Boyle D. In search of a political narrative. Available online: http://david-boyle.co.uk/politics/narrative.html

from literary journalism. The accuracy of fact required in these genres is an important but all too strong requirement. In general, it depends on the purposes and ways of presenting and interpreting the fact, but it is important that it not become a factoid. A common tendency of the named types of non-fictions, especially literary journalism, is the desire to make extensive use of artistic means of expression. The problem remains the measure of the use of artistic means, since the literary style does not imply accuracy and unambiguity.

The problem of the literary style of literary journalism has a broader meaning and applies to all non-fiction literature, especially to the humanities, where journalism is also listed. It also applies to many of the humanities disciplines that claim to be a science. These include, in particular, psychology, history, and philosophy. The literary fictionality of many texts on philosophy and history is not an exaggeration. Nevertheless, philosophy, history, or religious texts are numbered outside the realm of fiction. It is therefore a common problem to dissociate this or that text, be it journalistic or philosophical, from fiction-literature and the possibilities of using artistic means in philosophical texts.

The literary temptations lead to the question of what philosophy gravitates towards, how should it position itself: as a science or as literature? In general, the philosophical style of thinking differs from the literary style with its optional precision, illogicality, multiple meanings, inconsistency, unprovenness, lack of argumentation.

However, philosophy, too, cannot resist literary temptations. Populate, sensuous-emotional, metaphorical, narrative, and other literary introductions to philosophy have yielded positive results both as an object of study and as a model for emulation: discussions have been stimulated, and interesting and fruitful concepts have been advanced.

A study of narrative structures in texts of non-fiction: from philosophical to advertising allows us to trace the possible channels of literary components into non-fiction. Narrative advertising is becoming increasingly popular and prevalent. Storytelling, as an explicit narrative, has proven to be preferable to other types of advertising, proving its practical effectiveness. Moreover, perhaps narratology will become the foundation for building an adequate theory of advertising. This demonstrates the increasing use of the

linguistic possibilities of fiction in advertising and nonfiction genres in general.

In this regard, literary studies gains meaning and significance for all types and genres of nonfiction. Probably the near-term prospect will be the study of literary studies by students of all majors.

## 2.6. PROMISING DIRECTIONS OF DIGITAL ECONOMY DEVELOPMENT IN UKRAINE

In 2017, the digital revolution entered a decisive phase - every second inhabitant of the Earth connected to the Internet. Over the next 20 years, up to 50% of the world's operations can be automated. The industrial revolution has allowed individual countries to achieve impressive rates of economic growth, and they have become leaders in the world economy for many decades. Today in Ukraine there is a unique chance to realize its potential during the digital revolution and take a worthy place among its leaders.

Ukraine is already living in the digital age. In the last three years, we have doubled the number of smartphones - now they are used by 70% of the population. This is more than in Brazil, India and Eastern Europe. And the number of users of state and municipal service portals has doubled in 2016 alone.

Digitalization changes the look and structure of the economies of countries and regions. Some professions disappear, others appear. The purchasing power of the population is increasing, goods and services are becoming more accessible. Intra-industry competition is growing, markets are expanding, and the competitiveness of countries' industries in world markets is increasing. The result is the growth of national economies. Entrepreneurial structures that actively explore digital opportunities achieve a lot and receive tangible economic benefits. As a result, it becomes extremely necessary to work towards the transformation of digital solutions, proposing new and new innovative solutions.

Domestic and foreign scientists have paid attention to the study of the current state and substantiation of the prospects for the development of the digital economy in the world. According to O. Pyshchulina, the digital economy is an economy based on digital

computer technologies and information and communication technologies (ICT), but, unlike informatization, digital transformation is not limited to the introduction of information technology, but radically transforms areas and business. processes based on the Internet and new digital technologies [1]. Also, the scientist in his work argues that the digital economy is not individual industries or IT companies that are digital. This is, first of all, the existing economy - all traditional industries and companies (manufacturing, agriculture, construction, transport, etc.), which under the influence of digital transformation due to technological evolution revolutionize their production and business processes and gain new opportunities for productivity growth and efficiency of the main (existing) business [247].

G. Zhekalo notes that in practice the digital economy is manifested primarily as a consumer-oriented economy (on-demand economy), ie the ability of the state to provide various services. In particular, it is the receipt by citizens of certificates, inquiries, applications, answers to inquiries in electronic form, even without leaving home, electronic payments and so on. In addition, it is a market for instant orders and unlimited choice of goods and services through the use of online stores, online banking, messengers or other social networks. The digitalization of the economy is taking place both through digital reforms in the spheres of public life - education, medicine, public administration, and directly in business." [248].

T. Mesenburg in his study describes three main components of the digital economy: e-business infrastructure; e-business (processes that are carried out through computer networks) and e-commerce (online sales) [249][.

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[247] Pischulina O. (2018). Digital economy: trends, risks and social determinants.
https://razumkov.org.ua/uploads/article/2020_digitalization.pdf

[248] Zhekalo G. (2019). Digital economy of Ukraine: problems and prospects of development. Scientific Bulletin of Uzhhorod National University. Issue 26, part 1. 56-60. http://www.visnyk-econom.uzhnu.uz.ua/archive/26_1_2019ua/12.pdf

[249] Mesenbourg T. (2018). Measuring the Digital Economy. U.S. Bureau of the Census. http://www.census.gov/content/dam/Census/library/working-papers/2001/econ/digitalecon.pdf

On January 17, 2018, the Cabinet of Ministers of Ukraine approved the Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020, which is part of the effective development of the digital economy of Europe [250]. The Concept defines that the main goals of digital development are[250]: accelerating economic growth and attracting investment; transformation of economic sectors into competitive and efficient; technological and digital modernization of industry and creation of high-tech industries; accessibility to citizens of the benefits and opportunities of the digital world; realization of human resources, development of digital industries and digital entrepreneurship.

G. Karcheva is convinced that the successful development of the digital economy in Ukraine requires an effective state policy to bridge the "digital divide" and stimulate the development of the digital economy. The key strategy for the "digitalization" of Ukraine should be to work with the domestic market, and the key initiatives - the formation of consumers (business, government, citizens) motivations and needs for "digital technologies" [251]. N. Norets and A. Stankevich specify the concept of "digital economy", defining it as "a system of economic and political, social and cultural relations based on the use of digital (computer) information and communication technologies" [252]. Analytical review of literary sources of domestic and foreign researchers indicates the identified needs in the study of the digital economy of the state. The current scientific publications do not fully reflect the current views of scientists on the peculiarities of digital economy management and transformation in Ukraine. At the same

[250] Kabinet Ministriv Ukrainy. (2018). Kontseptsiia rozvytku tsyfrovoi ekonomiky ta suspilstva Ukrainy na 2018-2020 roky [The Concept of the Development of the Digital Economy and Society of Ukraine for 2018-2020], Rozporiadzhennia Kabinetu Ministriv Ukrainy, no. 67-p. https://minfin.com.ua/ua/2018/01/17/31946820/

[251] Karcheva, N.T., Ohorodnia, D.V., Openko, V.A. (2017). The digital economy and its impact on the development of national and international economics. Finansovyi prostir, 3 (27), 13-21.

[252] Norets, N.K., Stankevich, A.A. (2017). Digital Economy: State and Prospects of Development. Innovatsionnyye klastery v tsifrovoy ekonomike: teoriya i praktika, 173-179.

time, a significant number of problems regarding the vision of the concept of digital economy development, effective ways to attract innovation to development, remain insufficiently researched and revealed.

The digital economy is breaking the usual patterns of industry markets. It increases the competitiveness of their participants. Thus, the digital economy determines the prospects for growth of business structures, industries and national economies in general. The advent of digital players has already changed the face of entire industries - tourism, telecommunications, printing, passenger transport, in particular, taxi services.

Every country that demonstrates success in creating a digital economy has its own history, and there is no absolute leader in the development of all its aspects. Germany is a pioneer in the field of industrial technology. In this country, about 10% of the population is employed in high-tech industries, which is about twice as much as in Ukraine. For Germany, the central role of the state in financing promising digital projects is not typical, the state sees its main function in creating the rules of the game, the development of basic education, stimulating research [253].

South Korea and Japan have managed to create the largest digital companies, where innovations are mainly created and brought to market, taking into account traditional corporations (Samsung, LG, Toyota, Sony, Toshiba, SoftBank). The ecosystem of startups in these countries is less developed, although there are some successful projects, for example, in the field of e-commerce and ecosystems (Rakuten) and the creation of Internet messengers (Line).

The United States has been able to streamline the production of innovations and their successful implementation in many areas. The size of the US digital economy is very high - it reaches 10.9% of GDP, due to the active investment of the private and public sectors in digital technologies.

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[253] Legner C., Eymann T., Hess T., Matt C., Böhmann T., Drews P., Mädche A., Urbach N., Ahlemann F. (2017). Digitalization: opportunity and challenge for the business and information systems engineering community. Business & information systems engineering, Vol. 59, 4, 301–308. https://doi:10.1007/s12599-017-0484-2

China, despite being a developing country, has been successful both in identifying and implementing promising digital solutions and in developing its own export-oriented projects (Alibaba, Huawei). China has "digitized" its multi-million population particularly quickly and efficiently. Today, the Chinese are actively using online retail, online ecosystem capabilities and digital banking [254].

The rapid transition of consumers to the electronic format of trade here is due to the fact that e-commerce has developed gradually, and the rapid spread of online financial services contributed to the low level of development of financial institutions and banking infrastructure. The first wave of digital innovation was the automation of existing technologies and business processes. The second wave came in the mid-1990s, when the spread of the Internet, mobile communications, social networks, the emergence of smartphones led to a rapid increase in the use of technology by end users. Today, digital technologies are changing the very operating model of companies, especially in the banking and telecommunications sectors, increasing cost efficiency and opening up new market opportunities (Figure 1).

Even in the most traditional industries, methods of analysing large amounts of data are increasingly used to gain new knowledge and make effective management decisions. In the next decade, the Internet of Things will improve the quality of equipment operation, increase the productivity of oil and gas fields, make urban infrastructure more "smart" and energy efficient. Impressive opportunities will open up for end users, the business community and the state with the development of innovations such as augmented reality, unmanned aerial vehicles (drones), robotics and artificial intelligence. The accelerating process of transformation of classical sectors of the economy has become irreversible.

[254] Trushkina N.V., Rinkevich N.S. (2019). Digital transformation of business processes in enterprises: realities and modern challenges. Pobudova informatsiinoho suspilstva: resursy i tekhnolohii: materialy XVIII Mizhnarodnoi naukovo-praktychnoi konferentsii, Kyiv, 19-20 veresnia 2019 r. MON Ukrainy, UkrINTEI. Kyiv: UkrINTEI, 404, 130-132. http://www.uintei.kiev.ua/sites/default/files/materyaly_mon_end.pdf

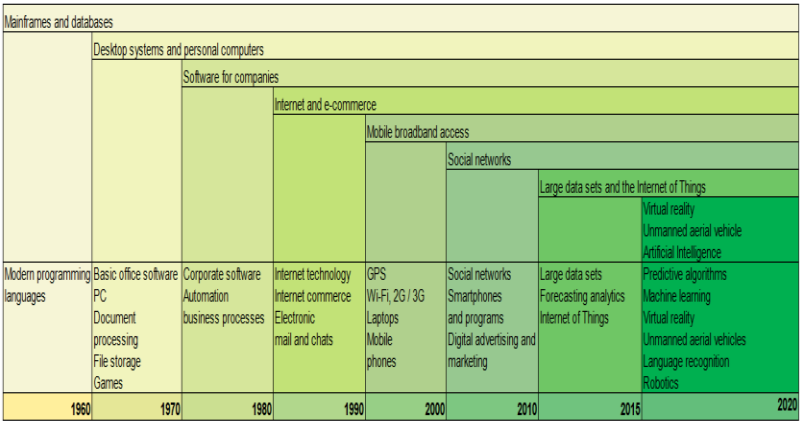


Fig. 1. **The formation of the global digital economy under the influence of accelerating innovation**

The digital economy in the world has developed in different ways, but they have the following in common for all countries: the availability of favorable conditions for innovation and large investments in digital technologies and infrastructure. At the same time, emerging markets in the digital age have special advantages due to the fact that they create ready-made digital services from scratch (medical services, parking, online retail), rather than reworking the legacy infrastructure. In this sense, Ukraine also has excellent opportunities for technological leap in many areas. At present, it is important for Ukraine to build its own priority niches for digital innovation, where with the lowest cost it is possible to achieve independence in the domestic market and become a recognized world leader [255].

Today, Ukraine is not among the leaders in the development of the digital economy in many respects - the level of digitalization, the share of the digital economy in GDP, the average delay in the development of technologies used in leading countries. The share of the digital

[255] Bahatska K., Heidor A. (2019). Business processes in the context of digitalization of the economy. Visnyk KNTEU, 5, 23-32. http://visnik.knute.edu.ua/files/2019/05/5.pdf

economy in Ukraine's GDP is 3.9%, which is 2-3 times lower than in the leading countries. However, a number of positive trends are already visible. One of the most important indicators is the volume of the digital economy, which has been growing rapidly in Ukraine in recent years.

Ukraine has all the necessary prerequisites for further realization of digital potential and acceleration of digitalization. The country has an intellectual and scientific base, backed by a good system of secondary and higher technical education. Her ability is constantly confirmed by victories in competitions in exact sciences [256] [257].

Ukrainian specialists traditionally have strong skills in applied fields, which are in demand in the digital age. These include software development, cybersecurity and the use of artificial intelligence.

The country is actively developing ICT infrastructure at the national level, the capacity of its domestic market is large, and the potential for digitalization of the industrial sector is not yet fully explored. Authorities are aware of the national importance of these tasks and are able to mobilize resources nationwide to address them.

The mission of the digital economy in Ukraine is to improve the quality of life, ensure the country's competitiveness and national security.

The goal of Ukraine in the perspective of 15-20 years is to enter the group of the world's leading economies due to the digital transformation of traditional industries and the development of an independent and competitive digital industry. The example of China can be instructive here, where in the last 15 years we have managed to create a competitive digital economy by world standards and increase GDP per capita by almost four times.

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[256] Ustenko M., Ruskyx A. (2019). Digitalization: the basis of enterprise competitiveness in the realities of the digital economy. Visnyk ekonomiky transportu i promyslovosti, 68, 181-192. http://btie.kart.edu.ua/article/view/188288

[257] H. Kryshtal, M. Bodretskyi, M. Koval, H. Skyba, A. Kozlova. (2021). Accounting as an integral part of financial and economic assessment of business entities. Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu, 3, 162-166. https://doi.org/10.33271/nvngu/2021-3/162

To meet these long-term goals, Ukraine needs to set an ambitious goal for the medium term. Such a goal could be to triple the size of the digital economy by 2030. Achieving it will require coordinated work, but it is quite realistic if you follow the directions of development described below and ensure the achievement of the target state by 2030, which is characterized by the following main components:

1. Ukraine is a world-class research and educational center in the field of digital technologies and innovative business models. The country has a well-developed network of educational and research centers (including university-based ones) that actively cooperate with companies investing in IT.

2. Ukrainian digital companies successfully create and bring to the international market competitive innovative digital solutions and technologies.

3. The industrial sector of Ukraine's economy is characterized by the use of high technology and the presence of companies - world leaders in the implementation of certain digital technologies.

4. The state is a leader in the dissemination of digital technologies for mass use and is a model of their implementation in the provision of quality digital government services.

5. Digital engagement provides equal access to infrastructure and access to services for the population nationwide.

6. In terms of digital culture and literacy of the population, Ukraine occupies leading positions in international rankings.

7. Digitalization of the economy brings many economic and social benefits presented in Figure 2.

Today, Ukraine can make the most of the opportunity to invest in the future competitiveness of companies, industries and the national economy as a whole. The proliferation of digital technologies "at a natural pace" will not give the desired result, and the lack of focused efforts will increase the gap with countries that will be able to catch the wave of the digital revolution. The desired goal can be achieved only if the state and private sector enterprises play on the lead: quickly adapt and implement technological advances, actively cooperating with each other, with the technological and scientific community and external partners, and constantly checking their actions with needs, preferences and habits consumers.

| Economic benefits: | | Social benefits: |
|---|---|---|
| Significant contribution to economic growth | | Improving the availability and quality of health care |
| Increase in the number of jobs in related industries by 3-5 times | | Reducing crime, increasing the availability of financial services, road safety |
| Increase in productivity | The effect of digitization | Reduce the cost and increase the availability of mass education |
| Accelerate the growth rate of small and medium-sized businesses | | Reduction of negative impact on the environment |
| Corporate business development | | Increasing inclusiveness and reducing poverty |

Fig. 2. **Social and economic benefits of digitalization of the economy**

Governing bodies are already making significant efforts to digitize public services and the economy of our country.

The topic of digital technology implementation is increasingly included in the agenda of economic forums. Large-scale government programs are dedicated to the development of digital technologies. These are projects to develop public e-services, eliminate digital inequality, expand the e-procurement system, involve citizens in the creation of comfortable cities and in the process of making socially significant decisions. Now it is very important not to slow down the pace of transformation, focusing on the fundamental elements.

Possible directions of development of the digital economy for the state, the implementation of which the state together with business structures will reduce the gap with the leaders of the digital economy, and in some of its areas in the future to take the lead:

1. Reforming educational infrastructure. In the case of automation of an increasing number of operations, which has led to the complete disappearance of a number of specialties, and a massive shortage of specialists with digital skills, it is necessary to adapt the educational infrastructure to new requirements. In particular, in the system of basic education, first of all, it is necessary to introduce new approaches to

learning and ensure a high level of basic digital literacy of the population.

2. Funding of applied research and digital entrepreneurship. The state should set the stage for the future by continuing to develop research centres for basic research in computer science and digital business models.

In the future, the efficiency of the grant distribution system for funding applied research will also increase. Government co-financing of promising business projects can have the greatest effect. It can be done, for example, through joint ventures or in the form of government procurement in the most important areas of digital development. The participation of the state will also help to maintain the necessary high rates of development of the ecosystem of financing promising digital projects, especially at the stages of scaling up, introduction into production and the beginning of the use of developments on an industrial scale.

3. Retraining and additional education. Institutions for advanced training and mass retraining of personnel play a special role in solving the problem of providing the economy with personnel with digital technologies. They will provide new skills to specialists of those companies that are unable to independently organize the process of training, development and testing of new digital technologies. It is also important to provide adaptation programs for staff released as a result of process automation and increased productivity.

4. Solving the priority tasks of digital development of industries. In order to quickly make decisions on key issues of digital development of industries, it is advisable to create permanent platforms for dialogue between the state and industry representatives in working order. This may include adjusting government regulations to bring them into line with digital realities and easing the regulatory regime for pilot projects that test promising digital technologies and business models. Live discussions will help to develop common state and industry standards in the field of digital technology, identify and coordinate priority areas for digital development of industries. Discussions will be more effective and informed if they are conducted with the participation of representatives of educational and research institutions.

5. Development of digital infrastructure. The state should continue to implement measures to address digital inequalities, ensuring equal access to basic infrastructure services and a wider range of digital services, such as distance learning, which provides an opportunity to receive quality education for people anywhere in the country. An important task is to further deploy affordable, high-quality and in-demand digital public services nationwide. Here you can both scale solutions that have already been successfully implemented in individual regions, and use the most interesting world experience. This is the critical pace of building a digital infrastructure. Savings on the speed of application may be illusory, as procrastination will lead to insurmountable backwardness, as happened to the countries that remained in the era of the Industrial Revolution.

6. Introduction of innovations. Digital literacy, the desire and willingness to try new ways to solve problems, take risks, experiment and create valuable social connections and business partnerships will increasingly become an integral part of the success of citizens and companies. To implement innovations, the state should use the following channels: interaction with print and electronic media, Internet portals, newsletters, outdoor advertising. Opportunities for social advertising can be fully used to stimulate interest in digital innovation, the development of which will bring a positive effect of both social and economic nature.

Possible directions of development for business structures:

1. Development of the culture of innovation and development of new technologies. Entrepreneurial structures should constantly search for innovative solutions and business models based on the use of digital technologies. Product development needs to be more flexible. You should constantly experiment with new business models, products, ideas and technologies. A passive position will inevitably lead to a loss of competitiveness.

2. Using the world experience of the most successful companies. Active study of foreign "success stories", the ability to learn from them and adapt to Ukrainian market conditions, use the most effective business models, technologies, processes, finished products, management methods and other developments, should become a very effective tool for digitizing the economy. Successful and fast adaptation of ready-made solutions will ensure 90% success. It is

advisable for the largest companies not only to learn how to effectively and quickly adapt and deploy ready-made platform solutions and services, but also to take an active part in shaping the market, creating partnerships with other industry players and solution developers.

3. Development of technologies. Industrial enterprises are the foundation of the Ukrainian economy. Early development of modern technologies such as industrial Internet of Things, 3D printing, virtual reality, touch interfaces and advanced robotics, will allow industrial companies to take advantage of such areas "from scratch" and reach a leading position in this group of technologies.

4. Cooperation with other participants in the digital ecosystem. The development of strong horizontal links with educational and research organizations, high-tech companies, as well as with government agencies will allow for effective exchange of experience, development of innovative digital solutions, products and standards, adapt educational programs and develop skills in digital technologies.

**Conclusions.** As a result of the study, it can be concluded that in a changed world, people will need to develop new skills and adapt to the rapidly changing labour market. The state should develop new digital services and competencies in order to provide accessible and high-quality services to the population and make the work of governing bodies more efficient. Start-ups, innovative companies and small businesses will reap the full benefits of digital technology, while for large companies founded and developed in the twentieth century, digitalisation will pose a serious threat if they do not learn to live in a dynamic world of constant innovation and generate new ideas.

There is no place in the digital services market for those who are waiting. To survive and take the lead, businesses need to be prepared to invest in bold projects, be result-oriented, be flexible, and have a strong desire to work and experiment. Instead, businesses that can become leaders in the digital economy and citizens who have learned to take full advantage of the digital world will have virtually limitless prospects.

## 2.7. LAND GOVERNANCE DEVELOPMENT IN UKRAINE IN THE LIGHT OF EUROPEAN EXPERIENCE

1. Theory of the land governance development

French physiocrats were the first to consider land as the object of economic analysis. For them, land was the only productive resource base, while the work of a farmer was seen as the only substance for the production and increase of social wealth[258]. These views can be explained by the fact that the development of the physiocratic theory coincides with the period when the feudal-agricultural system dominated in France (mid-18th century.). A characteristic feature of this period was the emergence of a new class of entrepreneurs who were interested in changing the feudal system that limited the economic development and the formation of new economic land governance [259] [260].

The representative of the physiocrats F. Quesnay believed that the nation wealth or "net product" is a gift of nature and it is formed only in agriculture. The source of a net product is land along with the labor of people employed in agricultural production. As a matter of fact, Quesnay logically completes W. Petty's idea that labor is the father of wealth, while land is its mother [261]. A. Smith emphasizes in his in scholarly works that land rent is included in the product in a different way than wages and profit. High or low wages and return on capital are the reason of high or low product prices; higher or lower rental rates are the result of the latter [262].

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[258] Ahner, D. (2004). Rural Development policy in an enlarged European Union. Proposals of the European Commission for the period 2007-2013. Halle, Germany.

[259] Maly`J, I. (2008). About Private Land Ownership Romanticization. Ekonomichna teoriya., № 3: 11 – 20.

[260] Robinson, J. (1934) Imperfect Competition. London, U.K: Macmillan. 352 p.

[261] World History of Economic Thought: In 6 tons. [Text] / Ch. ed. V.N. Cherkovets. - M.: Thought, 1987-1997. 2424 p.

[262] Monkkonen, P., And Quigley, J., and others. (2010). Economic Geography, Jobs, and Regulations: The Value of Land and Housing. Working Paper №: W10-005. University of California. USA.

D. Ricardo made a great contribution to the development of these problems. In fact, he became the founder of the theory of land rent. D. Ricardo defined the rent as part of the product produced on the land, which is monetized by the owner of the land through the use of primary and non-destructive forces of the soil [263].

K. Marx carried out quite in-depth research is his writings, which later became socially significant. He emphasized the low efficiency of small landowners and their inability to use achievements of scientific and technological progress [264]. K. Marx developed and described the theory of capitalist land rent in the third volume of *Capital*. K. Marx concluded that the land nationalization and the further establishment of a state land conglomerate is one of the most effective forms of its use. Although practice did not confirm his conclusions (collectivization), the idea of land conglomeration is observed today in the activities of agriholdings. They concentrate powerful financial and production resources in a single center, which enables them to use the latest scientific (GMO-, IT-, GIS-technologies) and technological (the latest and most powerful examples of technology of the world's most famous brands) achievements. Besides, according to Marx's theory, land can have no value, and private land ownership is unnecessary for the economy and it only has a negative impact on the development of both the economic system as a whole and the social system of the country.

Representatives of the economic school marginalism (end of 19th century), which was widely used in the analysis of economic processes and laws of the marginal value, considered the land solely from the point of view of the consumer value usefulness along with other natural resources. However, given the fact that land resources are limited and the planet's population is growing, its price will increase despite the gradual decline in its fertility. Proponents of the marginalistic economic school identified capital and labor as the most

[263] David Ricardo: [Electronic resource] // Vikopediya - vilna entsiklopediya. - Access Mode: uk.wikipedia.org/wiki/David_Rikardo

[264] Marx, K. (1960) Capital. Moscow. Gospolitizdat. 870 p.

important factors of production while ignoring the land in general as a production category [265] [266].

Johann Heinrich von Thünen presented fundamentally different views on the land. In his work *Isolated State*, he uses the distance from the city as a central concept. He developed the concept of agricultural production around the central (regional) city in an isolated state. The concept was based on the principles of determining the price or rental rate on land, which is formed on the basis of the profit that farmers make from products grown on the land parcel. As a result of his scientific research, a system of concentric circles was developed. Within it, bulky or perishable goods are manufactured closer to the city where these goods are consumed or processed, and accordingly, valuable (capital-intensive) goods or long-term commodities are produced or grown in remote areas. Eventually, von Thünen came to the same conclusions as Ricardo, noting that the differences in the soil quality would determine the value or rental rate on land in the same way as its proximity to the central city[261].

Classical economists proposed an aggregate production function, which can be represented as the equation:

Y = f (L, K, P),

where Y = aggregate output,

L = land,

K = capital,

P = labor.

The economic thought changed from the second half of 20th century; land or environmental resources completely disappear from the production function by moving the latter into capital or labor force. International trade, which was based not on resource-intensive but capital-intensive products, played an important role in this process. A

[265] Naumenko, I. (2013). The Economic Essence and Content of Agricultural Production Material Support.AgroInKom, № 10: 53-57.

[266] Tregobchuk, V. (2013). Resource Potential of Agribusiness in the National Market Economy Building and Improvement. Ekonomika APK, № 4: 8 – 15.

group of scientists (Ohlin, Heckscher, Kim)[267] were the first to theoretically and analytically substantiate this concept. These scientists developed the factor endowment theory, which explains the scheme of comparative advantages of interstate differences in the relative allocation of the main factors of production – capital and labor. Similarly, Solow in his work *Growth Theory* did not include land in the production function, which had the following form:

$Y = f(K, N)$,

where K – capital,

N – labor.

However, in a later Solow's model (1974), where he explored the long-term prospects for the development of economy, which uses exhaustible natural resources, the production function takes such form:

$Y = f(D, K, N)$,

where D – exhaustible natural resources.

In later studies, scientists generally reduced the production function only to capital:

$Y = f(K)$.

A specific feature of this function is that capital as a production factor absorbed labor and exhaustible natural resources, since labor productivity is highly correlated with investments in labor in the form of advanced training and staff training. Some researchers called this function "finite resource". However, another scientific direction started to develop along with these views. It was elaborated by Barnett and Morse who believed that the main production factor is knowledge in the form of scientific and technological development. In their view, knowledge and technological process are an automatic and self-reproducing phenomenon and it obeys the law of increasing profit [261].

Summarizing the results of the development of various economic thoughts and the place of land resources in them, it should be noted that the land was considered from different points of view and included in different subgroups of production factors. The main idea,

[267] Ciaian, P., Kancs D`A., Swinnen, J., and others. (2012). Institutional Factors Affecting Agricultural Land Markets. Brussels: Centre for European Policy Studies.

which is the basis of modern scientific views, is that economic entities involved in the production process are guided by their own interests, which is determined by the utility or profit maximization. That is, production decisions regarding the distribution or use of land as a production factor are taken in order to maximize profits, making allowance for the state of technological development (society, industry, enterprise), available resources and state policy. At the same time, it is important to maximize the inclusion of land transactions in the market environment. Only this in conjunction with attracting investments and modern technologies will make it possible to increase the efficiency of agricultural production.

2. Research methodology

Research methodology is based on the following economic methods: monographic (studying the experience of different countries of the world in the development of land governance [268] [269] [270] [271], systemic analysis (comparing the dynamics of different agricultural

[268] Deffersha, Habtamu Assaye, et al. (2018) Land degradation processes and its relationship to landscape connectivity and resilience in the Lake Tana Basin, Ethiopia. In: First Research Seminar of the Bahir Dar–Institutional University Collaboration (VLIR). p. 23.

[269] Deininger K., Hilhorst T., Songwe V. (2014) Identifying and addressing land governance constraints to support intensification and land market operation: Evidence from 10 African countries. Food Policy. Vol. 48. P. 76–87.

[270] Plewa, J. (2005). Nowe podstawy publicznego wsparcia dla rozwoju rolnictwa I obszarow wiejskich. Wizja polskej wsi w perspektywie 25-letcia. Polska wies 2005. Wizja rozwoju. Warszawa.

[271] Wang, Baoshun, et al. (2015) Study on the Countermeasures of Drought Control and Disaster Release Based on Human-land Relationship. Agricultural Science & Technology. 16 p.

land transactions [272] [273] [274] [275], statistical method (analyzing the structure and the dynamics of transactions with land parcels [276] [277], graphical (schematic and tabular representation of the research results), cluster analysis (grouping of Ukrainian regions according to the specific features of agricultural land transactions [278] [279] [280].

The concept of land governance covers a wide range of issues of economic (production) and legal nature. The category of land ownership is the basis of land governance. Therefore, the change and development of land governance are associated with the change and development of forms of land ownership. At the same time, land governance as a component of production relations can be both stimulating (given the functioning of the private property institution and market turnover of land parcels) and discouraging factor in the development of productive forces (given the artificial restraint on transactions with agricultural land parcels).

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[272] Budzyak, V. (2008). Agricultural Land Market Formation. EkonomIka APK., № 8: 118 – 122.

[273] Dankevych, Y., Dankevych, V., Chaikin, O. (2017). Ukraine agricultural land market formation preconditions. Acta Univ. Agric. Silvic. Mendelianae No. 65:259–271.

[274] Ivanyshyn, V. (2011). Organizational and Economic Principles of Agricultural Production Technical Potential Reproduction and Effective Use, Kyiv: NNTSIAE.

[275] Ivanyshyn, V. (2011). Organizational and Economic Principles of Agricultural Production Technical Potential Reproduction and Effective Use, Kyiv: NNTSIAE.

[276] Pashaver, B. (2009). The Land Market: International Experience and National Strategy. EkonomIka APK., № 3: 47 – 53.

[277] Swinnen, J., Ciaian, P., Kancs D`A. and others. (2013). Possible effects on eu land markets of new cap direct payments. Brussel.

[278] Dankevych A., Sosnovska O., Dobrianska N., Nikolenko L., Mazur Yu., Ingram K. Ecological and economic management of innovation activity of enterprises. Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu. 2021, (5(sad) 118 – 124

[279] Tovma, I. (1996). Mathematical Modeling of Economic Processes in Agriculture.NMTSSVU.

[280] Zinchuk, T., Kutsmus, N., Kovalchuk, O. et. (2017). Institutional Transformation of Ukraine's Agricultural Sector. Review of Economic Perspectives. Vol. 17:57–80.

Subjects of land governance include citizens, legal entities, local self-government authorities and state authorities. Objects of land governance are land within the territory of Ukraine, land parcels and rights to them, including land allotments (shares).

Efficient use of land resources is possible in the context of the civilized land market and is a means of restoring social justice regarding the possibility of rural residents (especially the elderly) to dispose land, and to increase investment attractiveness of agricultural production.

Within the framework of this research, agricultural land market is interpreted as the system of legal, organizational and economic relations that are established in the process of commodity turnover of land parcels on the basis of determining the market value of these parcels. In this research, the land market will be investigated through study of transactions (purchase and sale, inheritance, exchange and gifts, mortgage and pledge, lease and emphyteusis), their structure and dynamics in comparison with the EU Member States where the land market operates. It should be noted that there is no agricultural land market in Ukraine, as well as in Zimbabwe, Venezuela, North Korea and Tajikistan.

The specific character and peculiarities of the development of land governance in Ukraine were investigated using a cluster analysis, which included several stages. At the first stage ("Selection of indicators"), the state of development of land governance is analyzed through the study of the dynamics of transactions with agricultural land plots. At the second stage ("Selection of clustering method"), the most rational clustering method for studying regional features of land governance is determined: 1) the Ward-Method, which uses methods of dispersion analysis to estimate distances between clusters; 2) the method of k-means, which refers to non-hierarchical ones. At the third stage ("Number of clusters"), using the elbow method the percentage of dispersion is considered, which is explained as a function of the number of clusters. At the fourth stage ("Visualizing results"), cluster regional groups (regions) are formed according to the state of transactions with agricultural land; graphical interpretation of cluster analysis is carried out with the help of econometric methods using statistical software STATA.

3. Analysis of transactions with land parcels

Transactions with land parcels are a set of legal and economic relations that arise in the process of land parcels turnover. Lease accounts for the largest share of all agricultural land transactions (76.1%), while non-agricultural land is the most actively purchased and sold (36.8% of transactions). Exchange and gifts transactions are also more popular for non-agricultural land (15.3%), and for agricultural land they amount to only 1.6%. This is a consequence of the moratorium, which concerns the alienation of almost all categories of agricultural land. Inheritance transactions are rather widespread for both categories of land – 26.7% for non-agriculture and 18.3% for agricultural lands. Mortgage is equally irrelevant for both of them – 1.8% and 0.1% respectively. If with respect to agricultural land such market structure can be explained by a moratorium, with respect to non-agricultural land it is related to the actual absence of mortgage lending (Fig. 1).

Each transaction in the land market has its own characteristic features, which are influenced by a number of economic, political and conjunctural factors. Within the framework of this research, it is proposed to investigate each transaction with land parcels, analyze their number and structure in dynamics.

a) purchase and sale

When analyzing purchase and sale land transactions, it should be noted that these are civil agreements in which one party (seller) transfers or undertakes to transfer the land parcel to the other party (buyer), and the buyer accepts or undertakes to accept the land parcel and pay a certain amount of money for it. Given the fact that market turnover for a certain category of agricultural land is absent in Ukraine, the number of purchase and sale transactions is limited and concerns only the lands of private peasant farms (Fig. 2).

Analysis of the data presented in Fig. 2 allows us to assert that 66 518 land parcels of different categories were sold in Ukraine in the 3rd and 4th quarters of 2015 (7.1% of all transactions). In four quarters of 2016 their number was 138 097, and in the first two quarters of 2017 it amounted to 66 378 land parcels.

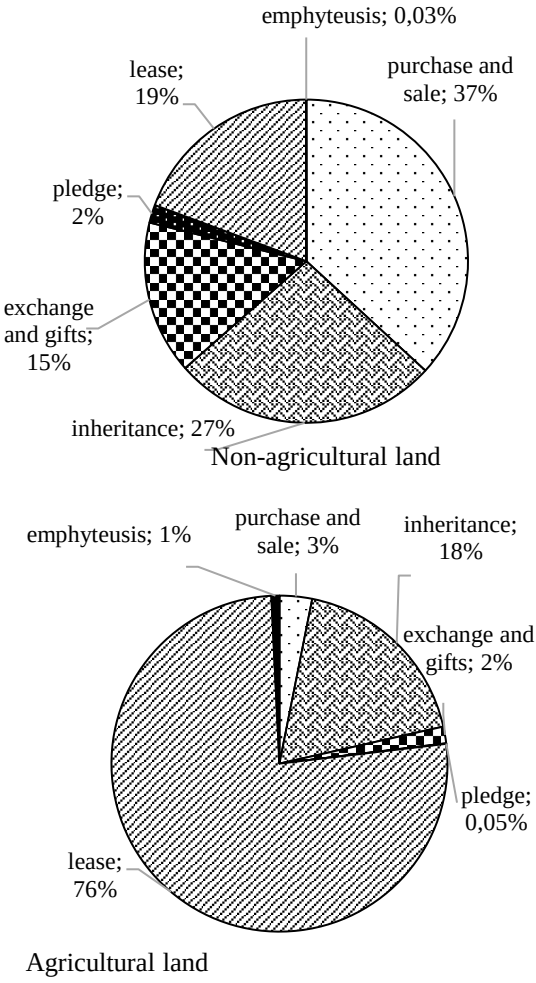


Fig. 1. **Structure of the number of transactions with land parcels, subject to the designated purpose, %, July 2015 – June 2017**

*Source: built according to the data [281].*

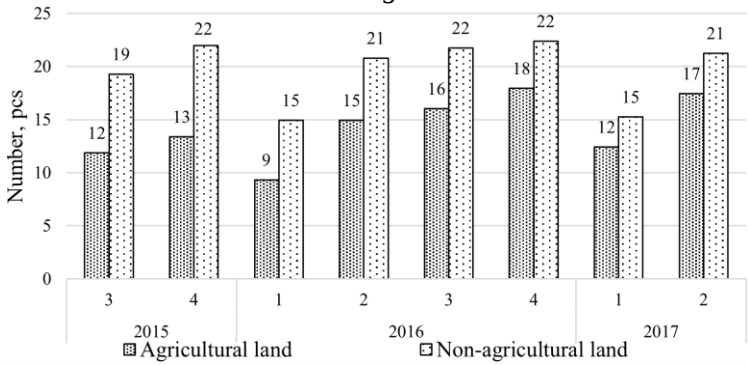


Fig. 2. **The number of land parcels, for which purchase and sale took place, by land category, thousand**

*Source: built according to the data* [281]

When analyzing purchase and sale land transactions in Western European countries (Austria, Belgium, the Netherlands, Germany, France, Switzerland), it should be noted that the land market is liberalized and open, and there are no absolute restrictions on foreign capital. However, in France, Belgium and Austria, the vast majority of purchase and sale transactions are reviewed and approved by local government authorities, such as SAFER in France. This significantly complicates and delays the purchase and sale process, which negatively affects the attractiveness and dynamics of the market. At the same time, it provided the possibility to control the market.

b) inheritance

The inheritance of a land parcel is the transfer of the property rights and liabilities of a deceased citizen to another person connected with

[281] Statistical Yearbook "Land Governance Monitoring in Ukraine: 2016-2017" [Electronic resource]. - Access mode: http://www.kse.org.ua/en/research-policy/land/governance-monitoring/yearbook-2016-2017/

the land parcel. It is to be noted that there is an increase in the number of inherited agricultural land plots. This is due to the age of owners. Thus, the average age of an allotment owner in Ukraine is 65 (Fig. 3).

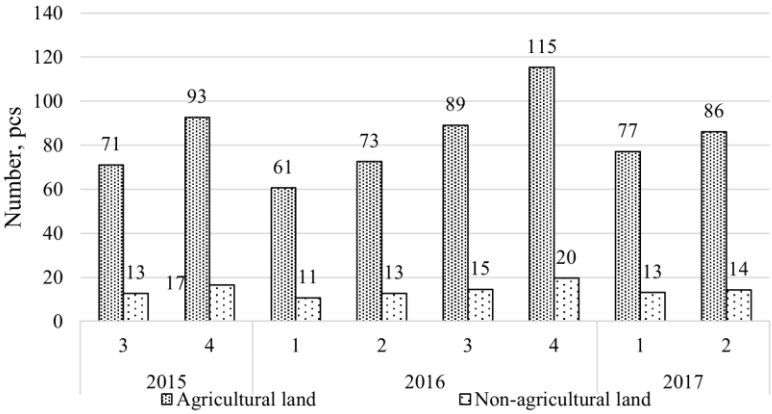


Fig.3. **Total number of inherited land parcels, across Ukraine, thousand**

*Source: built according to the data* [281]

Analysis of the data presented in Fig. 3 allows us to assert that 193 184 parcels were inherited in Ukraine in the 3rd and 4th quarters of 2015, of which 85% was agricultural land, 15% non-agricultural. In 2016, this proportion was preserved, and the number amounted to 395 256. In the first two quarters of 2017 it was 190 682, and the proportion changed slightly in favor of agricultural land – 86% versus 14%.

c) exchange and gifts

Taking into account the specific character of agricultural production, there is a need for the exchange land parcels in order to improve the efficiency of technological operations with agricultural land. An exchange and gifts agreement is a civil agreement, according to which each party undertakes to transfer one good in exchange for another one to the ownership of the other party. 30 541 land parcels were exchanged/gifted in Ukraine in the 3rd and 4th quarters of 2015, of which 41% were agricultural, 59% were non-agricultural. In 2016,

the share of agricultural land increased to 46% (the total number in both categories of land amounted to 62 626 parcels). And in the first two quarters of 2017, the proportion changed in general in favor of agricultural land, the number of which increased to 54% out of 31 425 exchanged/gifted parcels (Fig. 4).

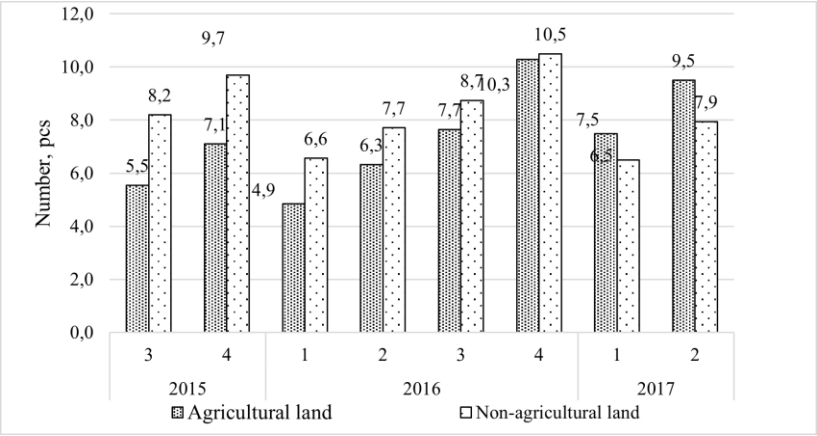


Fig. 4. **Total number of exchanged/gifted land parcels, thousand**

*Source: built according to the data* [281]

d) pledge

Real estate has always been valued in banking as a reliable guarantee of loan repayment. A pledge of land and real estate to obtain a long-term loan in a bank is called a mortgage. Mortgage is a kind of pledge of immovable property (land, enterprises, constructions, buildings, other objects directly related to land) in order to obtain a loan. In case of loan default, the pledged immovable property is sold, and the debt is paid off at the expense of the proceeds. The experience of mortgage lending is actively used in EU Member States. Individual governments in European countries are trying to implement programs, which are intended to reduce the cost of loans for agricultural producers. For example, in Europe, where the average interest rate on business loans varies from 5 to 6%, they are trying to achieve a reduction in the cost of loans to farmers to 3%.

One of the reasons why commodity producers in Ukraine do not credit resources actively is the lack of assets that can be used as collateral. In the context of moratorium on the sale of agricultural land, this asset is not interesting for banking institutions (Fig. 5).

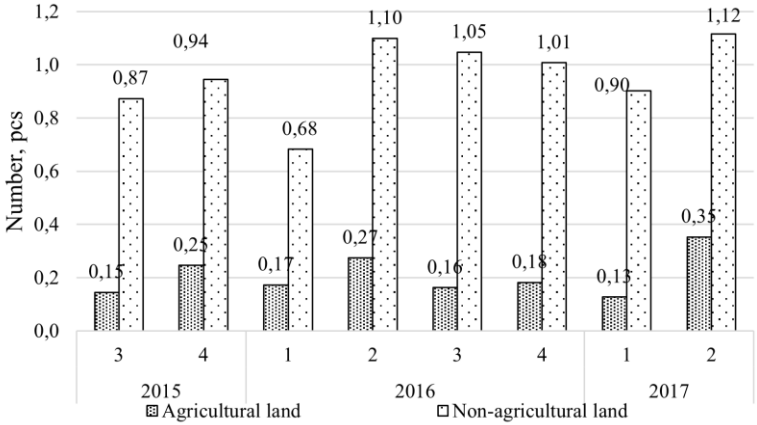


Fig. 5. **The number of pledged or mortgaged land parcels, by land category, thousand**

*Source: built according to the data* [281]

A small number of registered transactions connected with the transfer of land under pledge or mortgage for the period from July 2015 to June 2017 indicates an insufficient level of development of this market. In 2016 and in the 1st and 2nd quarters of 2017 both dynamics and the predominance of non-agricultural land as a pledge were preserved in Ukraine. The total number of such cases amounted to 4 626 and 2 498 respectively, while the share of non-agricultural land was 83% and 81% (accordingly, agricultural land was taken as a pledge only in 17% and 19% of cases).

The state should reduce interest rates in commercial banks for small and medium-sized commodity producers, who often have a shortage of current assets. In such cases, European governments allocate certain amounts from the budget to achieve this goal. At the same time, the loan will be issued it makes little difference whether on the pledge of land or any other liquid assets. The main task of the state

is to make it possible for farmers to get a loan with a relatively low interest, regardless of what they own.

e) lease

Land lease is a contractual fixed-term paid ownership and use of a land parcel, which a land tenant requires in order to do business and other activities. The Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine on Business Environment Simplification Task (Deregulation)" established a minimum term for lease of land parcels for commercial agricultural production, farming, and a private peasant farm for 7 years. 640 175 registered land parcels of various categories were leased in Ukraine in the 3rd and 4th quarters of 2015, of which 96% was agricultural land. In 2016, their number was 1 488 078, and in the 1st and 2nd quarters of 2017 it was 719 518; in both cases agricultural land accounted for 97% (Fig. 6).

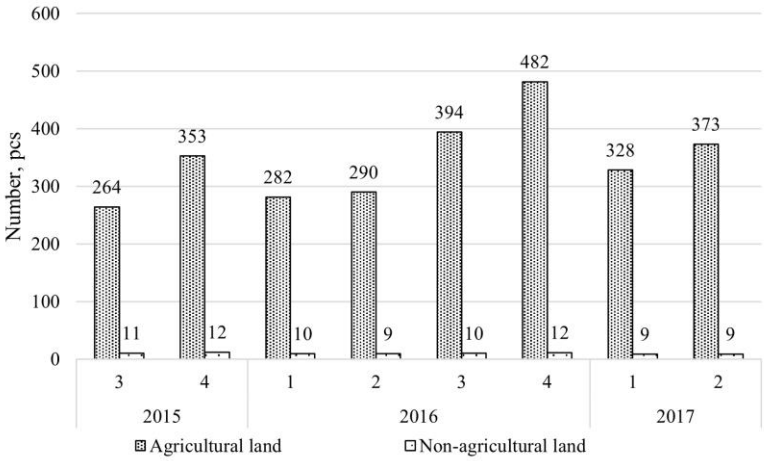


Fig. 6. **The number of registered leased land parcels, thousand**
*Source: built according to the data* [281]

Lease is the main tool for increasing land use in EU Member States. The share of leased land ranges from 60% (Hungary, Estonia) to 90% (Bulgaria) within the scope of land mass. In general, leased land accounts for 53% in the total area of land use in European countries; and they tend to increase due to market transactions with agricultural

land. The mandatory clause in the lease agreement is a condition for administrative liability for the deterioration of land state.

f) emphyteusis

Emphyteusis is a long-term, alienated and inherited real property right to property of another, which is intended to provide a person with the use of a land parcel of another person for agricultural purposes in order to obtain yield and make profit with the obligation to use it effectively in accordance with the designated purpose. The emphyteusis rights were registered for 3 944, 11 290 and 10 390 land parcels in Ukraine in the 3rd and 4th quarters of 2015, in 2016 and in the first and second quarters of 2017, respectively. The vast majority of them (99.4%, 99.6% and 99.7%) was agricultural land (Fig. 7).

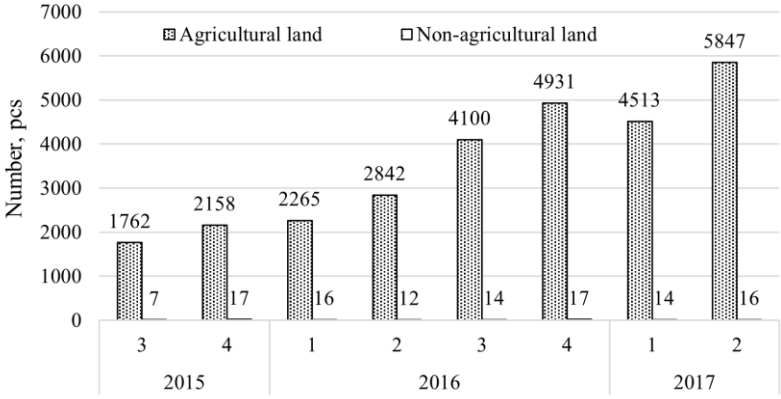


Fig. 7. **The number of land parcels transferred as emphyteusis rights, subject to the designated purpose**
*Source: built according to the data* [281]

The analysis of extreme values with land transactions allows us to state that the number of transactions is increasing, mostly lease and emphyteusis, and least of all mortgages. That is, if the conditions remain unchanged (first of all, if a moratorium on the purchase and sale of agricultural land is in effect), changes in the structure of the Ukrainian agricultural land market are not expected. A similar trend is also observed for all transactions with non-agricultural lands, i.e.

slight growth in dynamics and high quarterly fluctuations, especially for purchase and sale and inheritance transactions.

Table 1

**Extreme values of the transactions with land parcels, 2016**

| Transactions | Maximum values | | | Minimum values | | |
|---|---|---|---|---|---|---|
| | pieces | per 1000 landowners | the largest share in the structure | pieces | per 1000 landowners | the smallest share in the structure |
| Sales | Kyiv (13 956) | Kyiv (9.3) | Transcarpathian (15.6) | Lugansk (339) | Lugansk (0.3) | Ternopol (0.7) |
| Pledge | Sumy (27 895) | Sumy (31.9) | Volyn (27.7) | Transcarpathian (1907) | Transcarpathian (2.1) | Ternopol (15.0) |
| Exchanged/ gifted | Kiev (4281) | Kirovogradskaya (5.6) | Transcarpathian (8.7) | Lugansk (78) | Lugansk (0.07) | Lugansk (0.2) |
| Mortgage | Kyiv (521) | Kyiv (0.35) | Kyiv (0.4) | Donetsk (1) | Donetsk (0,001) | Chernihiv (0,002) |
| Rent | Chernihiv (11698) | Chernihiv (132.3) | Ternopol (83.5) | Transcarpathian (5383) | Transcarpathian (7.4) | Transcarpathian (55.0) |
| Emphyteusis | Poltava (1664) | Poltava (1,8) | Kyiv (0.4) | Ivano-Frankivcka (3) | Ivano-Frankivcka (0,003) | Ivano-Frankivsk (0,01) |

*Source: built according to the data* [281]

4. European experience in the development of land governance through the lens of transactions with agricultural land

Agricultural land markets in the EU countries are relatively stable and not very active, which is reflected in the dynamics and structure of transactions with agricultural plots. For example, in France between 1993 and 2005, agreements were concluded on an average of 280 000 hectares annually. This is about 1% of the total agricultural land. In Italy, the purchase and sale agreements are concluded for about 1-2%

of the agricultural land area. In Ireland, this share was about 3%, in Spain, Sweden and the United Kingdom only 0.6% [282].

As for the new EU members, the sale of agricultural land in Bulgaria was less than 2.5% of the total land area before EU accession. This area increased by 45% between 2006 and 2008. In Romania, this share was even lower before EU accession, on average less than 1.5% annually. The area of agricultural land sold increased more than threefold between 2005 and 2009. In Poland, about 0.9% of land is sold at public auction, and a similar amount is sold privately. In the Czech Republic, the annual turnover of land acquired privately amounted to about 0.2-0.3% of the total agricultural land in the period 1993-2001 and 1.5% between 2002 and 2004 and reached 3.3% in 2005. This increase was caused (among other reasons) by launching a program of cheaper mortgage loans.

In the case of lease transactions, the highest rent rates are recorded in Greece, Ireland and Austria (over 300 euro per hectare annually), while the lowest in Croatia and Estonia (103 and 60 euro per hectare, respectively). In most other countries, rental rates are around 200 euro per hectare. The rent rates are mainly determined by the economic returns on the use of land, that is it depends on the value of agricultural products, which can be produced on one hectare, less other costs. In this case, the profit from tilling agricultural land depends on the price of agricultural products, agricultural technology, soil fertility and the availability of land (Fig. 8).

[282] Agricultural land renting prices for one year by region (2019) [Electronic resource] Access Mode: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=apri_lrnt&lang=en

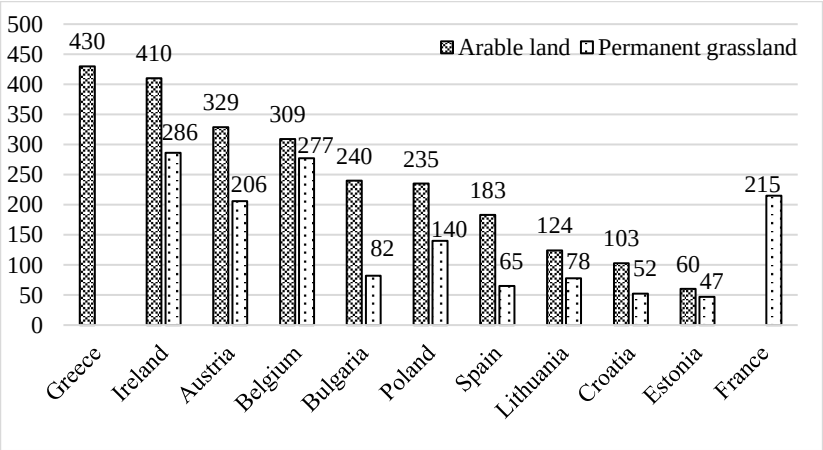


Fig. 8. **Agricultural land renting prices, euro per hectare, 2020**
*Source:* Eurostat

When it comes to purchase and sale transactions, prices for agricultural land in neighboring countries and EU countries are very different. The highest prices are recorded in the Netherlands and Italy (33 500 and 68 200 euro per hectare). In most Western European countries, prices range from 15 000 to 30 000 euro per hectare, and in Eastern Europe from 2 000 to 5 000 euro per hectare (Fig. 9). Prices with the highest growth rates were recorded in 2011-2017 in the new EU member states: Czechia – 252 %, Lithuania – 195 %, Estonia – 172 %, Bulgaria – 119 % [282].

If in Ukraine the ratio of rental rates and prices is the same as in the EU, it should be expected that the average price of land will be USD 2 990 per hectare (with 95% confidence interval from USD 1 480 per hectare to USD 6 030 per hectare).

There was an increase in prices for agricultural land absolutely in all EU Member States after the reform of the market. And in Romania, which has one of the most liberalized and open markets among the countries of this group, there was the greatest price increase during the transition period. Between 2002 and 2012, CAGR (compound annual growth rate of investments over a period of time), agricultural land prices in Romania amounted to 37.5%, and in 2005, before the

country's accession to the EU, the price of land increased almost threefold in comparison with the previous year.

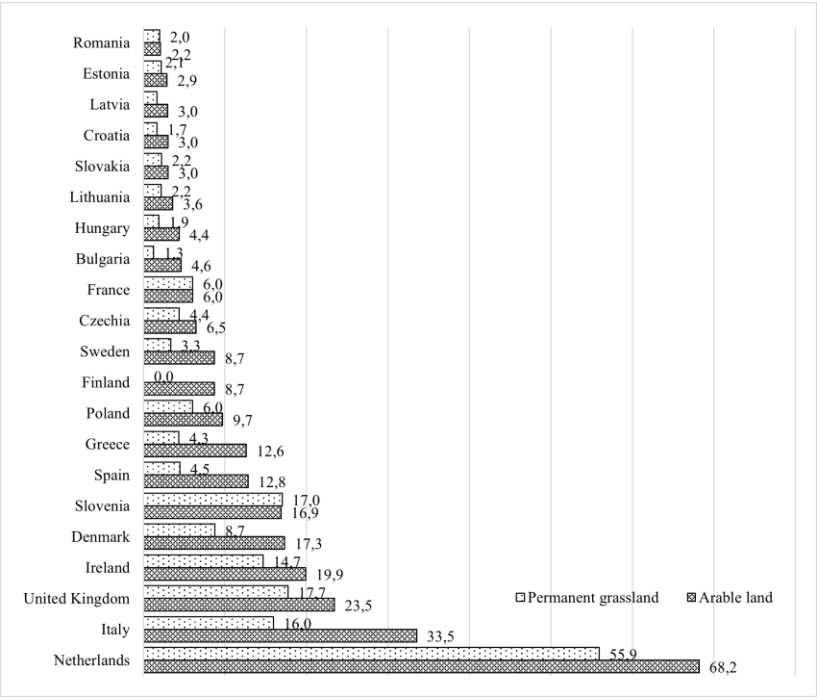


Fig. 9. **Agricultural land prices, thousands of euros per hectare, 2020**
*Source:* Eurostat

In general, the experience of the new EU Member States is very useful and relevant for Ukraine. Given that in the 1990s they happened to be in circumstances similar to those of Ukraine, but they chose a faster and more radical method for the development of the agricultural land market. This, in turn, led to a difference in today's indicators of socioeconomic development of Ukraine and new EU Member States. It should be noted that the speed of the reform and the liberalization of agricultural land market is directly proportional to the growth of the economy and the welfare of the EU population.

In the EU Member States, the state regulates the maximum amount of land ownership per family (Czech Republic), controls compliance with the designated purpose of a land parcel and maintains its level of fertility (Lithuania), establishes rules for obtaining a permit for the purchase of agricultural land (France), regulates the transformation of land from one category to another (Bulgaria) [20]. The creation of specialized agencies for the management of state-owned land was a prerequisite for functioning of the agricultural land market in the EU Member States. Such agencies include the Slovak Land Fund (Slovakia), the Agricultural Property Agency (Poland), the National Land Service (Lithuania), the State Land Service (Latvia), the Department of Land Consolidation (Denmark), Government Service for Land and Water Management (The Netherlands), National Company Land (Bulgaria)[277].

The EU Member States (Bulgaria, Estonia, Latvia, Lithuania, Poland, Romania), which had a model of agricultural sector development similar to Ukrainian one, which was based on collectivization or state-owned production, carried out land reform in the early 1990's of the last century. It is based on restitution – the return of land to former owners and the auction distribution of land with subsequent phased liberalization of foreign capital access to them. Private property and the agricultural land market in each of the EU Member States were formed with the stated objectives to ensure a high level of efficiency of agricultural production (Latvia, Lithuania, Bulgaria), to develop a mechanism for social protection of the population living in rural areas (Poland, Hungary).

5. Cluster analysis of the land governance development through the lens of transactions

The obtained information on transactions at the regional level provides an understanding of the market dynamics, its response to micro- and macroeconomic factors, introduction and implementation of government programs, etc. These indicators also testify to the capacity and flexibility of the market and are the most sensitive indicator of changes. Transactions with land parcels make it possible to assess the aggregate of legal and economic relations that arise in the process of land parcels turnover. The analysis of transactions allows us to determine the influence of the reforms carried out in the country

and to study the regional features of land governance development, as well as the efficiency of the land use.

The number of transactions with land parcels in the context of regions became the basis for the cluster analysis of the level of land governance development in different regions of Ukraine. The selected transactions were purchase and sale, inheritance, exchange and gifts, lease, mortgage and pledge, emphyteusis.

As a result of using the method of descending shoulder (Fig. 10), the optimal number of clusters was determined for further use in the k-means and Ward methods (dendrogram). It was established that the formation of 3 clusters is optimal for the further analysis.

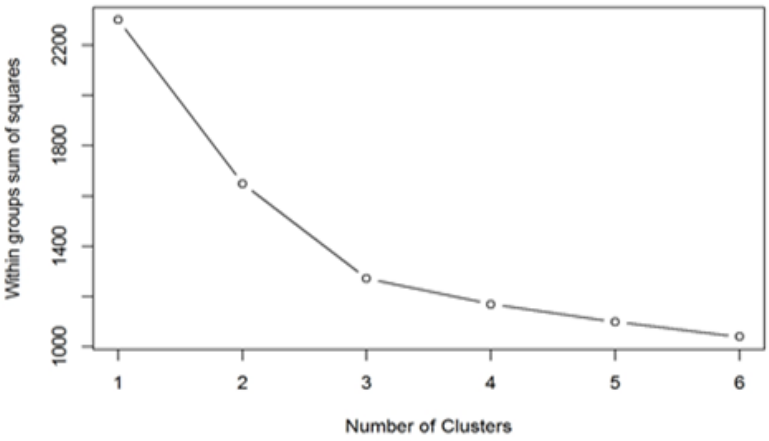


Fig. 10. **Method of descending shoulder for defining the number of clusters**
*Source: own research.*

With the help of the Ward method, the regions of Ukraine were divided into three cluster groups by the number of transactions with agricultural land: 3rd cluster (Volyn, Zakarpattia, Zaporizhia, Ivano-Frankivsk, Luhansk, city of Kiev, Mykolaiv, Rivne, Kherson, Vinnytsia, Dnipropetrovsk, Donetsk, Zhytomyr, Kirovohrad, Lviv, Odesa, Kharkiv, Chernihiv regions); 2nd cluster (Poltava, Sumy,

Ternopil, Khmelnytskyi, Cherkasy, Chernivtsi regions); 1st cluster (Kyiv region) (Fig. 11).

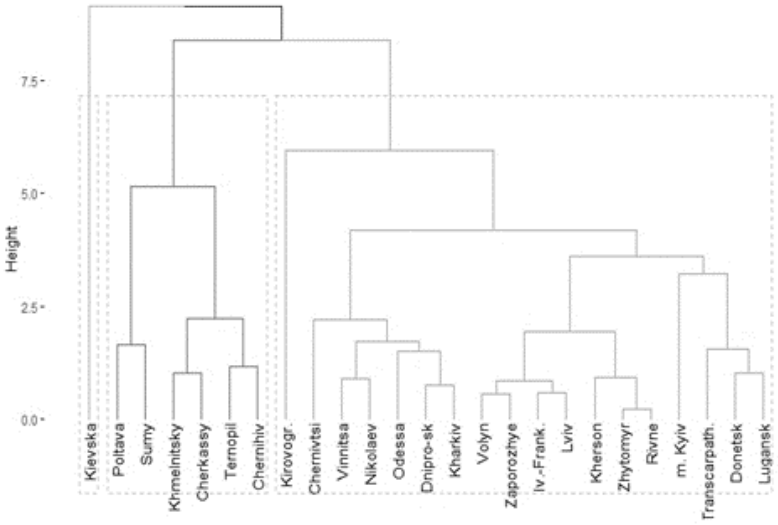


Fig. 11. **Dedrogram showing distribution of regions in Ukraine by the level of land governance development through the lens of transactions (Ward method)**
*Source: own research.*

When applying the k-means method, the results obtained in the previous study using the Ward method were confirmed. Cartographic results visualization of cluster analysis of transactions with agricultural land is presented in Fig. 12.

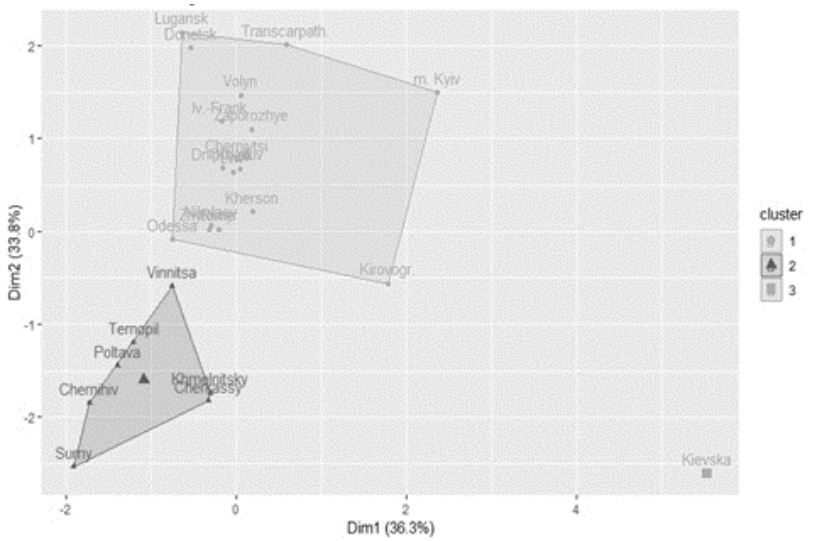


Fig. 12. **Graphical interpretation of cluster analysis of the distribution of regions in Ukraine by the level of land governance development through the lens of transactions (k-means method)**
*Source: own research.*

The obtained results of cluster analysis allow us to conclude that the number of transactions is increasing, mostly lease and emphyteusis, and least of all mortgages. That is, if the conditions remain unchanged (first of all, if a moratorium on the purchase and sale of agricultural land is in effect), changes in the structure of the Ukrainian agricultural land market are not expected. A similar trend is also observed for all transactions with non-agricultural lands, i.e., slight growth in dynamics and high quarterly fluctuations. Cartographic interpretation of the cluster analysis of the distribution of regions in Ukraine by the level of development of transactions with agricultural land makes it possible to clearly distinguish between three cluster groups (Fig. 13).


Fig. 13. **Cartographic interpretation of the cluster analysis of the distribution of regions in Ukraine by the level of land governance development through the lens of transactions**
*Source: own research.*

Each cluster has its own features, determined by the geographical location, economic development of regions as well as climatic and natural peculiarities (Tab.2).

The first cluster, which includes only the Kyiv region, is significantly different from all others by the level of land governance development and transactions with land parcels. Thus, the number of purchase and sale transactions is by 10 percentage points higher than the average in Ukraine. In addition, 24% of all purchase and sale transactions fall on this cluster. In the regions of the second cluster, the share of lease transactions is by 2 percentage points higher than in Ukraine. On average, one region accounts for 84 thousand lease transactions, while in the first cluster one it is 79 thousand, and in the third one 51 thousand. This feature indicates the functioning of the inadequate land market, which is at the final stage of formation. The third cluster is characterized by the accordance with averaged indicators throughout Ukraine. Thus, 17 regions belong to this cluster. They have the largest share of inheritance transactions (18%), a high share of lease transactions (77%), and the smallest number of purchase and sale transactions – 1.9 thousand on average per region.

Table 2

**Cluster groups of the regions in Ukraine by the level of land governance development through the lens of transactions**

| | Indicator | Sales | Pledge | Mines | Mortgage | Rent | Emphyteusis |
|---|---|---|---|---|---|---|---|
| **CLUSTER 1** | number, thousands | 14.0 | 20.7 | 4.3 | 0.5 | 79.8 | 0.8 |
| | structure, % | 12% | 17% | 4% | 0,4% | 66% | 1% |
| | deviation percentage points | + 9% | -1% | + 2% | 0% | -10% | 0% |
| | the proportion of the total | 24% | 6% | 15% | 66% | 6% | 7% |
| **CLUSTER 2** | number, thousands | 12.1 | 110.5 | 6.0 | 0.1 | 505.0 | 4.1 |
| | structure, % | 2% | 17% | 1% | 0% | 79% | 1% |
| | deviation percentage points | -1% | -1% | -1% | 0% | + 2% | 0% |
| | the proportion of the total | 21% | 33% | 21% | 7% | 35% | 37% |
| **CLUSTER 3** | number, thousands | 32.2 | 206.3 | 18.8 | 0.2 | 862.4 | 6.3 |
| | structure, % | 3% | 18% | 2% | 0% | 77% | 1% |
| | deviation percentage points | 0% | 0% | 0% | 0% | 0% | 0% |
| | the proportion of the total | 55% | 61% | 65% | 26% | 60% | 56% |
| **TOTAL** | number, thousands | 58.2 | 337.5 | 29.1 | 0.8 | 1447.2 | 11.2 |
| | structure, % | 3% | 18% | 2% | 0.04% | 77% | 1% |

*Source: own research.*

A characteristic trend for the domestic agricultural sector is an increase in the number of transactions with agricultural land. The land market in Ukraine is functioning. At the same time, the structure of transactions with agricultural land is deformed under the influence of a moratorium on the purchase and sale of agricultural land. During the period under investigation, the number of all transactions related to agricultural land tended to increase. The highest growth was mostly observed among lease and emphyteusis transactions, and the lowest among mortgages. A similar trend is also observed for all transactions with non-agricultural lands, i.e. slight growth in dynamics and high quarterly fluctuations, especially for purchase and sale and inheritance transactions.

With the help of cluster analysis, three clusters were distinguished according to the level of land governance development while using a range of transactions with agricultural land plots. Taking into account the results obtained, the following conclusions can be drawn: lease prevails in the structure of transactions in the vast majority of Ukrainian regions. This is the consequence of the presence of an artificial fuse element for the further development of land governance in the form of a moratorium on the purchase and sale of agricultural land and the absence of the Law of Ukraine on market turnover of agricultural land.

The practice of EU Member States proved that a well-developed and well-institutionalized land market ensures the distribution of land ownership rights in such a way that sound use of land resources and related economic assets is achieved. The analytical review and the results of the study of the evolutionary characteristics of the process of land governance transformation in Bulgaria, Estonia, Latvia, Lithuania, Poland and Romania allowed highlighting the main elements of the formation of a full-fledged agricultural land market. They include a cadaster, specialized land agencies, a market mechanism for land valuation, lease relations and state regulation. The availability of market infrastructure and proper institutional provision for purchase and sale of agricultural land enabled the countries under investigation to liberalize and make the market free from regulatory restrictions.

## 2.8. THE CURRENT STATE OF MANAGEMENT INFORMATION IN THE AGRICULTURAL SECTOR OF UKRAINE'S ECONOMY

Today, the recognition of the agricultural sector as key in the development of Ukraine's economy is indisputable. This is confirmed by data on the profitability of agricultural enterprises, export of agricultural products, etc. The implementation of the economic component of the "Association Agreement between Ukraine and the European Union" has opened up new prospects for the development of the agricultural sector, and at the same time requires a significant revision and renewal of existing management approaches in the agricultural sector. The problem of analyzing the current management information support for compliance with modern economic challenges and substantiation of tools for its modernization in the conditions of European integration processes is updated.

The problems and prospects of the development of the agricultural sector of the Ukrainian economy are highlighted in the works of Ukrainian economists P. Haydutskyi, M. Malik, V. Mesel-Veselyak, B. Paskhaver, P. Sabluk, M. Fedorov, E. Khodakivskyi, V. Yurchyshyn and many others. The works of Ukrainian scientists are devoted to the scientific justification of the development of its information, in particular accounting and analytical support: M.T. Belukhy, F.F. Butynetsa, B.I. Valueva, V.M. Zhuka, H.G. Kireitseva, M.V. Kuzhelny, E.V. Mniha, O.M. Petruka, V.K. Savchuka, V.V. Sopka, L.K. Suka, N.M. Tkachenko, M.G. Chumachenko, V.G. Shvetsa, V.O. Shevchuk and others. Meeting the information needs of agribusiness stakeholders based on the implementation of the principles of sustainable development in practice requires appropriate information and analytical support, which is provided by corporate non-financial reporting of economic entities (Zamlynskyi et al., 2023)[283].

Despite the significant achievements of the mentioned scientists, the need for further analysis and improvement of management

[283] V Zamlynskyi *et al* 2023 *IOP Conf. Ser.: Earth Environ. Sci.* 1126 012002 DOI 10.1088/1755-1315/1126/1/012002

information support in the agrarian sector is actualized by the challenges associated with European integration, the need to preserve and multiply the national agricultural potential in the interests of ensuring the socio-economic well-being of the Ukrainian population.

Assessment of the current state of the management information support system at all levels of the management hierarchy (rural households; enterprises; local self- government bodies; industry and state management; Ukraine in the world) and the outline of guidelines for its improvement by combining social, economic and ecological (natural-spatial) dimensions.

The state of accounting and information provision of subjects of agrarian entrepreneurship. Identification and analysis of the problems of accounting and information provision of agrarian business entities is important for the formulation of priority directions for the development of the accounting and information system of agrarian enterprises.

At present, the information support of industry management is represented by a formal and informal component (tab.1).

Table 1

**Accounting and information provision of subjects of agrarian entrepreneurship and industry management**

| Management levels | Formal information | Alternative |
|---|---|---|
| Global | System of National Accounts of Ukraine (State Statistics Service of Ukraine) | World rankings and informational Internet resources Information on world commodity and stock exchanges |
| Governance | Statistical information Administrative reporting | Scientific research; ratings and informational Internet resources, data of domestic and foreign (grant) expert, analytical studies) |
| Administration in territorial communities (OMS) | Statistical information Financial and budget reporting Land cadastral accounting data Data of household accounting | |
| Branch management | Statistical reporting Financial Statements | |
| Enterprise level | Financial Statements | Management accounting data |
| Households | Household accounting data (household survey) | |

Sources of formal information are statistical reporting of the State Statistics Service of Ukraine, administrative reporting of state institutions of various levels, financial reporting of enterprises, which is formed in the accounting system.

Informal sources of information, which for various reasons are gaining importance recently, include: information not regulated by legislation (scientific studies; ratings and informational Internet resources, data from domestic and foreign (grant) expert, analytical studies); management accounting data (Fig. 1).

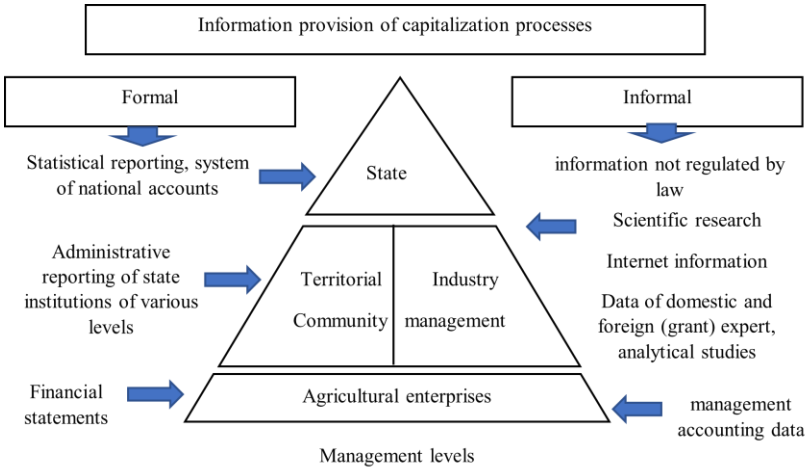


Fig. 1. **Generalized accounting and information support in accordance with the hierarchy of management levels**

Kaminska, T. G., Kraevsky, V. M. determined that the management information support system in the agrarian sphere faced new challenges and problems. Including:

digitization of production processes in agriculture, which requires synchronization of information support with modern digital devices and technologies for collecting and accumulating primary accounting data;

an increase in the level of the shadow economy both in the agricultural sector and in general, which requires strengthening the transparency, reliability and credibility of accounting and reporting;

decentralization of power, which causes the need to strengthen the information provision of rural communities and local self-government bodies regarding the resources and potential of rural areas;

export orientation of the agricultural sector and the need for reliable informational levers for strengthening Ukraine's competitiveness and its positioning on international markets;

lack of a reliable consolidated information base of indicators of the development of the agrarian sphere, different methodology of generalization of information in departments, superficial statistics of households, family farming, opacity of statistics of agricultural holdings;

selectivity, formality of preparation and reduction of the number of indicators of statistical reporting, which leads to loss of trust of users in this source of information, use of alternative sources of information with unconfirmed reliability[284].

The basis of economic information at the enterprise is the system of accounting and financial reporting. The study of the state and trends in the development of financial reporting of agricultural enterprises proved that they are inextricably linked with the national plan for the harmonization of domestic legislation with the legislation of the European Union. In order to fulfill Ukraine's obligations under the Association Agreement with the EU, the government approved plans for the implementation of two directives of the European Parliament and the Council of the EU in the field of accounting and auditing - Directive 2013/34/EU and Directive 2006/43/EU on the mandatory audit of annual reports and consolidated reporting. Directive 2013/34/EU dated June 26, 2013 is aimed at harmonizing European accounting by achieving comparability of financial reporting indicators while achieving a balance between the information needed by users and the burden of obligations imposed on enterprises.

As part of the implementation plan for the requirements of the specified directive, in 2017, amendments to the Law of Ukraine "On Accounting and Financial Reporting in Ukraine" were adopted. Including:

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[284] Kaminska, T. G., Kraevsky, V. M. (2017). Cross-level accounting and information systems of indicative management of an agricultural enterprise. *International scientific journal "Internauka"*, 1, 51-56.

- new terminology, in particular "expenditure", "income", "reporting period", "report on payments in favor of the state" in terms of entities submitting this report, "management report", "own capital", "taxonomy financial reporting" and "enterprises of public interest", "net income from product sales" and others.

- establishing for accounting purposes the criteria for classifying enterprises as micro-enterprises, small, medium and large enterprises in accordance with the provisions of EU Directive No. 2013/34/EU[285];

- simplification of requirements for primary documents;

- changing the list of basic accounting principles;

- establishment of separate requirements for the procedure for keeping records and publishing financial statements by enterprises of public interest

- introduction of a new form of reporting for large enterprises - Management Report.

Therefore, since 2018, in accounting (along with economic and tax) legislation, groups of enterprises have been distinguished by size, which determines their minimum level of information presentation to the general public of users (Table 3.2). In particular, micro-enterprises with the scope of activity established by the Law of Ukraine "On Accounting and Financial Reporting in Ukraine"[286]. In particular, with an annual reported income of up to EUR 0.7 million, enterprises submit only simplified financial reporting in the amount of Form 2 (balance sheet and statement of financial results). And with an income of more than 8 million euros (medium and large enterprises), they are required to publish 5 forms of financial reporting, prepare a management report and post it on their own website, having previously confirmed all this with an audit opinion.

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[285] Directive 2013/34/EU of the European Parliament and of the Council on annual financial statements, consolidated financial statements and related reports of certain types of companies, amending Directive 2006/43/EC of the European Parliament and of the Council and repealing Council Directives 78/660/EEC and 83/349/EEC. [Electronic resource] URL: https://ips.ligazakon.net/document/MU13169

[286] On accounting and financial reporting in Ukraine: Law of Ukraine dated July 16, 1999. No. 996-XIV. [Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/996-14#Text

Table 2

**The level of information openness of financial reporting data of enterprises depending on their size**

| Type of enterprise | Number of reporting forms | Marginal net income, EUR million | | |
|---|---|---|---|---|
| | | Accounting legislation | Economic Code of Ukraine | Tax Code of Ukraine |
| Micro enterprises | **2** simplified | 0.7 | 2 | 0.14 * |
| Small businesses | **2** | 8 | 10 | - |
| Medium enterprises | **5** Mandatory placement on the company's website Mandatory audit | 40 | 50 | - |
| Large enterprises | **5** Mandatory placement on the company's website Mandatory audit | More than 40 | Over 50 | 50 |

*Euro exchange rate as of January 1, 2021 - UAH 34.74.

Based on the composition of the current national system of accounting and analytical support for the management of the activities of business entities of the agrarian economy, its main problematic aspects at the current stage Scientists of NSC "Institute of Agrarian Economics" see the following:

1) significant limitation of financial reporting of business structures in terms of information on directions, volumes of distribution and use of net profit, effect of such distribution and use measures;

2) the low level of spread of concepts and tools of value-oriented management among the top management of agricultural structures, which today does not contribute to the formation of requests for relevant accounting and analytical information;

3) the limitation of the system of domestic analytical management support in terms of the set of indicators used in the analysis process (financial and non-financial indicators). In global practice, indicators such as EBIT, EBITDA, etc. are widely used, a set of indicators

methodically based on the concepts of financial flow management (aggregate financial flow, net financial flow) and business valuation;

4) the actual absence of an organized and transparent market for agricultural land, which at this stage of managing the activities of agro-structures makes it impossible to implement on a practical level accounting and analytical support of a set of indicators for the valuation of agricultural land, as the main asset of agrarian business, and its valuation as a whole;

5) low level of organization of planning and analytical work, expert assessments of the main business processes and marketing environment in agricultural enterprises;

6) predominantly tactical orientation of agricultural management of most agricultural enterprises, lack of specialists in the staff of enterprises specialized in solving strategic tasks of agricultural business management;

7) the irrelevance of issues of forming an active image of agricultural producers on the agricultural market, which is an indispensable component of approaches to the management of modern business structures;

8) a low degree of social responsibility of agrarian business, which in a certain range of programs for the development of rural areas is based on the use of part of the net profit of agrarian entrepreneurial structures. The irrelevance of concepts of social responsibility narrows the potential possibilities of the accounting and analytical support system for profit management and the very mechanism of distribution and use of the final financial result of agricultural formations.

One of the main shortcomings of the modern system of agricultural management of domestic business structures is the short-term perspective in management and the lack of clearly defined strategic guidelines for development. This state inhibits the formation of information requests to the strategic component of the system of accounting and analytical management of the company as a whole and its profit in particular.

The complication and expansion of economic ties and economic relations, the active development of transnational corporations require the addition of a system of key financial indicators that reflect the results of the companies' activities. The national system of accounting and financial reporting of Ukraine has significant differences with the

most widespread in the world - the system of international standards of accounting and financial reporting IFRS and the GAAP system. An increasing number of Ukrainian companies today prepare their financial statements according to international standards, but the number of such companies in the agricultural sector remains insignificant.

At the same time, despite the existing limitations formed by the national accounting and reporting system in Ukraine, the internal management reporting of domestic companies can be improved and supplemented in terms of key financial and non-financial indicators that are useful from the point of view of its internal and external users.

The financial reporting of companies that use the IFRS system in their practice additionally provides information on the main operating segments, the reporting contains data on the main trends of the markets in which the company operates, detailed information on the volumes and results of investment activities. Financial statements of companies prepared according to the GAAP system contain additional indicators that are not mandatory for this model, but are quite relevant for company management and investors: comparable net revenue, comparable operating margin, basic effective tax rate, free cash flow and others The use of these performance indicators of companies today is necessary for making effective management decisions and attracting investments.

At the same time, as experts note, management reporting, in particular, financial reporting, today is not without certain information limitations in terms of data, the degree of relevance of which is constantly increasing. Owners and investors today need information about the company's long-term development prospects and its ability to generate long-term stable value. World experts in accounting and reporting emphasize that corporate management reporting should be improved, while it is important to revise economic standards in terms of equity capital. In addition, the disadvantage of management (financial) reporting is that it gives an idea of the state of the company only at a certain point in time, is largely retrospective, while for management decisions, information should be of a more prospective nature.

It should be noted the existence of management information support problems related to the fact of unsuccessful implementation

of the EU Directives and IFRS regarding statistical and financial reporting into the legislation of Ukraine. Ukraine introduced the principle of one-time reporting on individual indicators. Various centers for inquiries and information collection were formed - the Ministry of Finance of Ukraine, the State Statistics Service of Ukraine, the State Geocadaster, the National Securities and Stock Market Commission, the State Fiscal Service of Ukraine and others. The informativeness of the final and comprehensive reporting is reduced. In particular, in 2017, the number of indicators in form 50-sg "Report on the main economic indicators of the work of agricultural enterprises", 2-farm "Main indicators of the economic activity of the farm, small enterprise in agriculture", which were once proposed by science at the time, was reduced replacement of Annual reports of agricultural enterprises (collective farms, state farms). Therefore, Ukraine has an imperfect methodology for the preparation of reporting data by business entities.

A vivid example of this is agricultural holdings. Today, we can only operate with statistical data on individual agricultural enterprises. Generalized statistical data on the activity of the agricultural holding as a single business entity are not available in the state statistical information system. The reason is that agricultural holdings are not registered as separate subjects of economic activity and, accordingly, reporting (Fig. 2).

Proposals for the separation of an agricultural holding as a separate accounting and statistical unit in the state statistics system were sent by us to the State Statistics Service and the Ministry of Agrarian Policy and Food of Ukraine back in 2014.

For this direction of research, which is related to the information provision of agricultural holdings and "about agricultural holdings ", the proposals of O. Marynchenko, who in his research studied the state of information provision about the activities of holdings in the agrarian sector of the Ukrainian economy, are valid[287].

[287] Marynchenko O. O. Accounting in agrarian holding formations: autoref. thesis ... candidate economy Sciences: 08.00.09 / Nat. Acad. agrarian of Sciences of Ukraine, National of science Center "Institute of Agrarian Economics". Kyiv: CPU "Comprint", 2017. 20 p.

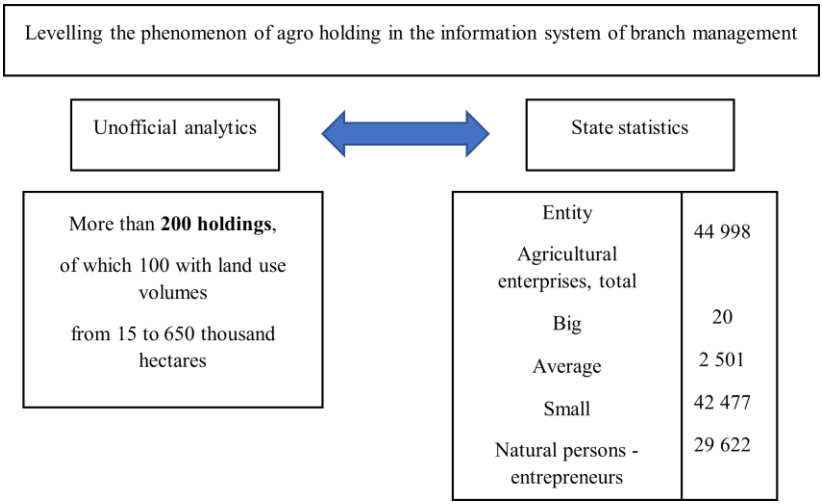


Fig. 2. **The problem of accounting and information provision of branch management in the part of agricultural holdings**

The author substantiated the corporate level of the accounting policy, the adoption of which at the state level would ensure the identification of the agricultural holding as a single accounting unit in the national system of accounting and statistical information. It was proposed to introduce coding and forms of statistical reporting on the presence of simple and decisive dependence of enterprises. Such coding and further summarization of data in the statistics system would make it possible to group information by agro holding -type enterprises.

The developed conceptual principles of the construction of the accounting policy of the holding as a single accounting unit outlined the external (socially oriented) and internal information policy. The allocation of the external vector of the accounting policy of agricultural holdings became an important step in the formation of information support about their activities at the industry level (Fig. 3).

The internal accounting policy provided for: the development of a corporate standard and the Regulation on the consolidation of reporting and its reflection of corporate -industry assets; formation of electronic document circulation using cloud computer technologies.

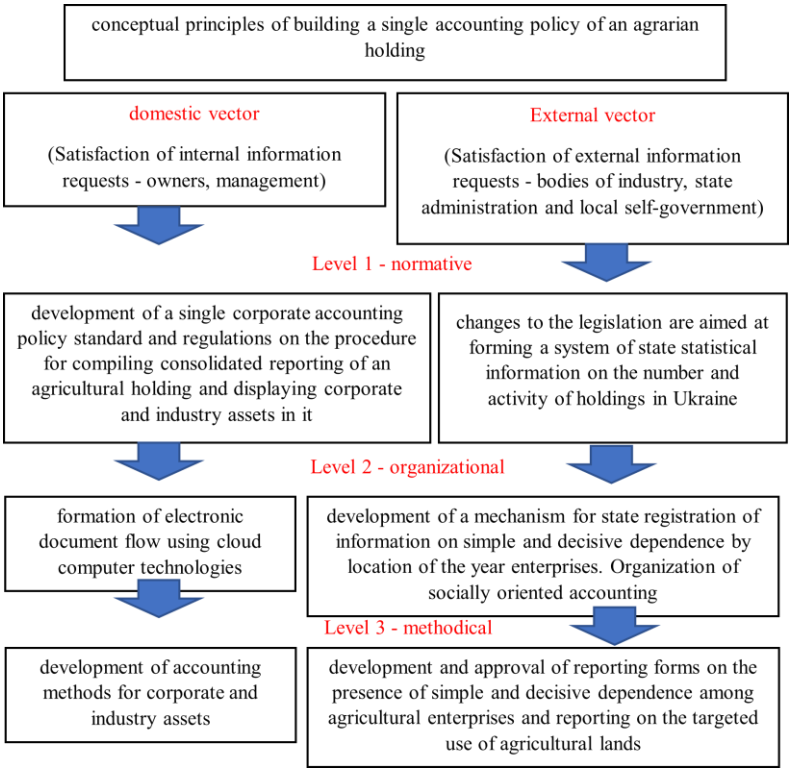


Fig. 3. **Isolation of the external vector of the accounting policy of agricultural holdings as an element of the formation of information provision of branch management about their activities** [289]

The external vector of the formation of a unified accounting policy of the holding consists in the introduction of socially oriented accounting, as a segment of the accounting system, aimed at satisfying external information requests regarding the rational use of land resources in agriculture and strengthening the social component in the activities of holdings. However, the proposals were not taken into account. Therefore, at present, official information about the activities of agricultural holdings is summarized only in their reports, which are published on their websites.

Agricultural enterprises, having the accounting and financial reporting system as the basis of economic information, are quite informationally closed, having a formal approach to drawing up official reporting and an individual, often shadowy approach to management accounting. Such formal financial reporting poses a threat to the financial security not only of subjects of agrarian entrepreneurship, but also of the industry as a whole. According to reporting data, today the agricultural sector is even more profitable than the banking sector (Tab. 3).

Table 3

**The problem of accounting and information representation of the agrarian economy of Ukraine**

| Branch | The level of profitability (loss) of the operational activities of enterprises, % | | | |
|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** |
| All in the economy of Ukraine Including: | 7.4 | 8.8 | 8.1 | 10.2 |
| **Agriculture** | 32.4 | 22.4 | 18.3 | 19.2 |
| Financial and insurance activities | -4.8 | 2.8 | 1,2 | 7,8 |
| Construction | -0.4 | 1.6 | 3.0 | 4.6 |

*Source[288]: According to the State Statistics Service of Ukraine.*

Based on such reporting, the indicator of profitability of the operational activity of agricultural enterprises is 19.2%, while in Ukraine as a whole this indicator is 10.2%, financial and insurance activities - 7.8%, construction - 4.6%. The use of such information leads to unjustified state management decisions, in particular the reduction of budgetary support for agriculture, the cancellation of preferential taxation, etc.

A feature of management in rural areas is the presence of a separate category of business entities - households. Therefore, along with economic entities represented by medium-sized enterprises and agricultural holdings, we have the "social dimension" of entities. And

[288] Agriculture of Ukraine. 2020: Stat./Govt.Statistics Service of Ukraine. Kyiv, 2020. [Electronic resource] URL: http://ukrstat.gov.ua

if the first, economic, category of economic entities, enterprises, of which about 45 thousand units. is within the competence of accounting (as accounting is mandatory for all economic entities - legal entities), then the social category of economic entities - personal peasant farms (4 million units), households (15 million units, of which 4 .2 million rural units), is outside the official accounting system (Fig. 4).

| Economic dimension (in the accounting system) | |
|---|---|
| Entity | the number of |
| Agricultural enterprises, total | 44 998 |
| Big | 20 |

| Social dimension (outside the accounting system) | |
|---|---|
| Entity | the number of |
| personal peasant farm | 4 075 200 |
| | 4 200 000 |

Fig. 4. **The extent of the problem of the lack of information on the results of household management has been revealed**
*Source: According to the State Statistics Service of Ukraine*

The only public reporting that is based on accounting data, and therefore has documentary evidence, is financial reporting. However, it is mandatory only for legal entities. Households do not keep accounting records, and therefore do not prepare financial and statistical reports. The existing statistical information on them is the results of questionnaires and selective observations, in which the sample is, for example, in 2016, 0.6% of the entire population of farms. The identified indicators are then applied to all farms using statistical and mathematical methods. There is no reason not to trust statistical science, but there is no financial and economic information

about households in the system of official statistics. And this is 34% in the volume of agricultural production (Tab. 4).

Table 4

**The level of completeness and reliability of financial and economic information about agricultural enterprises and rural households**

| | **Economic dimension** | **Social dimension** |
|---|---|---|
| Generalization unit | **Agricultural enterprise** | **Rural households** |
| Legal basis of management | Legal entity | Individuals |
| Number of units for generalization (as a whole across Ukraine according to state statistics) | 44,998 | 4,200,000 |
| **Contribution to agricultural production*** | **66 %** | **34 %** |
| Scale of generalization | Continuously | Selectively **(sample - 0.6% of the general population**)** |
| Information base for generalization | Accounting and financial reporting data | Selective statistical surveys Questionnaire surveys |
| Confidence level | Objectively | Subjectively |
| **Availability of financial and economic information** | + | – |

** Share in the volume of production of agricultural products*

*** According to the statistical yearbook.*

*Source: built according to URL: http://www.ukrstat.gov.ua* [7]

Thus, we have 66% of information on the production of agricultural products by enterprises (data on costs, income, profitability, etc.) and 34% of information on households (on the latter, financial information is extremely limited and actually very subjective). At the same time, it is households that provide food products for the domestic market and the local population (meat and dairy products, vegetables, fruits, berries, etc.), in contrast to large enterprises that work mostly for export, especially raw materials.

For the successful implementation of the family farming development strategy in Ukraine, the awareness and orientation of the

farmer himself about the financial and economic indicators of his agricultural activity is extremely important. If we ask the owners in the village if they know the cost price of grown potatoes, most of them will not find an answer to this question. After all, typical households do not keep accounting records. Unlike enterprises that have a wide range of software, regulated rules and recommendations for calculating the cost of grown products, determining the economic efficiency of management, rural households are limited both in the availability of relevant knowledge and in the availability of resources and simply free time. Not to mention software that would allow you to calculate key indicators of costs and business performance. After all, if the owner of the cow is not aware of the benchmark of the cost price of milk, she is unlikely to be able to appeal to the price offers of purchasing organizations. Hence the general misunderstanding and underestimation of spent resources, including labor costs for production.

It is the lack of reliable information about the cost of products grown in households that leads to unreasonable pricing when selling them. Is the purchase price of milk 4 hryvnias/liter adequate? Without knowing its cost price, we cannot form an appropriate minimum product price that would provide the manufacturer with at least minimal profitability.

The development of an appropriate accounting and analytical system for households is also an important step for their protection and support as producers by the state. After all, determining the real cost of production on the basis of available generalized reliable information about costs can become a starting point for making government decisions regarding the regulation of minimum purchase prices for products and other measures to support small agricultural producers.

In this aspect, alternative (unofficial, informal) sources of information are gaining popularity. Recently, it has become a trend to use information from analytical studies, projects, expert opinions, etc. In particular, one of these studies was conducted in 2016 with the support of the Dairy Business Development Project of Ukraine, which is carried out with the financial support of the Canadian government. It concerns the determination of the efficiency of keeping a private dairy farm. The study was carried out on 3 categories of farms with 2-

3 / 6-8 / 9-10 milking cows in private farms and contains the definition of expenses, the cost price of 1 kg. of milk, profitability, material intensity of production. The analysis of the results of this grant research in comparison with the official data, which provides accounting for agricultural enterprises, is given in the tab. 5.

Table 5

**The combination of official and alternative information in the analysis of the cost of milk**

| Manufacturer category | Production cost, UAH/l. | Including without labor costs, hryvnias/l. |
|---|---|---|
| Households, including:<br>6-8 cows<br>9-10 cows<br>*(Alternative information)* | <br>-<br>- | <br>2.91<br>2.61 |
| An advanced typical dairy farm *(Management accounting, financial reporting)* | 4.40 | 3.48 |
| High-tech (robotic) economy *(Management accounting, financial reporting)* | 5.05 | 4.41 |

*Source: built according to the data of the Dairy Business Development Project of Ukraine*[289].

The given information can be used for certain evaluations, comparisons, however, with a caveat regarding its reliability. After all, if accounting is official information and the owner, manager, accountant is responsible for it, then the issue of externally financed projects is quite controversial. Therefore, the use of information collected by such projects should be cautious.

Therefore, there is a natural need to expand the boundaries of accounting, strengthen the informativeness of its data, and improve reporting. Scientists of the Institute of Agrarian Economics are

[289] The project "Development of dairy business in Ukraine". [Electronic resource] URL: https://www.dsks.org.ua/projects/rozvytok-molochnogo-biznesu-v-ukrayini/

actively working on these problems. Achievements of the agricultural academic school in accounting in both applied and fundamental dimensions (Tab. 6) create new opportunities for the involvement of this profession in solving socio-economic problems of the village.

Table 6

**A list of scientific and technical products, as a result of the implementation of the scientific component of the functioning of the accounting institute**

| product name | The enterprise (organization) where the implementation of the development is planned | Volumes of implementation |
|---|---|---|
| Methods and methodical recommendations for accounting support of agricultural enterprises in conditions of transformation and digitization of management systems | Agricultural enterprises | The developed methods and methodical recommendations are used in the accounting practice of agricultural enterprises |
| A model for improving the reporting of agricultural enterprises taking into account the requirements of the global system of reporting standards for sustainable development | Ministry of Finance of Ukraine Ministry of Economic Development, Trade and Agriculture of Ukraine | The proposed model was brought to the executive authorities for consideration when making changes and additions to the relevant regulatory legal acts |
| A system of scientific-methodical and information-advisory support for the activities of economic services of enterprises | APV enterprises | The system of scientific-methodical and information-advisory support is implemented through the functioning of the portal "Accounting and Finances of the Agricultural Industry" |

Implementation of the scientific component of the functioning of the accounting institute already today has products whose consumers are organizations of various countries (Tab. 7).

Table *7*

**WITH consumers of scientific and technical products, as a result of the implementation of the scientific component of the functioning of the accounting institute**

| Country | Name of the organization | Name of products (services) | Consumption volumes (% of the implementation plan) |
|---|---|---|---|
| USA | International Federation of Accountants | Proposals for improvement of international financial reporting standards IFRS | 25 |
| United Kingdom | International Financial Reporting Standards Committee (IFRS) | Proposals for IFRS projects | 25 |
| CIS | Eurasian Council of Certified Accountants and Auditors (ECCA) | Proposals for IFRS projects | 25 |
| Ukraine | Ministry of Finance of Ukraine | Proposals for the improvement of regulatory legal acts on accounting in the agricultural sector of the economy of Ukraine under the conditions of application of IFRS | 50 |
| Ukraine | Ministry of Economic Development, Trade and Agriculture of Ukraine | Methodological recommendations on accounting issues in the agricultural sector of the economy of Ukraine | 50 |
| Ukraine | Agricultural enterprises | Methodological recommendations on accounting issues in the agricultural sector of the economy of Ukraine | 50 |

For objective reasons, the category of households is significantly inferior to large enterprises in the availability and use of advanced technologies, in particular in terms of accounting and taxation of their

activities. For objective reasons, technologies for effective management of their finances and business activities are unavailable to them, there is no adequate information support and methods available to them for determining business efficiency, forming plans and budgets for their activities, calculating the cost of grown products, monitoring prices for products and their markets sales The availability of such information bases for their management would allow to speed up their transformation into full-fledged subjects of agricultural entrepreneurial activity. That is why it is important to develop accounting and information support for households, which involves the formation of organizational and methodical principles of accounting, analysis, planning and internal control of their activities, the implementation of which will ensure that households enter the legal field as subjects of entrepreneurship and taxation. It is considered necessary to develop a suitable software product and a mobile application that would allow to accumulate the costs of agricultural production during the year, to distribute them by types of products and to calculate their cost price. This would allow households to have guidelines when forming the sale price of agricultural products and to calculate the results of their economic activity.

Information management support in rural territorial communities. The development of rural areas today is an urgent issue. Its relevance is caused by the processes of reforming the system of local self-government and territorial organization of power. As stated in the analytical note of the National Institute of Strategic Studies, on the one hand, the implementation of decentralization is a necessary step in view of the euro integration foreign policy course of the state. On the other hand, the transformation of the state system may create new challenges for Ukrainian society, especially in the process of implementing the administrative and territorial reform and at the first stages of functioning of the new system of organization of public power[290].

An important prerequisite for the development of any region, territory, community is the formation and effective use of its natural,

[290] Expected risks in the process of decentralization of power in Ukraine. Analytical note: National Institute for Strategic Studies. [Electronic resource] URL: http://www.niss.gov.ua/articles/1021/

resource, economic, demographic, social and cultural potential. The basis of such efficiency is the availability of complete and reliable information support.

As the researchers rightly point out, the disproportion between Ukraine's natural resource potential and quality of life standards is perhaps the most important paradox of our time. Possessing colossal land, natural-spatial, and energy resources, we have not reached the basic level of economic security, investment attractiveness (competitiveness) in the international arena. Management scientists see the resolution of these contradictions, as well as the improvement of the use of state resources and its potential in general, in the development of territorial management, which is connected with the real strengthening of local self-government and the improvement of the effectiveness of regional policy[291]. At the same time, few people pay attention to the issue of information support of such management. Today, new administrative-territorial units - united territorial communities - have been formed. It is extremely important to have reliable and complete information about the potential they have and the possibilities of using it for the development of the territory.

Business information support - the accounting system at the enterprise level - is quite developed, and many researchers have devoted their works, both scientific and practical, to it. At the same time, a higher level of management information support - the level of territorial communities - needs the development and development of appropriate methods and practices. At the first stage, taking into account the changes in the administrative and territorial structure of Ukraine, the urgent issue is the formation of a reliable information base regarding the available resource and economic potential of the formed and already existing territorial communities. Such information provision should be aimed at a clear and reliable account of all the available potential of the community to attract investments to the region and create favorable and economically beneficial living and economic conditions.

Powers, resources and responsibilities from the executive authorities to the local self-government bodies. This policy is based

[291] Reforms of social and economic development of Ukraine: collection. monograph. Kyiv: "Helvetica" Publishing House, 2018. 452 c.

on the provisions of the European Charter of Local Self-Government and the best global standards of public relations in this area. The legislative basis for changing the system of power and its territorial basis was formed in 2014. As of January 10, 2020, 1,029 united territorial communities were created in Ukraine, which united 4,698 communities with a population of 11.7 million people[292].

The concept of reforming local self-government and territorial organization of power in Ukraine, approved by the decree of the Cabinet of Ministers of Ukraine dated April 1, 2014 No. 333-r, provided for the transfer of a significant number of powers to territorial communities, including in the management and disposal of financial and property assets and community resources. In particular, to create proper material and financial conditions for the functioning of communities, the material basis of local self-government is defined as property, in particular, land owned by territorial communities of villages, towns, cities, objects jointly owned by territorial communities of villages, towns, cities, districts, regions. The concept envisages giving territorial communities the right to dispose of land resources within their territory, to combine their property and resources within the framework of cooperation between territorial communities for the implementation of joint programs and more effective provision of public services to the population of adjacent territorial communities[293].

In turn, Article 8 of the Law "On the Voluntary Unification of Territorial Communities", adopted in 2015, defines that the united territorial community is the legal successor of all property, rights and obligations of the united territorial communities from the date of acquisition powers of the village, settlement, city council elected by such a united territorial community. In the case of unification of all

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[292] Official website "Decentralization». [Electronic resource] URL: https://decentralization.gov.ua/en/about

[293] On the approval of the Concept of reforming local self-government and territorial organization of power in Ukraine: Decree of the Cabinet of Ministers of Ukraine dated April 1, 2014 No. 333. [Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/333-2014-%D1%80

[Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/333-2014-%D1%80

territorial communities of one district into one unified territorial community, all property jointly owned by the territorial communities of such district is the communal property of the united territorial community, and the rights and obligations related to such property belong to the united to the territorial community from the day of acquisition of powers by the village, settlement, city council elected by such a united territorial community[294].

In this way, local communities have acquired broad powers to dispose of their property and resources. But along with this, they acquired a significant responsibility for their effective management. After all, in addition to land, property, and the budget, any region is characterized by the presence of other resources that make up its economic, settlement, natural, labor, social, informational, and financial potential. Those resources that can be key in its development provide certain advantages of life in this territory, create additional conditions for conducting business, economy, etc., on the basis of which a certain brand of the region is formed or has already been formed.

Management of this potential begins with reliable information provision about its quantity, spatial location and, ideally, about its value, present and potential. The issue of information support regarding the resource and economic potential of the community in terms of increasing the investment attractiveness of the region, determining the directions of its effective involvement in the economic and social-infrastructural development of the community is especially relevant.

In 2015, the Resolution of the Cabinet of Ministers of Ukraine dated October 21, 2015 No. 856 approved the Procedure and Methodology for monitoring and evaluating the effectiveness of the implementation of state regional policy[295]. They provide for periodic

[294] On voluntary unification of territorial communities: Law of Ukraine dated February 5, 2015 No. 157-VIII. [Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/157-19

[295] On the approval of the Procedure and Methodology for monitoring and evaluating the effectiveness of the implementation of the state regional policy: Resolution of the Cabinet of Ministers of Ukraine dated October 21,

monitoring of relevant indicators of regional development, monitoring of the implementation process of regional programs, identification of regional development problems and their causes, and improvement of the effectiveness of management decisions. Both local self-government bodies and ministries and agencies are involved in such monitoring.

In order to effectively carry out this monitoring, it is also extremely important to have sufficient and reliable information support of property and resource potential in the governing bodies of territorial communities.

Information provision of management in territorial communities is one of the key directions that requires maximum systematization, completeness and compliance with today's demands. The need for its research and improvement is caused by the imbalance and lack of complete and reliable economic information about the development of rural areas in terms of their residents - both legal entities and individuals. In particular, there is a lack of financial and economic information regarding family households, which, according to statistics, produce a good half of the national volume of agricultural products.

Today, information support for development and management in territorial communities is represented by the system of accounting and budget accounting in local self-government bodies, the information system of local statistical bodies, which has recently been greatly reduced and does not provide a sufficient array of information for management, the system of economic accounting in local self-government bodies and system of land cadastral accounting.

One of the responsibilities of local self-government bodies is to maintain household accounting. Starting from 2017, a new methodology for the organization and maintenance of household accounting has been in effect in Ukraine, approved by the order of the State Statistics Service of Ukraine dated 04/11/2016. No. 56 "On the

2015 No. 856. [Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/856-2015-%D0%BF

approval of the Instructions for keeping household records in village, settlement and city councils"[296].

Maintenance of economic accounting in local self-government bodies is provided for the accumulation and systematization of information on each settlement. First of all, farm accounting is valuable for rural communities and the development of rural areas. It is also important as an information source of state administration, because it contains information about personal peasant farms, land ownership and land use. In 2016, the number of obligatory forms of household accounting compiled by local self-government bodies was reduced to two obligatory forms (Tab. 9).

system of statistics of rural areas that would meet European and international norms and standards.

Table 9

**Mandatory forms of household accounting in territorial communities**

| Until 2016 | From January 1, 2016 |
|---|---|
| • **Household book** No.____ for 2011 — 2015 (form No. 1);<br>• **Alphabetical book** of objects of economic accounting for 2011 — 2015" (form No. 2);<br>• **List of persons** to whom land plots were granted for the management of personal peasant farms (form No. 3);<br>• Annex to the economic accounting " **List of institutions** located on the territory of the council for 2011-2015";<br>• **Sown areas** of agricultural crops in households on the territory of the village council for the harvest of 20__ (form No. 4). | • **Account card** of the object of household accounting (form No. 1)<br>• **List of persons to** whom plots of land were granted for the management of personal peasant farms from the lands of urban settlements (form No. 3) |

*Source: compiled on the basis of the analysis of the legal framework*[297].

[296] Instructions for keeping economic records in village, settlement and city councils, approved by the order of the State Statistics Service of Ukraine dated April 11, 2016 No. 56. [Electronic resource] URL: http://zakon0.rada.gov. ua/laws/show/z0689-16

[297] Bezdushna Yu. S. Conceptual models of assessment and accounting of agricultural land use rights. Formation of the information potential of

Note that only the number of mandatory forms has decreased. The instruction on keeping household accounting in village, settlement and city councils specifies that local councils independently make decisions regarding the type and format of household accounting. That is, any option, including with the preservation and further management of all forms that operated before, is acceptable for the community, but must be approved by their decision.

In particular, household books (which were mandatory until 2016) contain data on the main articles of local taxation: land plots and real estate of individuals living in the territory of the relevant council. It is the household book that contains information on the composition and number of households, family members living in the household, data on land, buildings and livestock, and agricultural machinery that are privately owned.

Further maintenance of the household ledger, subject to the introduction of automated accounting, will facilitate the collection of statistical data by council employees, and will help open up new opportunities for managing local finances. Household accounting is an indispensable tool for analyzing the tax, investment, financial and economic potential of a territorial community. And the issue of its automation is extremely important for the formation of an effective

Today, the automated form of household accounting has become widely used in communities. The introduction of automated accounting is a full-fledged and modern alternative to keeping a paper business book. This approach makes it much easier to collect and search for statistical data, as well as to open up new opportunities for managing local finances. Today, several of the most widespread automated accounting programs are in operation, among them: the electronic household accounting system "Smart Village", the software complex " Household accounting for village and settlement councils". Both programs were developed specifically for keeping records in the

accounting, control, analysis and audit in the conditions of global economic changes: materials of the International of science practice Internet Conf. April 18-19, 2013, PDATU, Kamianets-Podilskyi. Ternopil: Step, 2013. C. 233-235.

village and were recommended by the State Statistics Service of Ukraine[298].

The "Smart Village" system is the first comprehensive electronic information and analytical system designed to automate the activities of territorial communities of Ukraine. The computer program "Smart Village" is a tool for village and village councils in the form of a software complex for keeping household books, statistical accounting of land, real estate, transport, domestic animals and livestock in accordance with the norms of the Instructions (Table 10).

The program complex "Smart Village" is a single multi-level electronic information system designed to facilitate the daily work of employees of the administrations of territorial communities, executive committees of village and settlement councils. Today, the "Smart Village" program is actively used in Western Ukraine. Reviews show that the automation of household accounting with the help of this complex significantly saves time and facilitates the search for data, as well as reduces the number of errors. According to the developers, the implementation of the system provides an opportunity to organize the work of personnel in accordance with modern trends in the field of informatization, which allows to reduce the amount of time required to provide public services to citizens (issue of certificates, quick data search, recording of citizens' appeals, etc.).

Another program complex - " Business accounting for village and settlement councils" - is a project of the Main Department of Statistics in the Ivano-Frankivsk region. Village and village councils in Prykarpattia were the first to try the " Household accounting" system, and today thousands of village councils throughout Ukraine use this software complex[299].

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[298] The official website of the "Smart Village" information and analytical system. [Electronic resource] URL: https://sisoftware.biz/portfolio/smart-village

[299] Official website "Modern household book".[Electronic resource] URL: https://news.lexstatus.com.ua/suchasna-pogospodarska-kniga/

Table 10

**Composition and structure of the "Smart Village" accounting system**

| Type of information | Content of information |
|---|---|
| Household information | 1. Personal account, cadastral number.<br>2. Household address (index, country, region, district, settlement, street, house number).<br>3. Additional information. |
| Information about residents of the community | 1. P.I.B., relation to the head of the household.<br>2. Passport data, data on gender, nationality, etc.<br>3. Information about education, work, pension, etc.<br>4. Notes on conducting business activities, about running a personal peasant farm, about the need for social protection, etc.<br>5. Data on departure/arrival of natural persons.<br>6. History of changes in surnames and names of natural persons. |
| Information about livestock in the household | 1. Data on cattle, pigs, horses, etc.<br>2. Poultry, bee colonies.<br>3. Fur and other animals. |
| Information about buildings | 1. The total area of the house, its living area.<br>2. Year of construction, wall and roof materials, number of rooms.<br>3. Plans of buildings, documents-grounds for ownership.<br>4. Condition of buildings (emergency, satisfactory, etc.).<br>5. Availability of amenities (water, heating, etc.).<br>6. Assessment and payment of taxes. |
| Information about land plots | 1. Total area of land plots.<br>2. Land intended for construction, OZB, etc.<br>3. Information on the area of cultivated crops: winter crops, summer, technical; potatoes, vegetables, melons and fodder crops, etc |
| Accounting and control of payment of land taxes | 1. Accounting of land plot owners.<br>2. Accounting of acts on the right of ownership, decisions of executive committee sessions.<br>3. Automatic calculation of the amount of tax, leaving from the tariff rate and the area of the land plot.<br>4. Extract of primary tax payment documents.<br>5. Information on tax arrears.<br>6. Convenient mechanism for automatic change/replacement of owners of land plots (farms).<br>7. Automatic generation of reports related to household accounting of land plots |

| Type of information | Content of information |
|---|---|
| Information about rural areas appliances in households | 1. Tractors.<br>2. Trucks.<br>3. Harvesters and other equipment in private ownership. |
| Citizen appeals section | 1. Recording appeals and their reasons.<br>2. Appointment of those responsible for decisions.<br>3. Issuing resolutions on appeals. |
| Reports in the program | 1. Lists of voters<br>2. Lists of socially vulnerable people<br>3. Various analytical reports: list of people by by age, list of conscripts, list of persons, engaged in entrepreneurial activities, etc<br>4. Additional forms of reports at the request of the user |
| Help in the program | 1. Certificate of family composition<br>2. Reference about the house<br>3. Certificate of land plot, etc. (> 50 forms). |

*The source is formed on the basis of [300].*

Compared to the Smart Village complex, the Household Accounting program has a simpler and more concise design. But the functionality of the program solves all the problems of keeping the farm records of the village. For example, if necessary, the program can quickly generate available analytical information: social passport, source tables, age structure of the population, references for the population. Also, in the complex there is an opportunity to obtain complete and versatile information about any resident for any period by means of a quick and effective search by details: name, address, date of birth, etc. There is a special version of " Household accounting" for the district council, which helps to establish communication between all the villages of the district[18]. The program complex " Household accounting in village and settlement councils of the district (city)" is a continuation of the program complex " Household accounting for village and settlement councils" and ensures the formation of consolidated information on village (village) councils.

[300] The official website of the "Smart Village" information and analytical system. [Electronic resource] URL: https://sisoftware.biz/portfolio/smart-village

A separate program complex with the same name is intended for the formation of the "Settlement Passport", which ensures the monitoring of transformational processes regarding the development of rural areas and contains a set of indicators that characterize: the socio-economic situation; demographic situation; environmental situation; employment of the population, including outside the village council, district, region, Ukraine; material and technical support; availability and use of land resources; objects of social infrastructure (housing, educational institutions, medical institutions, institutions of culture and sports, trade, restaurant economy, household, communications, engineering support, museums, nature reserves, etc.) engineering support[301].

In Vinnytsia Oblast, in order to improve the organization and proper management of household accounting, to minimize the time required to obtain various information both in general for the local council and its settlements, and for individual households, since 2007, the technology of electronic household accounting using an automated information system has been introduced. Such an automated system for processing information of village councils has been implemented in more than 670 local councils of the region, which carry out farm accounting[302].

A separate information system in the village is land cadastral accounting. Information support on land use in a regional context is provided by the State Land Cadastre system, which is under the jurisdiction of the State Service of Ukraine for Geodesy, Cartography and Cadastre. The State Land Cadastre is the only state geo-information system of information about lands located within the state border of Ukraine, their intended purpose and restrictions on use. The cadastre contains data on the quantitative and qualitative characteristics of lands, their assessment, distribution between owners

[301] Portal of information provision of local self-government bodies. Passport of a rural settlement. [Electronic resource] URL: http://www.informrada.com.ua/products/pasport/

[302] Official website of the Main Department of Statistics in Vinnytsia Region. Household accounting. [Electronic resource] URL: http://www.vn.ukrstat.gov.ua/index.php /2011-03-31-11-53-27.html

and users. A significant part of such information is currently available thanks to the software and hardware complex of the National Cadastral System and the work of electronic services of the Public Cadastral Map. At the end of 2019, with the help of the Public Cadastral Map, public access was opened to quite interesting information about the lands of the forest fund, the lands of the nature reserve fund, the location of deposits and occurrences of minerals, special permits for the use of the subsoil of Ukraine.

Currently, the information layers of the Public Cadastral Map, which are available for public viewing on its website https://map.land.gov.ua/kadastrova-karta, are cadastral division, archival plots, plots with geometry errors, restrictions on land use, orders for agricultural lands, administrative-territorial system, regional centers, unregistered territories, soils, coastal protection strips, forests, nature reserve fund, geosubsoil, mineral deposits, oil and gas wells, emerald network. Information on normative and monetary assessment of land is available on the portal of normative and monetary assessment of the State Geocadastre. Officials of executive authorities are granted access to relevant information of the State Land Cadastre.

Land cadastral accounting provides for the maintenance of in-kind accounting of the territory's lands and the preparation of the corresponding administrative reporting. Administrative reporting is an organizational form of observations conducted by state authorities (with the exception of state statistics authorities), local self-government bodies and other legal entities in accordance with legislation and for the purpose of performing administrative duties and tasks assigned to their competence.

These flows of information about the lands of the territorial community are formed by the state cadastral registrars of the territorial bodies of the State Geocadastre by region and are provided to the district state administrations, district, city, village, settlement councils with the help of administrative reporting on the quantitative accounting of lands according to forms No. 11-zem (quarterly) "Report on lands and land plots by purpose and forms of ownership" No. 12-land (annual) "Report on lands and land plots by owners and users, forms of ownership"; No. 15-land (quarterly) "Report on land

and land plots by purpose and land"; No. 16-zem (annual) "Report on lands and plots of land by owners and land plots".

According to the State Service of Ukraine for Geodesy, Cartography and Cadastre, quantitative data of administrative and statistical reporting is the main source of information, in particular, for the Monitoring of Land Relations in Ukraine, which was introduced with the aim of increasing the transparency of land relations, increasing the investment attractiveness of the land sphere at the expense of quality and systematized data[303].

Despite the availability of the State Land Cadastre and administrative reporting, often united communities do not know the clear boundaries of their settlements, do not have information on the value of land resources belonging to local communities to forecast revenues from land fees.

Thus, characterizing the retrospective, it should be noted that the development trend of information support in the field of land use (Tab. 11) is a reduction from 15 forms in 2001 to 4 forms of administrative reporting in 2016.

In particular, until 2015 inclusive, the forms of administrative reporting on land resources were the most significant, in particular the forms of quantitative accounting of land Nos. 6-zem, 6a-zem, 6b-zem, 2-zem (Order of the State Statistics Committee of Ukraine dated November 5, 1998 No. 377 [296]). According to these forms, since 1998, land resources bodies have been conducting quantitative accounting of lands, their distribution by land and land users.

The most popular of them was form 6-zem "Report on the availability of land and its distribution by land owners, land users, land and types of economic activity", which in turn is the basis for determining Kf (the coefficient of functional use of the site) when calculating the normative monetary assessment land, payment of land tax. Since 2016, these forms have been abolished. Instead, the Order

[303] Resource potential of the region: education. manual / author-editor: M. K. Orlaty, S. A. Romanyuk, I. O. Degtyareva, etc.; in general ed. M. K. Orlatoy. K.: NADU, 2014.724 c.

Table 11

**The state of information support in the field of land use**

| **2001 – 15 forms** | |
|---|---|
| Code | Name |
| 1-earth | State of implementation of land reform |
| 2-earth | Report on lands owned and used |
| 6-earth | Report on the availability of land and its distribution by land owners, land users, lands and types of economic activity |
| 6a-zem | Report on the availability of irrigated land and its distribution by land owners, land users, land and types of economic activity |
| 6b-ground | Report on availability of drained lands and their distribution by land owners, land users, lands and types of economic activity |
| Appendix 1 to form 6-zem, 6a-zem, 6b-zem | Certificate on changes in the area of agricultural land in all land categories |
| Appendix 2 to form 6-zem, 6a-zem, 6b-zem | Report on lands allocated to enterprises, organizations and institutions for non-agricultural needs for permanent use (possession) |
| Appendix 3 to form 6 -land, 6a-land, 6b-land | Report on lands allocated to enterprises, organizations and institutions for non-agricultural needs for temporary use, as well as on lands provided for agricultural management and carrying out (without expropriation) geological surveying, exploratory geodetic and prospecting works |
| Appendix 4 to the form 6-zem, 6a-zem, 6b-zem | Report on the return of land provided for non-agricultural needs by enterprises, organizations and institutions |
| Appendix 1 to form 6a-zem | Reference on the technical condition of hydromelioration systems on irrigated agricultural lands |
| Appendix 2 to form 6b-land | Reference on the technical condition of hydromelioration systems on drained agricultural lands |
| 2-tp (reclamation) | Report on land reclamation, removal and use of the fertile soil layer |
| 4-earth | Report on implementation of land protection measures |
| 5-earth | Report of land resources authorities on state control over the use and protection of land |
| **2016 - 4 forms** | |
| 11-earth | "Report on land and land plots by purpose and forms of ownership" |
| 12-earth | "Report on land and land plots by owners and users, forms of ownership" |
| 15-earth | "Report on land and land plots by purpose and land" |
| 16-earth | "Report on land and land plots by owner and land" |

*Source: generalization of the regulatory framework* [304],[305]

of the Ministry of Regional Development, Construction and Housing and Communal Economy of Ukraine dated 12.30.2015 No. 337 approved:

- reporting form No. 11-zem (quarterly) "Report on land and land plots by purpose and forms of ownership" and Instructions for its completion;
- reporting form No. 12-zem (annual) "Report on land and land plots by owners and users, forms of ownership" and Instructions for filling it out;
- reporting form No. 15-zem (quarterly) "Report on land and land plots by purpose and land" and Instructions for its completion;
- reporting form No. 16-zem (annual) "Report on lands and plots of land by owners and land" and Instructions for its completion.

The current forms lack a number of important indicators that have been summarized for 18 years.

Land potential is only a component of the natural potential of the territory**.** Deposits of natural resources on the territory of communities (peat, amber, oil, etc.) must also be subject to strict accounting, must be inventoried with the involvement of specialists, assessed and recorded on the balance sheet of the village council as the right to use natural resources. Today, a significant part of the natural potential of the rural area does not find valuable expression and information generalization (Fig. 5).

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[304] On the approval of forms of administrative reporting on the quantitative accounting of land (forms No. 11-zem, 12-zem, 15-zem, 16-zem) and Instructions for their filling: order of the Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine dated 30.12. No. 337 of 2015. [Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/z0133-16#Text

[305] On approval of forms of state statistical reporting on land resources and Instructions for filling out state statistical reporting on quantitative land accounting [...]: order of the State Statistics Committee of Ukraine dated November 5, 1998 No. 377 (expired). [Electronic resource] URL: https://zakon.rada.gov.ua/laws/show/z0788-98#Text

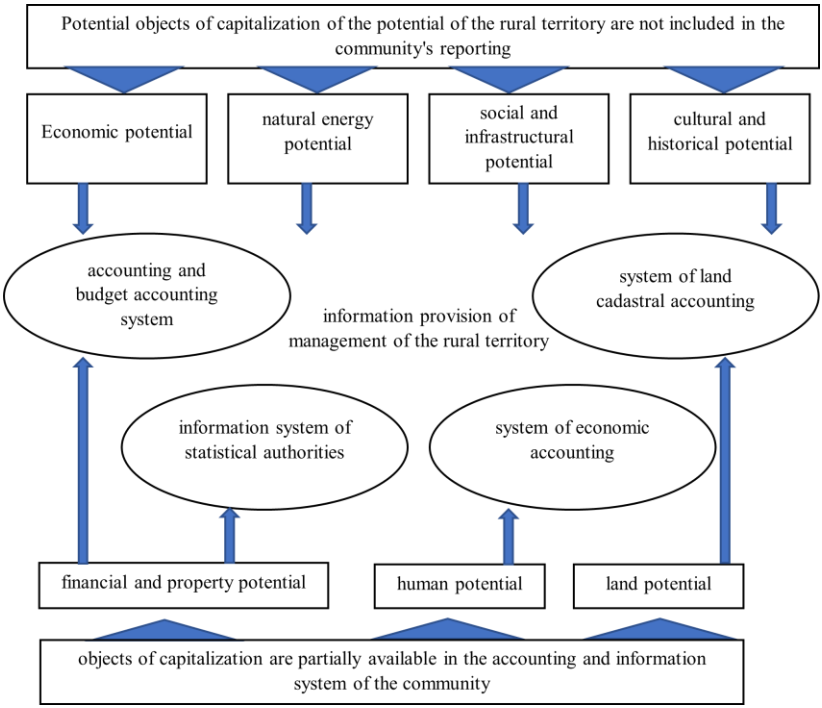


Fig. 5. **Location and degree of completeness of information about the potential of rural areas in official information resources**

Potential objects of investment interest are missing from the community's reporting. In particular: economic potential, natural-energy potential, social-infrastructural and cultural-historical potential of the community. Among the objects that are partially available in the reporting of the community: financial and property capital, human and land potential.

The disclosure of the potential of the rural territory, which is based on the application of 4 autonomous accounting and information systems (farm accounting, land cadastral, accounting and budget accounting), is imperfect. It was found that only the accounting system contains information about the property potential of the community in value terms. The systems of household and land cadastral accounting

have a generalization of human and land potential only in physical (natural) indicators. At the same time, the accounting system in local self-government bodies is limited exclusively to issues of budget execution and does not aim to represent the community's potential. There is no accounting of the resources that form it, as well as a comprehensive vision of their types, classifications, and capitalization strategies.

In the development of the theoretical justification for the further development of information management support for the development of the potential of rural areas, as well as for the purpose of its further unified accounting, a classification of the types of the potential of rural areas is proposed:

1. Financial and property potential (property and funds belonging to the community).
2. Human potential of the region (objects of economic accounting).
3. Economic potential (entrepreneurial resources of the community, business entities).
4. Natural and energy potential (land, space, energy, water, forest resources, minerals).
5. Social and infrastructural potential (socially significant objects and infrastructure).
6. Cultural and historical potential (objects of cultural and historical significance).

Below is a summary of the essence and elemental composition of each of the selected types of potential of the rural area.

Financial and property potential is the totality of net assets of the community, which is reflected in the financial statements of the relevant local self-government body and all communally owned enterprises located on the territory of the community. Financial and property potential includes financial and property resources.

Financial resources are the funds of local self-government bodies and the financial resources of enterprises and organizations, as well as the population, which are involved by local authorities to ensure the economic and social development of the region.

Financial resources at the regional level have the following components.

1. Funds from local budgets and the consolidated budget of the

region, intended for the purposes of the development of the region.

2. Funds from the state budget (financial support from the state, in particular: support for the development of regions at the expense of transfers and subsidies provided for in the state budget; systems of measures for the socio-economic development of regions that were included in the relevant state programs and will be implemented directly under account of state budget funds, etc.).

3. Non-budgetary funds through participation in the implementation of regional projects of business, population, public structures, etc.

Property resources are a set of basic material assets that are on the balance sheet of local self-government bodies and communally owned enterprises. Information about such resources is important in terms of operational management and full use of such assets.

Human potential is the quantitative composition of human resources (population) of the region, with appropriate differentiation by age, as well as educational, professional, creative, social, economic properties and opportunities. The human potential of the region as a source of aggregate labor supply is characterized by categories such as population and labor resources.

Population - a set of people living in a certain territory (in a country, region, city, district, village, etc.).

Labor resources are part of the able-bodied population of the region, which is able to work based on its physical development, mental abilities and knowledge.

Economic potential is the combined capabilities of enterprises, business entities and households to conduct business activities to ensure consumer needs of the region, tax revenues for the local budget.

Natural and energy potential is a set of natural resources and natural environmental conditions available on the territory of the community, the use of which ensures the development of certain profitable activities for households, private and communal economic entities, as well as additional financial income to the budget.

Natural resources include: land, mineral raw materials (minerals), water, forest, flora, fauna, recreational resources.

territorial location of the region and its landscape, climate features that improve or worsen living and economic conditions on the territory of the community are considered natural conditions.

Natural resources and natural conditions are closely related, since natural conditions, if they are favorable, are also a resource for the development of the economy, and resources that are not in economic circulation (land, water, forest) continue to remain natural conditions, making positive impact on the development of people, their health. In the composition of natural and energy potential, a separate place belongs to land. Land potential is the totality of land resources on the territory of the community by types of use, form of ownership, and purpose.

Social and infrastructural potential is a set of elements of the social sphere and infrastructure of the region to meet the social needs of the population of the region of a medical, household, educational, cultural, transport and housing and communal nature.

Cultural and historical potential is a set of cultural monuments that can be attractive from the point of view of forming the image of the settlement and its brand, as well as historical monuments that can be attractive from the point of view of the development of recreational business in the region.

This classification was carried out in order to further form the information basis for the assessment of these types of potential as part of the assets of the rural area and, in the future, as part of the national wealth.

Considering the importance of such information, for the purpose of accounting at the level of the territorial community, it is expedient to determine the formation of an information base on the value of capital -forming assets of the territory and the potential of their use. In the context of such a goal, the tasks of accounting consist in identifying, evaluating, quantitatively and qualitatively recording the components of the potential of the rural area and their further generalization in reporting for inclusion in the composition of national wealth.

Accounting and information provision of state and macroeconomic statistics. An important and significant part of the information provision of economic activity in Ukraine is state statistics. The Decree of the President of Ukraine dated January 12, 2015 No. 5/2015 approved the Sustainable Development Strategy "Ukraine - 2020", which provides for the implementation of 62 reforms and state development programs. Among them is the reform of statistics.

At the end of 2015, the Cabinet of Ministers of Ukraine approved and proposed to the Verkhovna Rada a bill reforming the State Statistics Service of Ukraine. The Ministry of Economy and Trade of Ukraine has been determined to be responsible for the reform. The approved project envisages reducing the staff of the State Statistics Service by 20% and gradually reducing the number of mandatory statistical reports submitted by Ukrainian enterprises[306].

The proposed innovations caused a stir in scientific and expert circles, giving rise to various fronts of discussion, from approval to devastating and well-founded criticism. On the initiative of Professor I.H. Mantsurov and with the assistance of the Economic Discussion Club in Ukraine, a national public discussion "Regarding directions and depth of reforming the system of state statistics of Ukraine" was started[307]. One of the participants in the discussion is the professor of Sorbonne -Pantheon University (Paris, France) O.O. Vasechko gives an example of how the high level of French statistics was due to an understanding of the needs of society and the government of France and its role in managing social, economic and political processes in the country. I. Chernyshev, head of the Department of Statistics of the International Labor Organization, believes that the modernization and reform of the statistics system of Ukraine should begin not with reducing the budget of the State Statistics Service, but with the development and approval of the Road Map, which demonstrates the successful example of the Central Statistical Office of Poland[308].

In the sectoral aspect, the scientists of the Institute of Agrarian Economics, Yu.O., joined the discussion. Lupenko, V.Ya. Mesel-Veseliak, O.M. Shpychak and others, who raise the problem of assessing the effectiveness of the agricultural sector. Their research is

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306 Official website of the Ministry of Economy and Trade of Ukraine. [Electronic resource] URL: http://www.me.gov.ua/News/Detail?lang=uk-UA&id=b2128a51-5c5b-4794-a1cb-5c10d56036f2&title =UriadZatverdivProektReformuvanniaDerzhstatu

307 I. Mantsurov. Reform cannot be destroyed. Public union "Economic Discussion Club". [Electronic resource] URL: http://edclub.com.ua/blog/reformuvaty-ne-mozhna-znyshchyty

308 Reforming the system of state statistics. [Electronic resource] URL: http://fisit.kneu.edu.ua/ua/depts9/k_statystyky/ news_ kafstat/diskusiy/

aimed at studying the impact of problems of inter-industry relations, the quality of information support for assessment, discrepancies between statistical and actual financial results, underestimation of fixed assets and material resources, low level of wages, shortcomings of accounting methodology for determining financial results in agriculture, inflationary and investment factors on the effectiveness of agricultural production. As noted by Yu.O. Lupenko, according to national statistics, the financial results of agriculture for 2015 are the best among other main branches of the economy, and the level of profitability of production is the highest in the last 20 years. However, the actual state of affairs in agriculture is not so optimistic. Scientists draw attention to the inconsistency between statistical and real financial results of the industry, emphasize the need to take inflation factors into account when evaluating them, as well as the feasibility of further discussion of the problem after the final formation of official statistics data.

So, the main steps of the statistics reform announced at the end of 2015 are defined as:

- reducing the number of staff of the State Statistics Service of Ukraine, primarily - its regional units;

– reduction of the number of mandatory statistical reports submitted by Ukrainian enterprises;

- transfer of 50 percent of all statistical reports to state bodies for administration[309].

While generally supporting the idea of improving the statistical information system, it should be noted that any reform should strengthen the ability of state statistics to perform the functions assigned to it and provide information to the expert community for qualitative assessment of socio-economic processes. Existing initiatives to reduce the number of staff and reduce the number of forms of statistical observations have a number of shortcomings that require elimination and refinement.

[309] Experts discussed "at a round table" the problems of assessing the effectiveness of the agricultural sector based on the results of 2015. [Electronic resource] URL: http://www.iae.org.ua/presscentre/archnews/1736--l-r-2015-.html

I. Reduction of the number of reporting forms and indicators. The very idea of eliminating duplication and reducing the number of reporting indicators (forms) is rational. At the same time, their reduction should be approached in a balanced way, having carried out a full-scale analysis and study of the degree of application and demand by different groups of users. Thus, in particular, according to the report of the "Mirror of the Week" edition, the list of statistical reporting forms subject to cancellation includes the annual "Power Plant Operation Report", which is provided by nuclear power plants worth billions of dollars and which contains information about the power plants' capacity and their production of electricity for compilation of energy balances of the country. In addition to being used for internal purposes, this report is sent by the State Statistics Service to the International Energy Agency and the United Nations Statistical Department for the publication of bulletins "Energy Statistics Yearbook" and "Energy Balances and Electricity Profiles"[310]. As for agricultural statistics, today, in accordance with the General Table of Forms of State Statistical Observations, there are 22 reporting forms that are prepared and submitted by individual or all economic entities engaged in the field of agriculture, forestry and fisheries or local self-government bodies in rural areas.

Table 12

**Composition of information of state statistical observations**

| Type of statistical information | Number of forms | % |
|---|---|---|
| Demographic and social information | 30 | 25 |
| Information about the environment | 5 | 4 |
| **Economic information** | 85 | 71 |
| *In total* | 120 | 100 |

*Source: based on data from the General Table of Forms of State Statistical Observations*

[310] Reforming statistics: when less is not better. [Electronic resource] URL: http://gazeta.dt.ua/macrolevel/reformuvannya-statistiki-koli-menshe-ne-krasche-_.html

As can be seen from the tab.12, 71% of all forms of statistical reporting are reporting on economic activity. In particular, in 2017 (a similar trend was observed in previous years), out of 120 forms of statistical observations prepared by enterprises, institutions and organizations in various areas of activity, 85 forms are forms of statistical observations on economic issues.

At the same time, 26% of all economic statistics are reports on agriculture (Fig. 6). Today, in accordance with the General Table of State Statistical Observations, there are 22 forms of statistical reporting that are prepared and submitted by individual or all economic entities engaged in the field of agriculture, forestry and fisheries or local self-government bodies in rural areas.

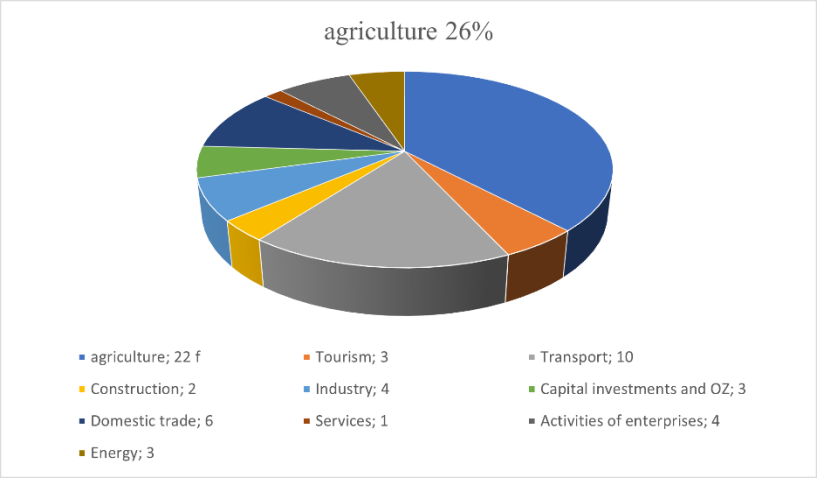


Fig. 6. **Agrarian priority of statistical observations in 2017**

*Source: compiled based on the data of the General report card of forms of state statistical observations for 2017*[311].

[311] Official website of the State Statistics Service of Ukraine. [Electronic resource] URL: http://www.ukrstat.gov.ua

It should be noted that compared to 2015, when the Ministry of Economy and Trade of Ukraine declared a reform of statistics, the number of forms for agriculture has already been reduced from 27 to 22. However, this should not be considered a radical reform, since in previous periods the process of optimization and reduction of forms was constantly taking place as a whole in the economic chain, and in agriculture in particular. The total number of forms of statistical observations will continue to decrease. According to the ambitious statements of the government, it is planned to cancel about 40% of State Statistics forms filled out by Ukrainian enterprises. The main idea of the reform: not to collect information from enterprises that the state already has, and also not to collect information that is not used for making management decisions. Over the past 5 years, the total number of forms has decreased by 30%, from 155 forms in 2015 to 109 forms in 2019. Therefore, the forecast of a reduction in the number of forms by 5-8% is realistic.

Starting from 2001, when there were 63 (!) forms for agriculture and fisheries and 8 specialized forms for forestry and hunting, by 2006 more than half of the existing forms of statistical reporting were reduced. Should this be considered a positive shift in the process of reforming state statistics? Perhaps. However, in some cases, the rationality of reduction is extremely questionable. In particular, in 2001, there were 7 specialized forms of statistical reporting on forestry:

1) No. 1-lg* "Report on forestry works";

2) No. 2-lg* "Report on volumes of forestry products" (quarterly);

3) No. 2-lg* "Report on the scope of works, services and products of forestry" (annual);

4) No. 4-lg* "Report on the remains of wood at forest cuts and clearing of felling sites" (annual);

5) No. 3 "Report on the release of wood, forest care measures, sapling and similar use" (annual);

6) No. 5-lg* "Report on forest fires" (annual);

7) No. 12-lg "Report on forest protection works".

In 2006, there were two of them left. At present, only one form of statistical reporting No. 3-lg "Forestry activity for the year 20__" (approved by order of the State Statistics Service of Ukraine dated August 19, 2014 No. 243) is valid in the field of forestry. The current

report partially includes indicators of cancelled forms, but not all. As a result, the volume of illegal logging increased significantly. Therefore, it is worth thinking: is this really a reform or a deliberate closing of the eyes of Ukrainians to how much forest has been cut down and taken away. After all, there is no information - there is no problem.

Also, the information base of state administration in the field of land use has significantly decreased.

II. Transfer of statistical reporting for administration to other state agencies. The Ministry of Economy and Trade of Ukraine proposed to hand over 75 forms of statistical reporting to state bodies for administration. Of course, Derzhstat agreed to the transfer of only two of them. 42 forms, according to the State Statistics Service, can be transferred only with appropriate changes to normative legal acts and upon agreement with the relevant executive authorities.

The proposal to transfer a number of forms of statistical reporting for administration to other ministries and agencies is questionable. As experts in the field of statistics point out, many years and considerable funds, which society has already spent on training the required number of high-class professionals, must be spent on training a real statistician. If the functions of gathering and processing statistical information are transferred to other bodies of the executive power, these professionals will be dismissed and in the conditions of reduction in the number of ministries and departments, they are unlikely to find a job. Ministries and departments will be forced to train statisticians, spending considerable money on it. In addition, even more significant sums must be spent on the purchase of the necessary equipment, software, etc.

Agricultural statistics make up the third part of all forms of statistics of economic activity approved and summarized by the State Statistics Service, and therefore the issue of its reduction and transfer to the Ministry of Agrarian Policy and Food of Ukraine is often raised by reformers.

The list of forms to be submitted includes the 2 most important forms summarizing indicators of agricultural activity: 50-sg (annual) "Main economic indicators of the work of agricultural enterprises for 20__ year" and 2-farm (annual) "Main indicators of economic activities of farming, small enterprises in agriculture for 20__ years".

The Ministry of Economy and Trade of Ukraine proposed to transfer these forms to the Ministry of Agrarian Policy for administration. In response, Dezhstat provided clear explanations regarding the impossibility of such a step.

Form 50-sg is used to determine the efficiency of agricultural production in agricultural enterprises, the level of profitability of the main types of agricultural products, the structure of costs for their production, to calculate the natural value balances of basic food products, to track the level and dynamics of prices for products purchased by agricultural enterprises for agricultural production. The information is also necessary for the assessment of the elements of economic accounts of agriculture (ERSG), calculations of macro - indicators for agriculture for the SNR.

Data form 2-farms are used to determine the efficiency of agricultural production in farms and small agricultural enterprises, the level of profitability of the main types of agricultural products, the structure of costs for their production. The examination is carried out on a selective basis.

In addition, the information of these reporting forms is necessary for quarterly and annual calculations of GDP by the production method. In our opinion, it is not necessary to raise the issue of transferring the current forms to the Ministry of Agrarian Policy for administration, which, in principle, is impossible from the point of view of personnel and technical support and illogical from the point of view of methodical and methodological support. Instead, we should talk about the need to introduce a special information resource - departmental agrarian statistics as the basis of information support for agricultural market monitoring.

State statistics is an official, centralized system of collection, processing, analysis, dissemination, preservation, protection and use of national statistical information.

Departmental agrarian statistics are statistics that should complement official state statistics with current data for the purpose of forecasting and assessing the possible consequences of certain legislative initiatives in the field of state agrarian policy. For example, to assess the impact on the efficiency of agriculture of adopted changes in taxation, agricultural land use, pricing of agricultural products.

Solving the problem of information support for agricultural market monitoring is a particularly urgent task.

The introduction of departmental agrarian statistics requires the implementation of a number of financial and organizational measures. There is a strong need for highly qualified specialists, experts who know the methodology and methods of statistical research. Proposals were repeatedly expressed in scientific and expert circles, including from the Department of Accounting and Audit Methodology of the Institute of Agrarian Economics of the NSC "Institute of Agrarian Economics", regarding the creation of the Department of Departmental Agrarian Statistics in the Ministry, which will have a vertically integrated structure and include relevant departments in regional and district state administrations. It should be agreed that today the Ministry of Agrarian Policy and Food lacks specialists who would provide a methodical and methodological basis for solving this issue. Instead, the State Statistical Service of Ukraine has a staff of properly trained professional statisticians. Moreover, they have the opportunity to constantly improve their skills by interacting with structural units of the department responsible for statistics in other branches of the economy. Thus, the duplication of methodologists in all line ministries is impractical and will contribute not to a decrease, but on the contrary to an increase in state budget expenditures for their training and remuneration.

III. The quality and reliability of the information base summarized by state statistics. In the channel reforming statistics, first of all, we should talk about improving the information base, which is summarized by state statistics. Today, the problem of management information support at the branch and state level is the disconnection of statistics and accounting standards. Traditionally, in Soviet times, accounting and statistical accounting was clearly linked and controlled by the reporting system. The former information system was based on the accounting documentation of every business fact and the cross-linking of indicators for different types of reporting. In fact, statistical reporting was confirmed by accounting. The control function of the accounting system, which ensured the reliability of statistical reporting, dominated. The reforms destroyed the Soviet reporting system. Statistical observations became the basis of accounting and information provision of branch management. From now on, they are

not controlled by the accounting reporting system. A certain lack of control, reinforced by an institutional mentality, contributes to negative administrative effects on the reliability of information, creates serious threats to the financial security of enterprises and the agricultural sector as a whole. Such threats are state decisions to reduce and cancel budget support programs, initiatives to cancel the simplified taxation system, based on the high profitability of agricultural production, as declared by state statistics. In this aspect, measures to improve the status of accounting in management should be the direction of reform.

Summarizing the problem raised, it is worth agreeing that reform, which is currently the most relevant trend of state policy in all socio-economic spheres, cannot bypass the main information "vein" of macroeconomic management - state statistics.

Highly specialized information on agricultural activity, the collection of which is the basis of the idea of introducing departmental agrarian statistics, is extremely important for monitoring agricultural markets, effective branch management, and forecasting the economic development of rural areas. There is no fundamental difference which state institution will perform this function. If appropriate funding is available, it can be the Ministry of Agrarian Policy and Food of Ukraine, individual research institutes or institutions of the National Academy of Agrarian Sciences of Ukraine. After all, along with the administration of statistical data, the key functions of this institution should be:

- justification of the methodology of departmental agrarian statistics on the basis of large-scale studies and surveys of various expert groups of the public and private sectors;

– development, approval and implementation of methods of information filling, collection and generalization of statistical information;

- development and implementation of educational programs for personnel training.

The relevant department of the State Statistics Service of Ukraine is the most prepared in terms of personnel, method and organization to perform these tasks. In the Ministry of Agrarian Policy and Food of Ukraine or scientific institutes, additional financial and personnel support for the creation of an additional unit is needed to fulfill these

tasks. We share the opinion of qualified specialists in the field of statistics[312] that the reform process should begin with defining the functions of the State Statistics Service, the legal, institutional and organizational capacity of the national statistical system to meet the needs of society and information users.

Forecasting the further development of accounting and information provision of state statistics, it is worth noting the following.

At the end of 2019 and at the beginning of 2020, a number of important legal acts on accounting, taxation, financial and statistical reporting, personnel, and property issues were adopted, which lead to the need for prompt response and active, intensified work of the economic and accounting services of agricultural enterprises in 2020 year The most important trends in the development of information management support in the agricultural sector and in the work of financial and economic services of agricultural enterprises in 2020.

Changes to the accounting procedure for fixed assets, stocks, intangible assets, financial expenses, joint activities and accounting policy.

Starting from 2020, large and medium-sized enterprises are required to prepare a new report as part of their reporting - the Management Report, which contains financial and non-financial information that characterizes the state and prospects of the enterprise's development and discloses the main risks and uncertainties of its activity. The report must be published on the company's website no later than June 1, 2020.

Starting from 2020, large and medium-sized enterprises are required to conduct an audit of their financial statements to confirm and publish them on their own website no later than June 1, 2020.

New legislation has been adopted regarding the lease and privatization of state property, which will require an appropriate response from the financial and economic employees of state

[312] Artyomov I. V. Problems and prospects of Ukraine's entry into the European Union. Uzhhorod: Lira, 2007. 384 c.

enterprises and bringing current procedures into line with the new requirements.

The processes of reforming state statistics continue to meet the modern needs of society in objective, reliable and unbiased statistical information that corresponds to the basic principles of official statistics approved by the UN General Assembly and the Code of European Statistics Norms, for making informed decisions, conducting research and open discussions.

In connection with the implementation of the Government's action plan regarding the reform of state administration bodies, from January 1, 2020, statistical departments in the districts ceased their activities. In this regard, respondents in districts and cities of regional importance must submit state statistical and financial reporting to the Main Department of Statistics electronically or by mail.

Adoption of a small tax reform, as of the beginning of the year, the President of Ukraine has signed the Draft Law on Amendments to the Tax Code of Ukraine on improving tax administration, eliminating technical and logical inconsistencies in tax legislation. The signing of this Law provides for the introduction of international standards of tax control for all participants in international trade and the implementation of the norms provided for in the Plan to combat the practices of erosion of the taxable base and the removal of profits from taxation, reforming the institution of financial responsibility and improving the procedure for the administration of taxes and fees.

Such innovations are a further consolidation of the European development vector of accounting and information provision of state and macroeconomic statistics. Today, such a vector is: introduction of International Financial Reporting Standards in Ukrainian accounting practice; bringing the accounting legislation of Ukraine into compliance with the Directives of the European Union; reform of audit and audit activities as required by EU legislation; introduction of integrated reporting and Management Report for large and medium-sized enterprises, as required by the EU Directive, transition to European standards of the state statistics system. All this in the future brings us closer to civilized methods and models of management and its information support.

At the global level, the development of agricultural statistics has a tendency to move to statistics of rural areas. The global strategy for

the development of agricultural and rural statistics, which was adopted by the UN and FAO in 2010[313], defined the conceptual basis for the development of agricultural statistics, which combines the economic, social and environmental aspects of agriculture.

In the strategy, the economic dimension covers agricultural production, markets, income from agricultural and non-agricultural activities. The social dimension reflects the need to reduce risk and vulnerability, including in the context of ensuring food security, and also covers gender issues. The environmental dimension is based on the issue of environmental sustainability of the industry and the provision of environmental services.

In the FAO World Agricultural Census Program[314], the agricultural enterprise is considered as the basic unit of economic statistics. The basic unit of social statistics is the household. In environmental statistics, the basic unit is a plot of land.

Thus, we can talk about a new paradigm of transformation of the accounting and information support of the state system of agricultural statistics based on the transition from a formalized nomenclature of data to statistics of rural territories, which combines the economic, social and ecological aspects of agriculture (Fig. 7).

At the same time, the economic dimension covers agricultural production, markets, income from agricultural activities (economic potential). The social dimension of statistics should form the value of human potential, while solving the information problem of households. The basis of the ecological dimension is the generalization of the natural energy potential. It is proposed to consider an agricultural enterprise as a unit of economic statistics, a household as a unit of social statistics, and a plot of land as a unit of environmental statistics. If these units are linked with geospatial data, it will be possible to integrate them into the overall picture of land use and rural development.

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[313] Global strategy for improving agricultural and rural statistics. [Electronic resource] URL: http://www.fao.org/docrep/016/a m082r/am082r.pdf

[314] Program of the World Agricultural Census. [Electronic resource] URL: http://www.fao.org/world-census-agriculture/wcarounds/wca2000/ru/

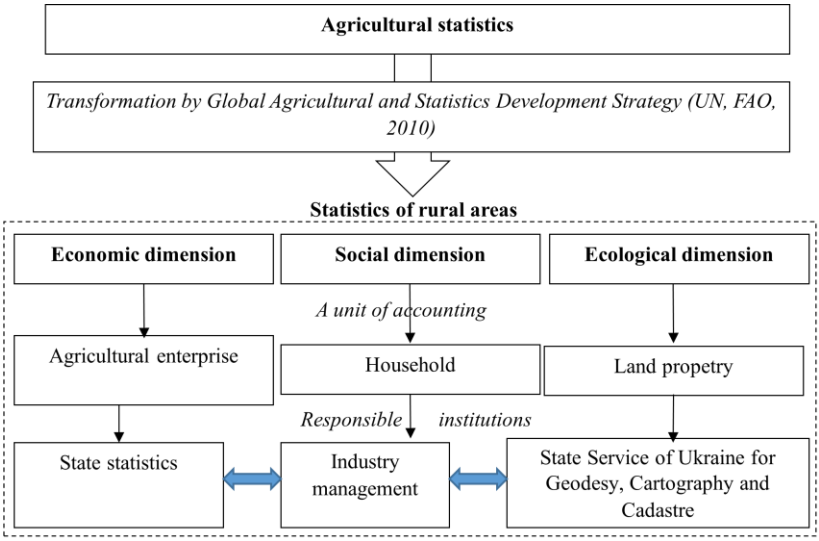



Fig. 7. **Paradigm of transformation of accounting and information support of the state system of agricultural statistics**
*Source: constructed by the authors*

Such a scientific paradigm also provides mechanisms for the coordination of methods, methodologies and procedures for measuring and displaying objects of national wealth in accounting and organizational mechanisms for the interaction of responsible state institutions for their implementation.

As evidenced by the analysis of the system of national statistics in the field of agriculture, it is worth adhering to exactly this way of development of the system of information support for management, orienting to the global, European dimension. In particular, we see the strengthening of information provision of the economy of personal peasant farms in the further work on departmental agrarian statistics based on the UN and FAO Global Strategy for the Development of Statistics of Rural Territories.

Cooperation in the field of statistics is provided for in Chapter 5 "Statistics" of Chapter V "Economic and sectoral cooperation" of the Association Agreement between Ukraine and the EU. In particular, Ukraine is expected to implement EU legislation in the field of

statistics. The provisions of the legislation are set forth in the annually updated Compendium of Statistical Requirements (attached to the Association Agreement by agreement of the Parties).

According to the results of the Adapted Global Assessment of the National Statistical System conducted by representatives of the European Commission, the European Free Trade Association and the United Nations Economic Commission for Europe, Ukraine's statistics are recognized as meeting European requirements to a large extent, and the information produced by state statistical bodies is a high-quality product. According to the results of the assessment of international experts, the institutional environment of the functioning of state statistics bodies as a whole meets statistical standards, including the fundamental principles of official UN statistics, the Code of Norms of European Statistics, as well as the Compendium of Statistical Requirements of Eurostat. However, the expert group recommended harmonizing the legislation in the field of statistics and related areas with the EU legislation in order to create a single legal basis for state bodies authorized to compile statistical information and to form a complete national system of official statistics, with the State Statistics Service having a coordinating role. Compliance of national statistical information with European requirements, the status of Ukraine's implementation of the requirements of the Association Agreement between Ukraine and the EU in terms of state statistical information (Chapter 5 "Statistics" of Section V "Economic and industry cooperation" of the Agreement) are given in Appendix G.

At the same time, there is no important segment in the program documents regarding static information and its quality and compliance with European standards, which is key for the information support of management in agriculture. We are talking about a purely agrarian segment of statistics. Strategic documents of the European Union, the United Nations, and the World Bank declare the principle of transferring agricultural statistics to the departmental level. In the European Union, there is a powerful system that combines official state statistics with departmental statistics. Such a reporting and information system provides an effective policy for the development of farming, cooperation and rural areas in the EU.

Therefore, we see the development of the agricultural aspect of information provision as its improvement in the direction of

implementing FADN principles in Ukraine. It consists of an annual survey conducted by the member states of the European Union. The services responsible within the EU for the operation of the FADN collect accounting data every year from a sample of agricultural enterprises in the European Union. The used methodology is aimed at providing representative data in three dimensions: regional, economic size and type of agriculture.

The full implementation of the integrated FADN system in Ukraine should be expected no earlier than upon Ukraine's accession to the EU. Therefore, it is worth working today in the direction of introducing agricultural statistics based on the principles of FADN, which would meet European standards of agricultural statistics and supplement official state statistics with relevant data for monitoring agricultural markets, economic development of rural areas, and preparation of consolidated macroeconomic indicators for Eurostat.

The successful economic activity of companies in the field of agribusiness requires taking into account the environmental, social and economic issues of social development that are most important for current and future generations, which in recent years have been reflected in the format of the global concept of sustainable development and the development strategy of the national economies of most developed countries. In Ukraine, these global trends are taken into account in the strategic vectors of national economic development, in particular, the National Economic Development Strategy for the period until 2030, the Food Security Strategy - 2030, the projects of the Strategy for the Development of the Agrarian Sector until 2030. and Sustainable Development Strategy of Ukraine until 2030.

The implementation of the principles of sustainable development in practical activities requires appropriate accounting standards and rules, which will become the basis of corporate financial and non-financial reporting of business entities. Reporting on sustainable development today forms the potential of trust in the company, investment potential, loyalty of buyers and consumers, margin of safety for increasing the value indicators of the brand and agribusiness as a whole.

In the context of the emergence of new strategic goals and objectives of the sustainable development of business society,

information and analytical business support expands the traditional range of inherent basic functions and today appears as a flexible tool for coordination, business navigation, support for value creation, integration and evaluation of the advantages of the company's sustainable development strategy in the market environment. Sustainability reporting is gradually becoming mandatory.

Today, intergovernmental organizations (IFRS international standards fund, UN) are implementing an initiative to support the implementation processes of the global concept of sustainable development in the accounting and analytical sphere in the following directions: 1) creation of the Council for International Standards of Sustainable Development (ISSB); 2) merging and creating consolidated professional bodies, such as the Climate Disclosure Standards Board (CDSB) and the Value Reporting Foundation (VRF).

Today, a draft of the International Standard for Disclosure of Information on Sustainable Development has been developed, which defines the key principles and requirements for disclosure of information related to sustainable development in financial reporting: General Requirements for Disclosure of Sustainability-related Financial Information.

The special importance of sustainable development standards lies in the possibility of future assessment of the impact of the costs of implementing sustainable development programs on the financial condition and results of the business, the projected amount of cash flows, the effectiveness of the business strategy and the value of the enterprise as a whole. The draft International Standard has significant differences from existing international accounting and financial reporting standards. Considerable attention is paid to the mechanism of managing sustainable development processes at the company level (strategy, goal, management structure, management policy, risk management, control, management comments, etc.). Today, this project has passed an open public discussion and is undergoing the procedure of making additions and amendments.

Sustainable accounting should ensure full satisfaction of the needs of information users in financial and non-financial indicators of activity, reduce to a single report a set of reports, which today are partly mandatory, and partly prepared by business entities on a voluntary basis. This involves the formation of a set of reports

(financial and non-financial) into a single integrated system, which will be universal and understandable for all users based on the format of data presentation and their interpretation (Fig. 8).

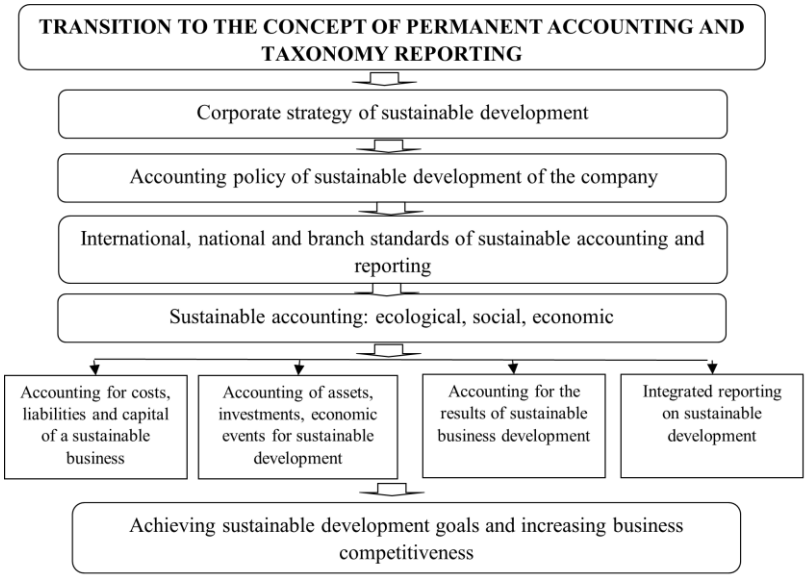



Fig. 8. **Model of transition to the concept of sustainable accounting of business entities of Ukraine**
*Source: constructed by the authors*

For this, today's need is to expand the articles of the "Financial Status Report", methodical approaches to standard classifications of expenses and income, supplementing notes with integral indicators of sustainable development, working out the mechanism for displaying risks, and the mechanism for managing them. One of the most fundamental and debatable aspects in the theory of sustainable accounting today is the issue of accounting for natural assets that have a direct impact on the processes of sustainable management, however, they appear in a dual essence from the standpoint of ownership and methodological provisions for their reflection in accounting and reporting.

The main principle of the management information system of business entities of the agrarian economy of Ukraine should be a strategic focus on solving the main tasks of sustainable socio-economic and ecological development of both business structures, the agrarian sector, and rural areas. The increase in the amount of equity capital, as the main criterion and result of the operation of the enterprise, should gradually be supplemented by other effective parameters. The processes of enterprise capitalization, the value of agribusiness as a whole, as a ready-made object of purchase and sale on the market of active business projects, together with a radical change of the exclusive paradigm of profitability maximization, which should be supplemented by a complex social, economic and environmental task for revitalizing rural areas and increasing the level of sustainability and inclusiveness of the life of the country's rural population. Shifting the basic emphasis of information management support in this direction will form the corresponding requirements for the organization of a new, more perfect, complete and transparent system of accounting and analytical support for managing all business processes of domestic agrarian formations.

## 2.9. STRATEGIC PRIORITIES OF CUSTOMER-ORIENTED SERVICE

In modern economic conditions, the creation of competitive advantages only at the expense of price incentives, expansion of assortment policy, introduction of new technologies is no longer sufficient to be competitive in the market. IN in today's realities, it is becoming more and more difficult to stand out among others only with a product or service. The market has undergone major changes, moving from a seller's market to a buyer's market.

Traditional methods of enterprise management and strategic decision-making, attempts to increase the level of control of subordinates, which is not only a waste of resources but also is a deterrent to initiatives reducing the competitiveness of production remains to be a significant obstacle to the implementation of ICT. That is, in addition to objective factors that hinder the effective implementation of new management approaches, there are also

subjective ones related to the usual methods of management and psychological characteristics of old school managers with their ignorance of new technological opportunities of ICT. This increases the role of research on the implementation of ICT in management practice, in particular in the management of old industrial enterprises, the management of which has some prejudices about new technologies, to increase the effectiveness of strategic management decisions [315].

Every day, the consumer becomes more knowledgeable and demanding about the product or service provided by the company. The decisive criterion by which consumers choose a company in which to purchase a product or service is the attitude towards customers and the level of service it provides. Since the ultimate goal of business interaction with a person is not to sell something, but to make him a regular customer, and excellent customer service (understanding what the buyer needs before him and selling what he really needs, for which he is grateful) forms customer loyalty.

The quality of the service determines the competitiveness of the enterprise on the market in the conditions of growing consumer demands and needs for quality. Loyalty is a characteristic that determines the company's future income and the ability to maintain it. Service and loyalty are interconnected: a customer satisfied with the service will have a positive experience of interaction, which will determine further relations with the company. A negative interaction experience leads to the elimination of customers and the need for enterprises to search for alternative competitive advantages. With this in mind, companies are automating the customer experience, which has led to the development of various digital business models.

Analysis of recent research and publications. In developed Western countries, the issue of maintaining and improving service quality in companies that recognize the priority of service quality is solved using the concept of service management (Service Level Management,

[315]Zamlynskyi, V., Minakova S., Livinskyi A., Al Ali, Camara Balla Moussa (2022) Information and communication technologies as a tool and incentive for strategic decision making. Naukovyi Visnyk Nationalnoho Hirnychoho Universitytetu. 2022, (2): 129 - 134. https://doi.org/10.33271/nvngu/2022-2/129

SLM)[316]. In Ukraine, the interest of business structures in the implementation of international quality standards and work on their implementation has intensified. EN 15838:2009 became such a standard in the field of call centers in 2009. Despite the objective need, the above-mentioned concept has not yet been implemented in the practical activities of domestic call centers, although developments in this direction are underway. An example of such developments are the recommendations for the systematization of service management processes in the all-center, presented in EN 15838:2009 [317], in particular: Communication and customer service Agents shall have at least the following skills and abilities: a) communication skills; b) adaptability (ie flexibility in handling different situations and customers); c) problem solving skills; d) service and customer orientation (ie approach and attitude towards customers); e) target orientation and coping with demand. 5.2.3 Technical skills Agents shall have the following technical skills and abilities: a) ability to handle the applied communication systems; b) ability to handle the applied IT solutions. 5.2.4 Specific skills and knowledge The CCC shall ensure that agents receive basic and ongoing training to acquire the skills required to handle tasks specific to their CCC and its current goals. This shall include 'minimum skills' testing. Agents shall have skills and knowledge dependent on special fields of application and requirements on the part of the CCC. The agent shall have the relevant knowledge of the legal requirements, eg on laws on consumer rights. 5.3 Recruitment process. The recruitment process shall be conducted on the basis of the established profile of competencies.

The concept of service based on customer experience provides additional value of the product for the customer in the form of service, which also means service when using and owning the product. The formation of such value belongs to the functions of marketing. Provided that the demand for the product is formed, the company forms the utility of time and place, which provides for logistics service, delivery of the product to the client at a certain time and a

[316] ISO standards. URL : http://iso.staratel _ com.

[317] International standard EN 15838:2009. URL: https :// standards. iteh _ ai / catalog / standards / cen /9 dba 9 a 92-82 c 2-476 e - ae 5 b - edeaa 706926 a / en -15838-2009

certain place, which ensures the spatial and temporal realization of demand. External information activities are primarily aimed at meeting needs already an existing or potential client (resolving technical and informational issues, selling goods, services or information itself).

The enterprise can carry out external information activities in the following main directions:

- advisory
- on a technical basis
- intermediary
- informative

Consultative information activities are provided by employees of the public relations department, operators and call centre technicians. Here, the needs of getting answers to the questions that arise before the client, assistance in technical support, and also it helps to sell a product, service or information both to an existing client and to establish relations with a potential one are met here.

Internal information activity is aimed at organizing information flows within the enterprise and depends on the organizational structure of the company.

When organizing the internal information activities of the enterprise, the top management should provide for the possibility of moving information flows along the hierarchical tree both from the director to the ordinary employee through the heads of departments and vice versa, as well as provide the opportunity for employees to freely generate ideas and express their opinions without being tied to your status at this company.

The prospects for the organization of information activities at Ukrainian enterprises depend on the creation of integral information systems of the organization, where information flows will be directed along vectors that will provide an opportunity to ensure business growth. Therefore, in order to achieve the maximum efficiency of the company's work, the primary task is a comprehensive, well-balanced organization of the company's information activities, provided with technical and human resources.

Contact centres (call centers) play an important role in the organization of the company's interaction with its customers, thereby creating additional consumer value and increasing the company's

competitiveness in general. The market for outsourced call centers is very strongly related to the level of business activity in general. Currently, even large companies with corporate call centers are turning to outsourcing services, giving them excess traffic during mass promotions or routine processes related to attracting new customers. Today, according to market participants, clients have become more knowledgeable about the services and capabilities of call centers. The need to optimize communication work with mass industry clients has led to a high growth rate of interest of many business structures in the services of modern and highly intelligent call processing centers (call or contact centers). The terms "call center" and "contact center" in professional practice are completely different products and with different sets of services. The contact center differs from the call center in its broader capabilities and functionality, capable of processing various means of communication through all known communication channels, not just voice traffic. Thus, the functionality of the call center is part of the modern contact center and is its structural part.

When considering the market of contact centers in Ukraine, it is necessary to distinguish between its two segments - the services of outsourced and own commercial contact centers, the services of which are fully used by the owner company. Recently, it has become much more profitable to entrust call processing to external outsourcing structures. In such cases, a specialized business should not engage in functions that are not characteristic of it: develop areas and spheres of activity that are not specific to it. This can cause additional costs and reduced efficiency.

Now the call center is a complex mechanism consisting of a synthesis of modern technologies and people. It is based on software, which, together with computer equipment, allows us to serve a huge number of customer requests on a wide variety of issues. Today, every call center provides a package of services. They perform the following functions:

- High-quality distribution of call center resources (configuration of roles, routing, IVR, blacklist, automatic calls);
- control of the quality of work (collection of statistical data based on the results of application processing, recording of conversations, quality maps);

- increasing the efficiency of operators (scenarios, schedule planning, API integration, calling debtors).

Modern trends in the development of communications are no longer satisfied with the availability of only telephone communication, demanding presence in the call center and the ability to communicate with the client using e-mail, chats, support for integration with web pages, social networks.

Such call centers are usually called contact centers, which emphasizes multi-channel communication with customers. The contact center can also combine several call centers - this allows more efficient and productive work with clients, which increases the trust and quality of the call center's service.

The ability to flexibly route calls, combine different channels of processing requests into a single customer support channel, together with various possibilities of grouping operators by the topic of requests or level of professionalism ensures a high level of customer service.

The second big advantage of contact centers is the expansion of self-service functions. This contributes to more efficient use of operators' time in telephone conversations, reduces customer waiting time and lowers call center maintenance costs.

Establishing long-term positive relations with the client gives a tangible profit to the firm and retention of existing clients, which is the most important factor in ensuring the company's competitive advantages.

The customer-oriented approach involves three main positions:

- deep understanding of customer needs;
- effective satisfaction of customer needs;
- obtaining additional profit by the company at the expense of the first two positions.

Additional profit arises due to the sale of additional goods and services to the company's customers. The consequences of the transition to client orientation are a high assessment by the client of the company's policies and tactics and the formation of a corresponding positive, client-oriented image of the company. It is possible to single out three categories of benefits of a client-oriented approach for clients themselves, namely: - psychological - close communication with the company; - social - friendly relations with

staff; - economic - receiving discounts, various bonuses, individual service and goods that are tailored to a specific consumer. In order to turn a potential customer into a real and permanent one, to prevent him from switching to competitors, it is necessary to introduce the concept of individualization of the client into the company's activities, that is, to offer him goods and services that will meet his needs, to provide appropriate individual service and maintenance, etc. The benefits of a client-oriented approach for companies should also be highlighted, in addition to obtaining competitive advantages, additional profit and success in the market. Establishing long-term trusting relationships with customers makes it possible to reduce the transaction costs of market transactions: finding information, concluding contracts, measuring product quality, protecting property rights, and protecting against dumping and aggressive behaviour by firms and buyers.

Relationship marketing assumes that such marketing processes as development, production, and sales (delivery of goods or services to end consumers) should be combined into a single business process aimed at meeting specific, defined consumer needs. The formation of a client-oriented company involves the reorganization of not only its marketing concept, but also the management model of the company as a whole.

At the first stage of building customer orientation, the company must understand who its key (target) customers are, what criteria they will use to evaluate it, and orient all its decisions to these criteria.

The second stage of this process involves hiring employees who share the company's values and goals. It is necessary to develop certain criteria for the selection of employees, which will correspond to the corporate culture of the company, which is focused on the client. Various tests, questionnaires, and interviews can be used to select employees. It is possible to improve the quality of customer service only when the staff sees and clearly understands the relationship between their own interests and the company's focus on each client. In addition, employees must be able to demonstrate and demonstrate their customer orientation in such a way that the customer can notice and appreciate it. In order to increase customer orientation, the "right" candidates should be selected for the company. When selecting and hiring new employees, it is necessary to take into account the greatest degree of coincidence of corporate interests and values, corporate

culture with personal values, goals and culture of applicants for certain positions. The essence of the given model is to find a balance of interests and requirements of both parties, which will make it possible to increase. customer orientation of the company's personnel.

When selecting personnel for work, it is necessary to give preference to applicants who are able and intend to work with people (buyers, clients), who have high stress resistance, are friendly, are able to demonstrate a positive attitude, are capable of training and improving their professional skills, and are able to resolve conflict situations. It is useless to train an employee who does not meet the selection criteria mentioned above. However, in order to increase the customer orientation of the company's personnel, it is necessary not only to "filter" candidates, but also to implement a system of effective training and training of employees in accordance with the customer service standards established therein.

At the third stage of the process of implementing a customer-oriented business strategy, the company must convey to its employees what its mission and main goals are, who are its target consumers (customers), what its main strategy and tactics consist of and, accordingly, what outlook it requires from the employee himself. The main goals of the company's activities, as we have already noted, must coincide with the internal personal goals of the employee, and only in this case the employee will be able to meet the company's criteria, increase his work productivity, and therefore the productivity and profitability of the company in general, which is one of the keys to success such a company.

At the fourth stage, training or training of employees takes place. Training should take place based on a certain level of education. In order to increase the level of customer orientation, the company should train its employees in ways to implement work tasks, ways to respond to typical work situations, and ways to respond to atypical situations. Employees must get a complete picture of customers, products or services they sell, learn to work in a team, communicate with customers, etc.

The fifth stage of the formation of the company's customer orientation involves the motivation of employees, both material and moral. Compensation is fair if the employee receives more for work that is more useful for the company's goals. It is also important to

create a favourable psychological climate in the team. How employees feel at work will determine how they serve customers.

The technologization of client-orientation occurs when the actions related to the provision of the process are dictated by specially created tools - equipment or other technical means. The main problem of implementing client orientation is the development of a management system in which client orientation would be part of the technological process. Important elements of creating a client-oriented company are monitoring - a constant check for client-orientation. Monitoring should include both an assessment of internal customer orientation (employee satisfaction) and an assessment of employee customer orientation (their attitude towards customers) through establishing feedback.

Thus, the formation of the service process takes place at the enterprise itself, while the preferences of consumers regarding the quality of their service are formed from the outside. A guarantee of high quality of service will be possible only if these two parties are as close as possible, since the quality of service arises at the intersection of the interests of the consumer and the enterprise.

When providing customer service, the company's management should take into account that the customer service process has both economic and social significance. From the economic point of view, poor-quality provision of services to the consumer will lead to an increase in material, labour and financial costs, which the company will additionally have to bear when correcting the mistakes made (incorrect shipment of the order or its loss, increase in time for servicing one consumer, repeated servicing of the consumer). However, consumer dissatisfaction can also lead to refusal to receive the company's services or products, which, if ignored, can lead to a reduction in the total number of orders, deterioration of the market image and loss of competitiveness

The goals of service management consist of ensuring the goals regarding the quality, efficiency and competitiveness of the service system, and the definition of the desired state of the service system consists in substantiating the target quantitative parameters of the system and the type of their dynamics. In order to achieve the intended goals, it is necessary to form a set of measures of influence on the object of management, taking into account the defined target

guidelines. Depending on the type and degree of discrepancies between the actual and desired state of the service system, a set of such measures may contain operational and strategic decisions regarding the impact on various components of the service system, for example: preservation, replacement or expansion of the existing range of basic and additional services, changes in pricing policy , introduction of new methods of service, assessment and motivation of personnel to improve the quality of service and labor productivity, etc. When developing a set of measures to influence the service system, it should be remembered that such measures may require simultaneous changes for their implementation.

Modern approaches to determining the quality of service involve the use of benchmarks for standards and consumer benchmarks for competitors, because the quality is higher than that of competitors, determines the competitiveness and efficiency of the service system of a given enterprise. Regarding the determination of the level of efficiency of the service system, it is also advisable to conduct it in two directions: the assessment of the achievement of the desired indicators and the assessment of the position of a separate call center in the group of competitors. Thus, the benchmarks for the assessment will be the planned indicators of the enterprise itself and the actual performance indicators of competing enterprises. Despite the importance of the efficiency criterion, most methodological developments on service evaluation provide for the determination of only service quality. Therefore, when evaluating the effectiveness of the service system, it will be important to justify the appropriate methodological tools. For a general conclusion about the quality and efficiency of the service system of a separate call center, it is necessary to combine the conclusions of the assessment of the quality and efficiency of the service system within the boundaries of a separate business entity and the assessment of the quality and efficiency of the service system in a group of competing enterprises.

Quality and efficiency indicators of the call center service system should be monitored both statically and dynamically. Determining the level of fluctuations of the specified indicators makes it possible to draw a conclusion about the stability/instability not only of quality or efficiency, but also of the state of the service system in general. The obtained results help to obtain a more complete picture of the state of

the management object and can become the basis for developing measures to improve individual elements of the service system and determine the direction of further development of the service system in general. The collection of statistics and the study of fluctuations in quality and efficiency parameters during a certain period make it possible to draw a conclusion about the parameters and type of dynamics of the service system of a separate call center. Comparing the actual indicators of the quality and efficiency of service of a separate enterprise with the characteristics of competing enterprises makes it possible to determine the position of this business entity in the competitive group. A qualitatively conducted analysis of the current state of the management object (service system) taking into account the influence of the external environment allows a more reasonable approach to the definition of goals regarding the final state of the object, namely the target indicators of individual elements of the service system and its characteristics in general. In the general system of goals, which determines the purpose of functioning of any business entity, the goals of managing the service system belong to economic ones and are a reflection of the relations between management entities. The goals of the main management entity, the owner of the call center, are formalized through the goals of economic and social direction. When achieving the desired performance indicators of the enterprise for economic purposes, the owner of the call center can refocus on the goals of social content to achieve a certain social status in society. However, economic goals are always paramount. Achieving the owner's economic goals, which consist in ensuring competitiveness and increasing the market value of the enterprise, is based on the achievement of goals in various areas of management, in particular, in the area of service management. In the context of achieving the desired efficiency of the service system, the main goals of service management are the excess of revenues over the costs of creating and maintaining a service system of an appropriate level and ensuring the positive dynamics of their ratio. From the point of view of ensuring the desired quality of service, the main goals of service management are the formation of such a service system that would meet consumer expectations, industry and international standards and ensure compliance with norms and standards established at the legislative level. At the same time, it should be taken

into account that the actual indicators of the quality and efficiency of the service system of an individual enterprise to ensure its competitiveness must be higher or, at least, not lower than similar indicators of competitors.

Competitive strategies are an important and integral component of modern market relations. This is a way of obtaining sustainable competitive advantages through competition, meeting the needs of consumers who are becoming more and more demanding of a product or service. Competitive strategies help the company to make a way from the market position it has to the desired one. This is done by adapting to external forces: competition, market changes, technological development, as well as by identifying and aligning the company's resources according to the opportunities that open up to the company.

Autocomplete using NLP has become widespread in search engines and mobile keyboards. Many word processors, browser plug-ins, and text editors have built-in spell checkers, grammar checkers, and word matching tools. Some of the dialog machines (chatbots) use natural language search to find the answer to the message of their interlocutor. NLP systems can be used not only to create short answers in dialogue machines, virtual assistants, to generate short posts in social networks, but also to organize longer passages of text. The Associated Press uses NLP-based journalistic robots to write entire financial articles and sports reports.

Chat bots

Artificial intelligence and machine learning also help chatbots function. The audience likes the possibility of instant resolution of issues and receiving feedback from the company or seller 24/7. Chatbots based on artificial intelligence, which are capable of deep learning, can develop a dialogue, take into account the client's past requests, collect data and analyze the needs and questions of consumers, naturally interact with a person, establishing his connection with a company or brand.

The loyalty management market is expected to grow to $18.2 billion by 2026. This indicates that most brands are planning to implement a loyalty program. Increasing competition requires brands to differentiate and act in time to retain as many customers as possible.

The next step is to differentiate your loyalty program. Rapid digitization has tremendously affected the buying behavior of customers. To keep more customers, you need to maintain relationships with them. Today, 72% of customers consider loyalty programs an important part of their relationship with brands. As customers value loyalty programs beyond discounts and cash back, brands must also meet customer expectations. It's time to take a holistic approach to loyalty programs. Let's break down the holistic approach into key requirements.

1. Deep data analytics

Customers crave personalization in loyalty programs. 80% of customers like to work with brands that offer personalization. Your customers want to be supported through their chosen communication channel, not yours. This is why a multi-channel approach is a modern necessity.

Giving your customers the option to reach you via phone call, chat, text or email will help them feel heard and valued. This effortlessly gives them confidence that they will get the support they need, when and how they need it.

Loyalty programs should also implement personalization of rewards, marketing communications and customer experience. Effective personalization is only possible with deep data analytics. Brands regularly collect huge volumes and diverse data. Deep data analytics enable brands to understand purchasing patterns, segment customers, predict purchasing behaviour and analyse loyalty program performance. This analysis helps brands make their loyalty program customer-centric. For example, the analysis of data about purchases allows you to identify customer preferences.

In our opinion, the following key aspects of a data-driven loyalty program can be identified:

Display customer contact points. Accurate mapping of customer touchpoints creates high-quality, tagged data that simplifies segmentation of customer data. This data helps brands understand customer information and make informed decisions.

For example, if a member of a loyalty program regularly visits a brand's store, he prefers in-store discounts to online discounts.

KPI benchmarking. Each loyalty program uses certain KPIs to monitor performance. These KPIs may vary by customer segment,

industry, location and program goals, meaning a global loyalty program will have different KPIs than a local loyalty program. Thanks to deep data analytics, it becomes easier to set accurate KPIs and constantly measure the effectiveness of loyalty programs. The more you personalize the customer journey, the more important they feel. It inspires loyalty and improves retention, and doesn't require much thought. Personalization occurs in everyday interactions with customers, when interacting with customer service agents, and can be as simple as using a person's name or asking individual questions. The purchasing behaviour of 66% of customers changes depending on the method of receiving the reward. From having multiple tiers and gamified rewards to omnichannel customer engagement, brands need to look at customer engagement holistically. A reliable technological platform makes the program adaptive, secure and multi-channel. At the same time, it is important to ensure data security for customers. Privacy policy, cookie policy and compliance with regional data security laws have become mandatory. Communicating the measures taken to protect data helps to build trust.

In our opinion, the following technologies open new paths for brands:

Architecture and API-driven application.

Architecture can make loyalty programs flexible for marketers. Without affecting the user interface, marketers can test campaigns and track performance.

Loyalty programs are made available on different platforms through APIs. For example, POS integration improves the in-store customer experience for loyalty program members. At the same time, CRM integration allows brands to interact with customers digitally in real time.

Campaign tracking and monitoring

Brands usually run multiple campaigns at the same time. But tracking each campaign in real time is difficult. By updating the MarTech stack and incorporating tracking tools into the loyalty platform, brands can manage each campaign from a single dashboard. This allows for real-time performance management and the ability to quickly adapt.

3. Strategic consulting to make the loyalty program flexible

Research suggests that poor customer retention strategies can cost American companies up to $83 billion annually. Changing consumer behaviour requires brands to go beyond traditional methods to focus on customer retention.

Every successful strategy is flexible and adaptable. 2023 requires a holistic approach to developing a loyalty program strategy. Below are important aspects to look out for:

Individual strategies for specific customer segments

Brands have several customer segments. The buying behaviour of each segment is different. Satisfying each segment with a single strategy is implausible. Tailoring strategies with a customer-centric approach can increase customer retention. Consistent analysis of a loyalty program can reveal valuable information about its effectiveness. Over 50% of loyal customers actively refer brands to friends and communities. Targeting and providing value to existing customers yields a better ROI than acquiring new customers. Analyzing the current program helps brands identify rewards that customers prefer, improve the program interface, and identify new opportunities to increase engagement.

KPIs that are important to the customer experience need to be meticulously tracked and measured. When it comes to customer retention, key performance indicators that reflect the customer experience your customers are receiving need to be tracked, measured and regularly reviewed.

Example:

– Customer Satisfaction Assessment (CSAT).

– Total conversations per agent - How many people are your agents talking to per day?

– Response time - how quickly are requests processed?

– Churn Rate and Retention – How many customers stop or stay with you?

– Customer Lifetime Value – How much is a customer worth to your business over the lifetime of your relationship?

– Customer Effort Score – How much the customer has to do to resolve their query/complete a transaction with your organization.

– Net Promoter Score (NPS)

Your customers will always be more inclined to buy your product or service if they see a ringing endorsement from an existing customer singing your praises. Case studies are a great way to demonstrate what customers love about your brand, and more importantly, what your potential customers might have if they too reached into their pocket and bought the product. Use this type of content during the sales process and you'll tell your customers why your product will meet their needs. If well planned and executed, case studies can be worth their weight in gold, offering unparalleled insight into the consumer mind.

Voluntary customer churn often occurs when a customer becomes disillusioned that a company does not deliver on the promises, they made during the customer onboarding process. Honesty really is the best policy when it comes to providing exemplary customer service. Somewhere in the future you can fail if you make promises you can't keep. So, instead of trying to scare the eye of the customer, focus all your efforts on providing a great value proposition and honouring your end of the bargain. This will keep your customers happy and help you develop future customer advocacy programs. Your hard work doesn't end when you convert a prospect into a customer. It's important to create a road map that describes how you will build and consolidate for the future. Internal collaboration is essential to ensure you get value for money; contact your account manager and set clear goals and milestones that you can communicate to your users to get them interested in the next phase of your relationship. For example, when a player makes a purchase on the PlayStation Store, Sony is not satisfied with a one-time sale. They send messages to their customers to let them know about new gadgets, upcoming titles, playable demos, and more. Often, the customer is asked to leave their feedback, and this is fundamental to making them feel as though they are playing a proactive role in the development of the brand, which in turn encourages them to remain loyal and continue to buy the company's products.

Communication will help your customers understand how incredible and the quality of services you provide. When you deliver a product or service that outperforms the competition, reward those who are responsible for it.

Churn usually occurs because your users are dissatisfied with some element (or elements) of your product or service. So, what better way to improve your offering than to go directly to the source and ask them what they like and what they'd like to see improved? Customer and market feedback is essential to improving your offering, understanding the customer experience from the consumer's perspective, and ultimately retaining more of your valuable customer base. From focus groups to questionnaires and surveys, there are a variety of ways to collect quantitative and qualitative data that you and your team can use to make informed decisions about your product without relying primarily on internal guesswork.

Consumers are often creatures of habit; they want to know what to expect when making a purchase. Chances are, your customers won't be bucking the trend; The element of surprise is not a favourite tactic among marketers - and for good reason. Sometimes clients enjoy unfamiliar territory. Create onboarding processes for your new customers and conduct initial phone calls and meetings. It is also important to create coherent web resources and social media channels. This will help you get adequate support in different channels. You can minimize the risk of future disruptions by using a CRM system to track customer feedback, phone calls, and other information that will help you understand your customers' preferences and offer a better service. Customer retention is more than providing products that meet all requirements. You need to pay attention to the points of concern that your customer support team is reporting, including the importance of customer experience in building loyalty among your customer base. Satisfying the basic needs of customers should be self-evident and will not always convince people to stick around and become advocates of your brand. Conversely, when you exceed customer expectations, your customers are more likely to be amazed by your customer service, recommend you to their friends and family, and help you grow your business exponentially. One person's perception of being "out of bounds" will differ from another's. Therefore, it is necessary to review and evaluate the activities implemented at regular intervals to ensure that you are attracting as many people as possible.

There are two types of reciprocity techniques to use: 1) surprise reciprocity. This is an unexpected gift, such as a ticket to an exclusive event or a discount code. 2) voiced reciprocity. Disclosed reciprocity

is when the person providing the benefit does so in a way that makes it clear that they are going above and beyond the call of duty. You do not need to communicate these benefits to your customers as part of your company communications; it must be obvious that you are providing something that is not part of your normal services. For example, when customers pre-order a product, they often get access 24 hours before general release. Likewise, when the Product Marketing Alliance adds to our bank of industry reports, users with PMA memberships get early access. The product marketing tech suite includes a variety of proven tools you can use to improve your practice.

A few key things to retain and maximize CLV, strengthening your brand retention marketing strategy:

- Prioritize a great customer experience. This means providing exceptional customer service, offering high-quality products and making it easy for customers to buy from you.

- Focus on building strong relationships with your customers. This can be done through personalization, targeted email automation, SMS campaigns and loyalty programs.

- Make sure you continuously measure and analyze retention data so you can identify areas for improvement. We did this for Frobishers who achieved a 47% retention rate!

Examples of customer loyalty programs that improve retention

Loyalty programs can be classified into:

- Rewards programs offer rewards to customers who purchase certain products or services. Examples include airline miles, points of purchase, and cash back programs.

- Loyalty programs give customers benefits based on how often they visit a store, restaurant or hotel. They usually tie these programs to an account or membership card.

- Loyalty cards are used to track purchases made at certain stores or restaurants. Some cards even allow users to receive discounts when shopping at certain retailers.

- Loyalty programs. These apps use mobile apps to collect data about customer behaviour and preferences. They then shared this information with other participants in the program.

The loyalty program is beneficial not only for companies, but also for consumers. By rewarding them for returning to a store or

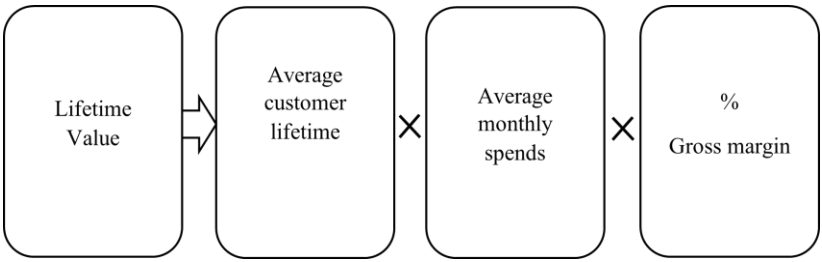
restaurant, companies encourage customers to return. Every time they come back; they will know what service they are getting.

Increasing customer loyalty is about creating an emotional connection between you and your customers. It's also about building trust and making sure they know what you want them to do the next time they visit your website. Retention rates offer a way to measure customer loyalty. Fortunately, there are many useful retention metrics you can use to measure your customer loyalty.

Lifetime Value (CTV) and its importance

This highlights the importance of customer lifetime value (CLV). CLV is a metric that measures a customer's overall value to a brand over the course of their relationship. As acquisition costs rise, it's more important than ever for brands to focus on maximizing CLV.

And this is especially true as more and more brands move to a direct consumption model. To stand out from the competition, make sure your retention plan is second to none. Invest in strategies like loyalty programs and email marketing to keep your customers coming back.




Customer churn rate

The business cycle of losing and gaining customers is known as churn. Churn happens in every business, regardless of product quality or customer service. The lower the churn rate, the more customers you retain.

We can calculate the churn rate by dividing the total number of customers who left your business in a given period by the number of customers you had in the same period.

Churn formula = Cancelled customers in the last 30 days, ÷ Active customers, 30 days ago x 100

For example, if you had 100 customers in the last month and 10 of them left, your churn rate would be 10%, so 10% of your current customers left your business.

Usually, a high churn rate indicates that the business is in trouble

You need to figure out how to reduce churn to improve customer retention.

Customer Acquisition Costs (CAC)

The Customer Acquisition Cost indicator determines how much a company pays to attract new customers. CAC includes marketing costs such as advertising, direct mail campaigns and other promotional activities.

Divide the total customer acquisition costs (cost of sales and marketing) by the number of customers acquired over time to arrive at CAC.

That is: CAC = MCC ÷ CA

MCC: The total cost of the marketing campaign associated with the acquisition

CA: Total number of customers received

*Customer Retention Rate (CRR)*

Customer retention rate shows the percentage of existing customers who continue to buy products from you after a specified period.

For example, if you have approximately 200 customers and only 150 are still active after two years, your customer retention rate would be 75%.

To calculate, subtract CN from CE, divide that number by CS, and then multiply that number by 100 to convert it to a percentage of (CE - CN) / CS × 100 CRR. CE - number of customers at the end of the measured period; CN is the number of new customers, CS is the number of customers at the beginning of the period, and CRR is the customer retention rate.

Repeat customer rate

This indicator shows the proportion of repeat purchases made by a certain group of customers. The frequency of repeat purchases depends on the type of product being sold. For example, if you sell software, you can look at the repeat purchase rate for all customers. Conversely, if you sell hardware, you can focus on repeat sales among customers who bought your last device. To calculate the percentage of

repeat purchases, divide the total number of customers who have purchased more than once by the total number of customers, then multiply by 100. Understanding customer psychology, emotions, perceptions is essential to establishing strong customer relationships and ensuring economic growth service product, etc., as well as personalization of all business processes and enterprise logistics, changing approaches to customer service and digitalization of customer service.

With increasing competition, it will be more difficult to maintain loyalty in the future. The formation of the service process takes place at the enterprise itself, while the preferences of consumers regarding the quality of their service are formed from the outside. A guarantee of high quality of service will be possible only if these two parties are as close as possible, since the quality of service arises at the intersection of the interests of the consumer and the enterprise. Loyalty programs that are based on a strategic data-driven approach and supported by the latest technology can help brands build long-term relationships with customers. The main goal should be to develop trust and provide seamless customer service. The above key requirements indicate the importance of taking a holistic approach to loyalty programs. Loyalty programs can help brands achieve goals such as customer acquisition, consistent revenue growth, lower customer churn, and better retention. Now is the time to align data analytics, technology platform and strategy to be competitive in today's loyalty strategies.

## 2.10. OF USING SELF-MANAGEMENT AND FACILITATION WHEN MANAGING REMOTE TEAMS

Today, it is the team form of work that is the most promising in the field of computer science. allows you to achieve results that significantly exceed the combined capabilities of the individuals who make up this team. This effect is ensured by many factors: the ability of the team to look at the problem from different angles, the exchange of information, the mutual stimulation of creativity on both the rational and emotional levels, the ability to ask each other the right questions and build a productive dialogue.

A modern feature of the formation and work of teams is crisis conditions caused not only by the global financial crisis and the global crisis caused by the COVID-19 pandemic, but also by the state of war in Ukraine. The emergency transition to a remote form of work and study turned out to be difficult. This was especially noticeable when transferring to a remote form of team work. Because it is the interaction of team members that has a special effect on the performance of the team as a whole. However, technology allows you to work from anywhere in the world and be in touch 24 hours a day. Things get more complicated when it comes to the team form of the organization. A team is different from a simple group of employees. There are many differences, but it is important for the manager to get the synergy effect from the team. It is not for nothing that combining people into a team allows to achieve much greater results than in the case when the results of their individual work are combined. The effectiveness of a perfectly functioning team should exceed the effectiveness of its members by about one and a half times. Therefore, the main question of team managers today is: "How not to get the Ringelman effect, instead of the effect of synergy in your team when switching to a remote form of work?". For this, the team manager must establish all team processes, such as: communications between team members; training and self-development of team members; competent performance by team members of their team roles; motivation and self-motivation; self-control of team members.

Therefore, there is a constant evolutionary change in the features of the content of work and forms of work organization. A feature of modern work is the change in the nature of work, towards its increasing "intellectualization", and at the same time the system of work organization is also changing. Problems of team organization of work and management of teams in modern conditions were dealt with by domestic and foreign scientists.

Scott Tannenbaum and Eduardo Salas[318] dealt with management and team leadership issues. In their work, they emphasize that effective team leadership is about ensuring that your team has all the necessary drivers (i.e., the right capabilities, collaboration,

[318] Tannenbaum, S., & Salas, E. (2020). Team Leaders. Teams That Work, 187–191. https://doi.org/10.1093/oso/9780190056964.003.0012

coordination, communication, cognition, learning, and conditions) and the ability to learn and adapt as needed.

Group development refers to the process by which members of established work teams get to know their teammates, define their roles and responsibilities, and acquire the task and teamwork abilities necessary to coordinate their efforts to work effectively as a team. As teams increasingly become the main organizational structure of work, understanding and improving processes will become increasingly important. While the development of integrated task-handling and teamwork skills is a prerequisite for team effectiveness, many organizations take relatively few steps to improve team development, as most team's form and move through the active phase on their own. However, team learning and team leadership are key levers for improving the development process by intervening at the team formation stage (team learning) as well as during the development process in the workplace (leadership and coaching). Coaching special view relations, product produced and secured by a positive result in personal transaction between coach and client. The coaching process is built around the interests, goals and desires of clients.[319]

The issue of the development of team leaders, the way of training and framework visualizes a learning and development path, supporting organizations in designing their own programmes to support Team Coaches in their learning journey towards success adaptation was considered by Gabriel Faerstein[320].

The challenges of applying team work methods to adapt to a dynamic global market and increase creativity and innovation were considered by Jessica Murfin. In the article "Team creativity", she

[319] Victor Zamlynskyi, Balla Moussa Camara, Adil Mohamed Abdalla Sultan Al Ali, Alina Buzunar. Modern staff development methods: coaching. Monograph. 152 p. https://doi.org/10.46656/book.2022.coaching https://access-bg.org/monograph/monograph-coaching.pdf

[320] Faerstein, G. (2022). How to Develop Team Coaches at Team Academy. Team Academy in Practice, 99–116. https://doi.org/10.4324/9781003163114-8

pays special attention to team climate, creativity at the team level and shared leadership in a team context[321].

Priya Sharma[322] assesses team morale during the COVID-19 pandemic and examines ways to seamlessly and practically boost team morale, the need and role of a team leader during the period of physical and mental stress caused by the COVID-19 pandemic.

Victor Zamlynskyi, AMAS Al Ali, Balla Moussa Camara in the work "Corporate culture of teamwork based on ESG" emphasize that today the management of personnel behavior, like all modern management, should be considered in the context of the sociocultural paradigm of management. Each enterprise has its own unique culture. A part of this culture are the value orientations of social and state morality and universal human values. The shared values of the team, due to its unique features, can increase the success of the organization. However, the true essence of human behavior can be understood exclusively with the help of a cultural approach[323].

*The purpose of the work* is to study the possibilities of using self-management and facilitation in managing a remote team.

*Result of study.* However, the current world crisis caused by the COVID-19 pandemic has left its mark on all spheres of human life. And although the transition to a remote form was a forced measure, the trend of remote work / study has become a new trend in the development of modern society. More and more people want to work and study at home [324].

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[321] Murfin, J. (2022). Team Creativity.Team Creativity. https://doi.org/10.4324/9780367198459-reprw111-1

[322] Sharma, P. (2021). The importance of team morale. BDJ Team, 8(1), 22–23. https://doi.org/10.1038/s41407-021-0499-x

[323] Zamlynskyi, V., Al Ali, A. M. A. S., & Moussa Camara, B. (2022). CORPORATE CULTURE OF TEAMWORK BASED ON ESG. VI International, 18. http://dspace.puet.edu.ua/bitstream/123456789/12341/1/Proccedings_A5_ISTSML_2022.pdf#page=18

[324] Bondarenko, O. M., Rishko, Yu. I., and Tardaskina, T. M. (2018) "Perevahy viddalenoi roboty yak efektyvnoi formy zainiatosti personalu v suchasnykh umovakh "[The Advantages of Remote Work as an Efficient Form of Employment of Staff in Modern Conditions]. Biznes Inform, no.

The pandemic and the quarantine caused by it accelerated the process of introducing technologies for the organization of remote work and gave impetus to their development both in management and in the technical sphere, significantly increasing the demand for them. In the conditions of quarantine, the ability to work remotely has not become a matter of a person's desire or unwillingness to work at home, but an urgent necessity. When a person is faced with a choice between preserving his own health and economic survival, only the ability to work remotely saves the situation.

As stated in the work [325], before the quarantine caused by the COVID-19 pandemic, most people were very superficially familiar with the concept of "remote work", methods of its organization and means of ensuring it. Today, the majority of the population has not only heard, but also actively works in programs that ensure the organization of remote work: Zoom, Moodle, Meet, Viber, Telegram, Skype, etc.

Managers of all modern enterprises that have survived on the market in quarantine conditions already have the skills to organize the remote work of their subordinates. Also, previously a very small number of teams, mostly in the field of information communications, used such flexible methods as Agil, Scrum, etc. The introduction of a remote form of work led to the need to find new flexible management methods as an alternative to classic team management.

So, remote work is a form of work when the employee is not at the workplace and performs his professional function "remotely". The opportunity to work remotely appeared with the development of the Internet, when participants of the intelligent labor market realized that it is possible to transfer work results and receive new tasks using a computer and the global network, without the need to be in the office.

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12: 425–430. https://www.business-inform.net/annotated-catalogue/?year=2018&abstract=2018_12_0&lang=ua&stqa=60

[325] Bondarenko, O. M., Tardaskina, T. M., and Bohatyryova, L. D. (2021) “Doslidzhennia rozvytku viddalenoi roboty v umovakh pandemii COVID-19“[Researching the Development of Remote Work in the Context of the COVID-19 Pandemic]. Biznes Inform, no. 2: 190-197. DOI: https://doi.org/10.32983/2222-4459-2021-2-190-197

So, remote work is a form of work when the employee is not at the workplace and performs his professional function "remotely". The opportunity to work remotely appeared with the development of the Internet, when participants of the intelligent labor market realized that it is possible to transfer work results and receive new tasks using a computer and the global network, without the need to be in the office.

To begin with, it is necessary to clarify the term "remote work" or, as it is called, "telebot", remote work, freelance, Internet employment. The word "tele" from the Greek "tele" - far away, is a part of complex words denoting remoteness, action at a long distance. Essentially, telework is work at a distance from the main place of work or office, in other words, without physical presence at the workplace. The use of the word "tele" already presupposes a certain level of mobility and a more technological nature of work with the involvement of technical means of communication in this process.

Remote work is not a new concept at all. Back in 1972, the American Jack Nilless developed and proposed the concept of remote work. He was the first to express the idea that it is not necessary for employees to be directly in the office for productive work, and that in order to save resources, work can be conducted remotely while maintaining contact with the employee. In 2000, the European Telework Organization proposed the first typology of remote work and identified the following types:

1. Home-based telework. This activity includes employees who work from home at least one day a week, instead of at their workplace, using computers and telecommunications to interact with colleagues.

2. Mobile telework (mobile telework). Requires being away from your workplace and away from home for at least 10 hours a week, usually on business trips.

3. Telework in special centers - telecottages, which provide people at their place of residence with learning opportunities, as well as high-performance ICT.

4. Telework for the self-employed in small offices - home offices (MODO) (telework by self-employed in SOHOs). It is a combination of self-employment and telecommuting.

Before the pandemic, most people wanted to work remotely:

- Students, to receive additional income, without interrupting the educational process. Most often, young people choose the professions of translators, call center operators, and programmers.
- Women on maternity leave who want not to lose professional skills and earn a little.
- Young mothers during maternity leave and child care leave who wish to continue cooperation with their employer, only remotely.
- Pensioners whose pension is not enough for life. Many managers provide remote workplaces to retirees because such employees have a lot of experience and can have a positive influence on other subordinates. They include lawyers, accountants, and financial analysts.
- Workers living in rural areas, far from the place of work.
- People who cannot work in an office, as they combine employment with other activities.

Remote work is one of the inevitable trends brought about by the technological revolution. And companies, whose corporate policy involves working for results, long ago stopped evaluating employees only for the hours spent in the office. For the most part, these are IT companies, auditors, analysts, as well as representatives of all kinds of creative professions.

Remote work is a modern and convenient format. We live in very busy times, and most of us have to accept the fact that most of us spend a lot of time commuting to and from work, so remote work allows us to manage our time more harmoniously.

Remote work offers many advantages for both employees and the company. A review of the advantages and disadvantages of remote work for all stakeholders is provided in Table 1.

As we can see, remote work has not only positive, but also negative aspects, however, trends in the development of the labor market indicate the attractiveness of this form of work for both employees and employers. This is due, first of all, to economic factors.

Of course, not all managers will immediately be able to come to terms with the fact that their subordinates are not in the office during the entire working day. But these are the realities of the modern information society. The "intellectualization" of work is taking place, and with it the entire system of work organization is changing, there

is a transition from the system of a paid workplace to the creation of opportunities for work. In fact, the organization of remote work of employees currently does not require additional investments from the company.

Today, it is much easier to organize a business or study using remote work organization. All that is required from a remote worker now is a laptop and access to the Internet. The storage and exchange of important documents now takes place through "cloud" technologies. The main thing is that you are in touch, and the necessary documents will always be at hand with the help of the Internet. The use of "cloud" technologies for the work of users with a corporate database allows enterprises to avoid significant costs for the purchase and maintenance of technical and software tools at the expense of renting full-featured tools of a professional platform.

The experience of countries with a developed market economy shows that flexible forms are an effective tool for regulating employment. Their use allows employers to manage the number and composition of employees based on the economic situation, quickly reducing or increasing production volumes without creating social tension in labor teams.

In addition to overcoming quarantine restrictions, the main reasons for the introduction and use of remote forms are: the need for employment of various categories of workers, as well as the labor market's need for workforce mobility. Using remote and flexible forms of employment when organizing the work of teams, a number of problems can be solved:

1. Such forms of employment provide an opportunity for the able-bodied population to make a choice regarding the use of time for work or rest.

2. They help entrepreneurs manipulate the quantity and quality of labor force used at the enterprise in accordance with the needs of production development and the economic situation.

3. It allows to effectively solve labor problems of pensioners, students, immigrant workers, etc.

Flexible forms of employment characterize the new development of the economy. Possibilities of transition to remote work are carried out with the help of IT service based on online services, which will

largely allow to preserve the productivity of organizations in the real time period.

Many companies are switching to electronic platforms for interaction with suppliers and customers (provision of information goods and information, publication of goods, delivery control, etc.).

However, not in all spheres of activity the work of the team can be organized remotely and the activity can be transferred to the mode of online functioning[4].

To study the organization of remote work of enterprises under the influence of the COVID-19 pandemic in 2021, the authors of the monograph[7] conducted a survey. 150 Ukrainians took part in the survey.

Table 1

**Advantages and disadvantages of remote work**

| Stakeholders | Disadvantages | Advantages |
|---|---|---|
| 1 | 2 | 3 |
| For the employer | - the need for careful adjustment of business processes for the organization of remote work;<br>- the need to involve managers with remote work experience;<br>- introduction of changes in the system of control and evaluation of the result;<br>- decrease in efficiency<br>- weak involvement of employees in the life of the company and corporate culture;<br>- the impossibility of making a decision in the "brainstorming" mode;<br>- impossibility of controlling the task performance process;<br>- informational danger | - reduction of personnel costs;<br>- payment based on the fact and quality of the work performed, exclusively for the result;<br>- lack of social package and compensations.<br>- reduction of costs for the office and its maintenance;<br>- reducing staff turnover;<br>- the possibility of attracting highly qualified workers regardless of their place of residence;<br>- minimization of conflicts in the team. |
| For the employee | - constant search for a connection to the Internet; | - free (flexible) work schedule (allows you to independently determine the balance of personal and working time); |

| | | |
|---|---|---|
| | - self-sufficiency with equipment necessary for work;<br>- no opportunity to discuss work issues with colleagues;<br>- possible health problems (hypodynamia, eye strain, etc.);<br>- stereotypes of others (if at home, then not working);<br>- the risk of fraud on the part of the employer. | - freedom of movement: a remote employee can work at home, in a park, in a cafe, travel around the world;<br>- comfortable workplace;<br>- saving time on travel and fees;<br>- savings on transport;<br>- savings on office clothes and food;<br>- there are no unnecessary distractions from the work process;<br>- reduction of time spent on social, not professional, communications;<br>- the possibility of creative self-expression and getting joy from work;<br>- freedom from the pressure of corporate culture |
| For the state | - the need to develop additional programs to support the development of non-standard forms of labor organization;<br>- problems with taxation due to increased labor mobility.<br>- increased competition in the labor market. | - reduction of the unemployment rate. Ensuring with the help of commercial structures jobs for representatives of vulnerable segments of the population (people with disabilities, young mothers, etc.);<br>- partial solution to problems of labor and social adaptation;<br>- solving part of the transport problems (reducing the flow during "peak hours" in cities, etc.);<br>- optimization of the process of providing first jobs to young specialists;<br>- development of small business;<br>- increasing the possibilities of innovative development of the state;<br>- creation of a positive image of the state as a whole. |

*Source: systematized based on data* [322] [323] [324]

Among them, women and men, aged 18 to 65, working both traditionally and remotely. Data analysis was carried out using a Google questionnaire. Descriptive statistics methods were used in data analysis.

Among the respondents in the survey were students of the following educational organizations:

- State University of Intellectual Technologies and Communication;

- Odesa National Polytechnic University;
- Odesa State Academy of Construction and Architecture;
- Odesa State Agrarian University;
- Odesa National University named after I. Mechnikova;
- Odesa Technological University "SHAG".

Specialists of the following professions also took part in the survey:
- graphic designer;
- SEO specialist;
− specialist search manager;
- front-end specialists.

The respondents were asked the following questions:

1. To the question "Your gender?" answered 100% of respondents, of them 58.1% answered "man", and 41.9% gave the answer - "woman" (Fig. 1.).

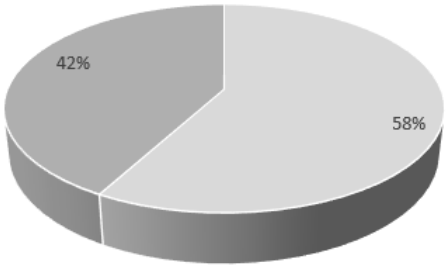


Fig.1. **Gender of respondents who took part in the survey**
*Source: compiled by the authors based on survey results*[324]

2. To the question "What is your main activity?" (Fig. 2.) answered by 100% of respondents, which is 150 people. Of them, 29% (43 respondents) turned out to be students, i.e. receiving higher education. 40% (107 respondents) work. Respondents who do not work or do not receive higher education were not identified.

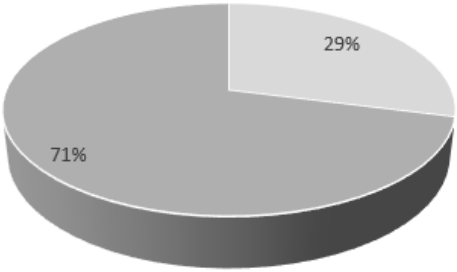


Fig. 2. **The main activity of the respondents**
*Source: compiled by the authors based on survey results*[324]

3. To the question "Do you have the opportunity to work or study remotely?" (Fig. 3) was answered by 100% of respondents, of which 96.8% (146 respondents) chose the answer "yes", and another 3.2% (4 respondents) chose the answer "no", due to the lack of equipment necessary for remote work.

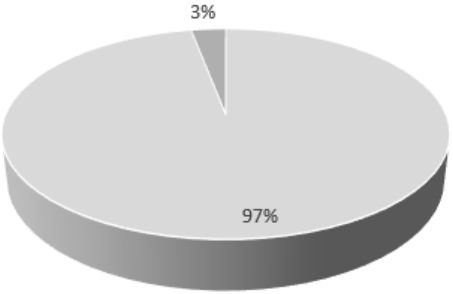


Fig. 3. **Availability of respondents to work/study remotely**
*Source: compiled by the authors based on survey results*[324]

That is, at this stage of the development of remote work in Ukraine, the majority of respondents are able to work and study remotely. This is a fundamentally important question, because not all employers in the economic crisis are able to provide their remote employees with decent jobs. The revealed answers of the respondents allow us to assume that even after the lifting of quarantine restrictions, many

Ukrainians wish to continue working and studying in a remote (remote) form.

4. To the question "Have you had experience studying or working remotely?" (Fig. 4) was answered by 100% of respondents. Of them, 90.3% (136 respondents) chose the answer "yes", which indicates their awareness and experience in the issue of remote work. But only 9.7% (14 respondents) chose the answer "no". This is not surprising, because almost all the surveyed respondents in one way or another belong to the field of IT, for which the remote form of work is the most inherent. It was IT workers who worked remotely, even before the quarantine restrictions associated with the COVID-19 pandemic.

In the realities of the pandemic, we observe that the majority have adapted to the objective conditions and use a remote form of work and study.

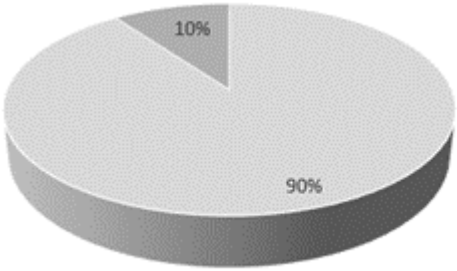


Fig. 4. **Respondents have remote work/study experience**
Source: compiled by the authors based on survey results[324]

5. To the question "What did you like about working or studying remotely?" (Fig. 5.) answered by 100% of respondents.

Of them, 32.3% (44 respondents) answered "the opportunity to work at home and spend more time with relatives", 3.2% (4 respondents) chose the answer "less control over the performance of work and more concentration", the option "saving time and money to travel by public transport or own car" was chosen by 19.4% (26 respondents), the answer "all options" was chosen by 45.2% (62 respondents), which means that for the majority all the listed options are attractive.

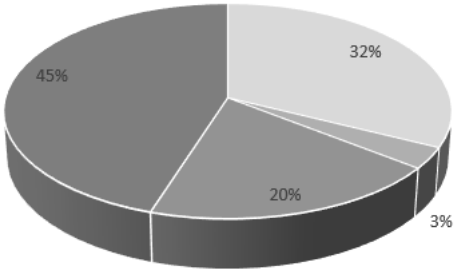


Fig. 5. **Positive features of remote work/study**
*Source: compiled by the authors based on survey results*[324]

6. To the question "What did you not like about working or studying remotely?" answered 100% of respondents who had experience of remote work, of which 61.3% (84 respondents) chose the answer "deficit of live communication". 12.9% (17 respondents) answered "instability of study and work" 25.8% (35 respondents) answered "impossibility to concentrate"

That is, it can be concluded that the majority of respondents lack socialization and live communication, which is impossible to provide with a remote form of work (Fig. 6).

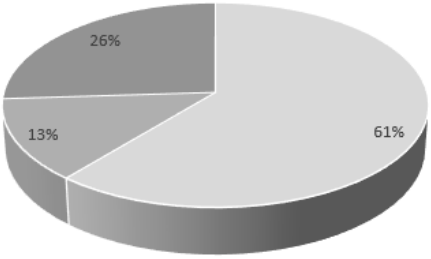


Fig. 6. **Negative features of remote work/study**
*Source: compiled by the authors based on survey results*[324]

7. To the question "Would you be able to fully switch to remote work?" 100% of respondents answered, of which 71% (106 respondents) chose the answer "yes". 29% (44 respondents) answered "no".

Thus, it can be concluded that in the age of modern technologies, most people have a desire to work remotely on a permanent basis (Fig. 7).

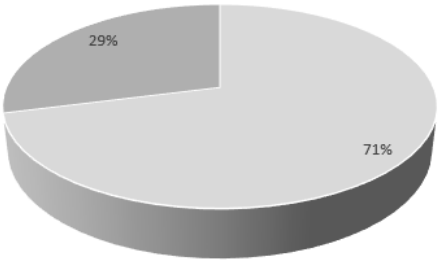


Fig. 7. **Would you be able to fully switch to remote work?**
*Source: compiled by the authors based on survey results*[324]

8. To the question "At what level of development is remote work and study in Ukraine?" 100% of respondents answered (Fig. 8). 32.3% (48 respondents) chose the answer "not developed". 6.5% (9 respondents) answered "developed". 61.3% (93 respondents) chose the answer "at an average level" and believe that today Ukrainian enterprises have begun to actively implement a remote form of work and are improving it.

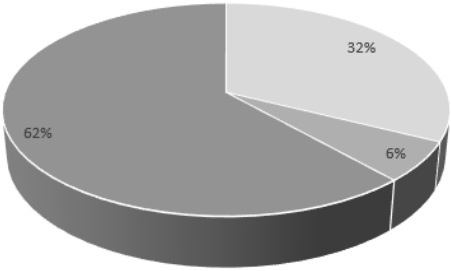


Fig. 8. **At what level of development is remote work and study in Ukraine?**
*Source: compiled by the authors based on survey results*[324]

A survey was conducted among the respondents, which programs for remote work they use most often, and a list of the most popular programs was made (from the most popular to the least frequently used):

1. Zoom
2. Telegram
3. Viber
4. Microsoft teams
5. Google meetings
6. Slack
7. Git
8. Microsoft teams
9. Jira
10. Glitch
11. Trello
12. Bitbucket

Programs greatly simplify communications remotely, which is why users prefer them. An infogram was compiled from the Google survey, which shows all the results of the survey and shows the main programs used by the respondents today (Tab. 2).

Table 2

**Readiness of Ukrainians to implement mass remote work in Ukraine**

| Question | Respondents' answers | | | |
|---|---|---|---|---|
| 1 | 2 | | | |
| 1. What is your gender? | woman - 41.9% | | man - 58.1% | |
| 2. What is your main activity? | student - 29% | working - 71% | | not working - 0% |
| 3. Do you have the opportunity to work or study remotely? | Yes - 96,8% | | No - 3,2% | |
| 4. Did you have experience studying or working remotely? | Yes - 90,3% | | No - 9,7% | |
| 5. What programs did you use? | Zoom, Google meetings Slack Git Viber, Microsoft teams Jira Glitch Trello, Telegram, google Bitbucket | | | |
| 6. What did you like about working or studying remotely? | the opportunity to work at home, and spend more time with | less control over their performance, and greater concentration - 3,2% | saving time and money for travel in public transport or own | all options - 45,1% |

| | | | | |
|---|---|---|---|---|
| | relatives- 32,3% | | auto - 19,4% | |
| 7. What did you not like about working or studying remotely? | lack of live communication - 61,3% | variability of work - 12,9% | | it is difficult to concentrate - 25,8% |
| 8. Would you be able to fully switch to remote work? | Yes -71% | | No-29% | |
| 9. What do you think is the level of development of remote work and education in Ukraine? | not developed - 32,3% | developed - 6,5% | | at an average level - 61,2% |
| 10. What did you like most about using Google services? | accessibility -58,1% | functionality -32,3% | stability - 6,5% | security - 3,1% |
| 11. What did you dislike most about using Google services? | severity of use -53,3% | unstable work -16,7% | | other - 30 % |
| 12. What did you like most about using Telegram? | mobility -16,1% | accessibility - 29% | security - 38,7% | rate of use- 16,2% |
| 13. What did you dislike most about using Telegram? | inconvenient interface - 65,5% | possibility of information leakage - 13,8% | security - 20,7% | |
| 14. What did you like most about using the Microsoft program Teams? | intuitive search adaptive easy to use- 26,7% | adaptive – 53,3% | easy to use - 20% | |
| 15. What did you dislike most about using the Microsoft Teams program? | bad sound when working blurry picture inconvenient interface - 41,4% | fuzzy picture -44,9% | inconvenient interface - 13,7% | |
| 16. What did you like most about Slack? | mobility -29% | security - 35,5% | other -35,5% | |
| 17. What did you dislike the most about the Slack program? | heavy interface -51,6% | work interruptions - 6,5% | other - 41,9% | |
| 18. What did you like most about the Trello program? | Speed -32,3% | Reliability - 12,9% | Functionality -32,3% | other - 22,5% |
| 19. What did you dislike most about the Trello program? | not enough integration in the free version - 45,2% | | not always working- 3,2% | other - 51,6% |
| 20. Would you like to completely switch to remote work? | Yes -77,4% | | No - 22,6% | |

*Source: compiled by the authors based on survey results* [323] [324]

Thus, we see that people are ready to adapt to the objective conditions of current realities.

Currently, the organization of remote work is a significant destination for the formation of the economy not only of the company, but also of the entire country. The readiness of the enterprise to transfer the staff to the remote mode, regardless of the circumstances, gives certain competitive advantages and contributes to the growth of the company's efficiency.

Ukraine in general and individual enterprises are ready to implement remote work, but for this you need:

- to develop a national policy in the field of remote employment;
- create programs on remote forms of employment;
− to adapt the legislation of Ukraine to remote forms of employment and to international standards;
- establish interstate cooperation on remote forms of employment.

Thus, remote work is a toolkit, thanks to which the company additionally increases its position in the competitive arena and receives the same "flexibility" in the market. It is not only able to protect the company from bankruptcy, but also increases the level of loyalty of employees, who will be sure that even in a difficult crisis situation, such as a pandemic, people will not lose their earnings.

Every manager wants the work of his subordinates to be as efficient as possible. However, it is not easy to obtain the desired effect of synergy, which distinguishes the activity of teams from the activity of ordinary organizational units. This effect is ensured by many factors: the ability of the team to look at the problem from different angles, the exchange of information, the mutual stimulation of creativity on both the rational and emotional levels, the ability to ask each other the right questions and build a productive dialogue. All this can be stimulated using self-management.

Self-management is a set of techniques aimed at optimizing one's own efficiency, capabilities, abilities, and time.

Today, self-management is especially relevant, because the remote form of work requires greater self-organization, self-control, self-motivation, and self-discipline from team members. The team form of work generally has these characteristics. Without them, we will not be able to talk about a formed effective team. Regular self-improvement of all team members and, above all, its leader, regular completion of

various trainings, development of personal abilities (professional, intellectual, volitional, emotional, communicative) is the key to successful development and functioning of the team. However, the remote form of work requires greater self-organization, self-control, self-motivation, and self-discipline from team members. The team form of work generally has these characteristics. Without them, we will not be able to talk about a formed effective team. Regular self-improvement of all team members and, above all, its leader, regular completion of various trainings, development of personal characteristics (professional, intellectual, strong-willed, emotional, communicative) are the key to successful development and functioning of the team.

Based on this, it can be assumed that the high-quality development of self-management skills of team members is a priority condition for successful work, and this task is especially acute when the remote form of work with the use of mainly remote technologies prevails today.

As stated in the work[326], due to a number of reasons, which include not only the COVID-19 pandemic, but also the martial law in Ukraine, when the leading form of work and training becomes a remote form, clear, flexible work organization and quick adaptation to constant changes in working conditions. Ensuring this is impossible without improving self-management skills.

Problems and trends of opportunities for learning, development and self-management during and after the COVID-19 pandemic were addressed by domestic and foreign scientists. The problems and prospects of remote (distance) education are highlighted in the works of O. Yu. Polyakova and I. M. Chuyko[327], the issue of the attitude of students to the modern digitalization of the learning process is

[326] Bondarenko O. M. (2022). Self-Management as a Factor in Student Performance in the Context of the Current COVID-19 Pandemic: Biznes Inform, no. 5: 126-133 https://doi.org/10.32983/2222-4459-2022-5-126-133

[327] Polyakova, O. Yu., and Chuyko, I. M. "Distantsionnoye obrazovaniye: vzglyad iznutri"[Distance Learning: Inside View]. Biznes Inform, no. 8 (2012): 245–247. https://www.business-inform.net/annotated-catalogue/?year=2012&abstract=2012_08_0&lang=ua&stqa=69

considered by L. V. Shchedinina, S. G. Rudakova, N. S Danylevich, H. R. Monastirska[328].

Foreign scientists did not miss the topic of online education. Albert Young and others[329] in the work "How students' self-esteem affects their success in online learning" determine that the behavior of students, in the form of self-esteem, is a decisive factor in improving learning. However, as AI is widely used for self-assessment in various educational contexts, numerous types of behavior have been identified, including non-standard behavior that can negatively impact learning. The results showed that students who took frequent online assessments after class tended to have higher exam scores than those who did not. However, the performance of students who exhibited non-standard behavior did not necessarily improve, even if they were actively assessed. Therefore, an additional analysis of self-assessment of students' behavior and their self-management in different contexts is needed, including the impact on learning.

The problem of teachers' perception of online education in the conditions of the COVID-19 pandemic, i.e., the transition from face-to-face to an emergency distance learning format, was addressed by Christian Tarchi et al[330]. In the work "Teachers' concepts of online learning in emergency distance education: how is it defined and what self-regulated learning skills are associated with it?" the authors, using the experience of distance learning of teachers in Italy, Sweden and Iran, conclude that the concepts of online learning are not sufficiently developed and require a more flexible approach and take into account the requirements of a specific educational environment.

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[328] Shchetinina, L. V. et al. “Tsyfrovizatsiia navchalnoho protsesu: pohliad studentiv “[Digitalization of the Educational Process: The Views of Students]. Biznes Inform, no. 2 (2021): 94-98. DOI: https://doi.org/10.32983/2222-4459-2021-2-94-98

[329] Yang, A. C. M. et al. “How students' self-assessment behavior affects their online learning performance “. Computers and Education: Artificial Intelligence, art. 100058, vol. 3 (2022). DOI: https://doi.org/10.1016/j.caeai.2022.100058

[330] Tarchi, C. et al. “Preservice teachers' conceptions of online learning in emergency distance education: How is it defined and what self-regulated learning skills are associated with it? “Teaching and Teacher Education, art. 103669, vol. 113 (2022). DOI: https://doi.org/10.1016/j.tate.2022.103669

Kamil Lubinsky and Dominik Krzysztof Tama in the work "The impact of distance learning on the implementation of educational programs in the field of management and business studies"[331] draw attention to the fact that scientists, for the most part, consider online education only as a temporary solution designed for modern conditions.

Of course, they are aware of the advantages such as savings (e.g. time, money), but when asked for their personal opinion, some try to speak for their students, agreeing that in many ways residential education seems more student-centered, however, after the situation with the epidemic is over, some elements of distance learning can be left with the use of ICT technologies.

In the work of Liz de Backer et al. "Identifying regulation profiles during computer-based collaborative learning and studying the relationship with student performance, motivation, and self-efficacy"[332] identified three regulation profiles that differed significantly in their conceptual understanding, learning motivation, and self-efficacy beliefs.

Luis González Bravo and others. in the work "The view of higher education managers on quality management and the perception of the latest technologies: a story about "elders", "intermediaries" and "worker bees" in the time of Covid-19"[333], emphasize that the Covid-19 pandemic has emphasized the role of information systems educational management for quality management in higher education. They also identify new directions for post-pandemic research and

[331] Lubinski, K., and Tama, D. K. "The observed effects of distance learning on curriculum implementation in management and business studies". Procedia Computer Science, vol. 192 (2021): 2540-2549. DOI: https://doi.org/10.1016/j.procs.2021.09.023

[332] De Backer, L. et al. "Identifying regulation profiles during computer-supported collaborative learning and examining their relation with students' performance, motivation, and self-efficacy for learning". Computers & Education, art. 104421, vol. 179 (2022). DOI: https://doi.org/10.1016/j.compedu.2021.104421

[333] Luis, G. B. et al. "Higher education managers' perspectives on quality management and technology acceptance: A tale of elders, mediators, and working bees in times of Covid-19". Computers in Human Behavior, vol. 131 (2022). DOI: https://doi.org/10.1016/j.chb.2022.107236

emphasize that the successful implementation of quality management processes largely depends on managers' perception of the concept of education quality.

A cluster analysis conducted by the researchers identified three different types of managers in relation to technology: "Elders", "Mediators" and "Worker Bees". Knowing these profiles of these types of managers, according to the researchers, can allow for individualized training in recovery from the Covid-19 pandemic.

Maya Usher, Miri Barak and Hossam Haick[334] examine the problem of innovation among students of higher education institutions. As many faculties rely primarily on online platforms for course delivery due to the COVID-19 outbreak, there is a growing need to identify student innovations in online learning environments. Results showed that both in-person and online students reported similar levels of innovative behavioral tendencies. However, face-to-face students scored higher on average innovation scores compared to online students in both individual assignments and team projects.

Mais Al-Nasah, Luae Al-Tarauneh, Ferial M. Abu Awwad, Ikhlas Ahmad in their work "Evaluating student satisfaction with online learning during COVID-19: a discriminant analysis"[335] raise the important topic of studying the impact of online learning on self-effectiveness, general anxiety, and fear of COVID-19. They identify three different levels of satisfaction with online learning (low, medium, and high) among university students. Correlation analysis showed that self-efficacy of online learning was significantly related to satisfaction with online learning, while general anxiety and fear of COVID – 19 were significantly and negatively related to satisfaction with online learning. Discriminant analysis revealed the emergence of three levels of online learning satisfaction from online self-efficacy, general anxiety, and fear of COVID-19. This study theorized the

[334] Usher, M., Barak, M., and Haick, H. "Online vs. on-campus higher education: Exploring innovation in students' self-reports and students' learning products". Thinking Skills and Creativity, art. 100965, vol. 42 (2021). DOI: https://doi.org/10.1016/j.tsc.2021.100965

[335] Al-Nasa'h, M. et al. "Estimating students' online learning satisfaction during COVID-19: A discriminant analysis". Heliyon, vol. 7, no. 12 (2021). DOI: https://doi.org/10.1016/j.heliyon.2021.e08544

importance of online learning effectiveness itself for online learning satisfaction. High satisfaction with online learning was associated with high online self-efficacy, moderate general anxiety, and low fear of COVID-19.

Academic engagement was associated with online self-efficacy and general anxiety, while fear was associated with COVID-19. In this vein, online learning self-efficacy and moderate general anxiety led to high satisfaction with online learning. Fear of COVID-19 also led to lower satisfaction with online learning.

Wassna Al-Mawi, Kenneth Morgan Kwaiu, Tasneem Garaibe[336] in the work "Student's view of distance learning during the COVID-19 pandemic: a case study of Western Michigan University, USA" emphasize that since the process of distance learning has become more common in the USA due to the COVID-19 pandemic, it is important to understand students' experiences, perspectives, and preferences. In the article, the authors investigate students' opinions about distance learning methods, negative experiences of distance learning, such as lack of social interaction, and positive experiences, such as flexibility in time and place.

As we can see from the review of the literature, the problem of education and self-improvement of students during the COVID-19 pandemic was considered in various ways by both domestic and foreign scientists, they were mostly interested in the view of remote education of teachers, or its assessment by students.

The perception of time and task complexity does not have a uniform character for all individuals. A person himself sets its framework and coordinates, hence the same actual time interval or tasks of the same complexity can be perceived differently. Some of the team members perceive the tasks as quick and easy, while for others, on the contrary, they are difficult and their solution requires the expenditure of large amounts of time and effort. In general, the

[336] Al-Mawee, W., Kwayu, K. M., and Gharaibeh, T. "Student's perspective on distance learning during COVID-19 pandemic: A case study of Western Michigan University, United States". International Journal of Educational Research Open, art. 100080, vol. 2 (2021). DOI: https://doi.org/10.1016/j.ijedro.2021.100080

perception of time and complexity of tasks depends on many factors: physiological state, availability of knowledge and skills, personal characteristics, etc. This is especially acutely felt during the adaptation period during the transition to a remote form of work.

In order to determine how students perceive distance (remote) learning, how they evaluate their own performance, and to find out the level of their self-management and its influence on the performance of training, a study was conducted in which students of full-time and part-time departments of the Faculty of Business participated and social communications of the State University of Intellectual Technologies and Communication, majors "Economics" and "Management". The study was conducted during the 2021-22 academic year. Data collection was carried out using a Google questionnaire. Data analysis used survey methods and descriptive statistics. 124 students of budgetary and contractual forms of education took part in the study. Students were asked the following questions:

1. To the question "Your gender?" 100% of respondents answered, 28% of them were men, and 72% were women (Fig. 9).

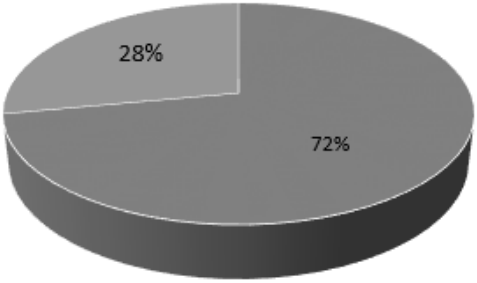


Fig. 9. **Gender of respondents who took part in the survey**
*Source: compiled by the authors based on survey results*[325]

2. To the question "Your age?" (Fig. 10.) answered by 100% of respondents, which is 124 people. Of these, 81.5% (101 respondents) were aged 16 to 25, 17% (21 respondents) aged 26 to 45, and 1.5% (2 respondents) aged 45 to 60 years There were no respondents younger than 16 and older than 60.

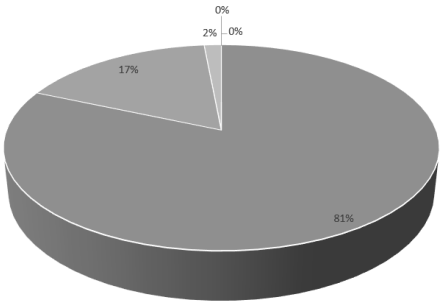


Fig. 10. **Age of respondents**
*Source: compiled by the authors based on survey results*[325]

3. To the question "Was it easy for you to switch to distance education with the start of quarantine?" (Fig. 11.) answered by 100% of respondents. Of them, 13.7%, which is 17 respondents, chose the answer "yes", 44.4% (55 respondents) - "rather yes", 21.8% (27 respondents) - "don't care", 10.4% ( 13 respondents) - "rather no", and another 9.7% (12 respondents) chose the answer "no". Therefore, the majority of students, 79.9%, believe that it was easy for them to switch to distance education, but 20.1% do not think so.

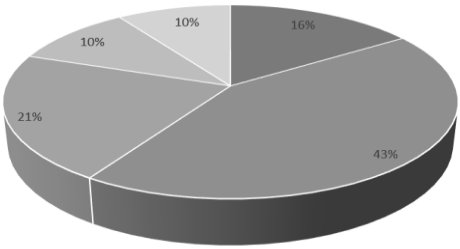


Fig. 11. **Perceptions of the respondents regarding the ease of transition to distance education with the start of quarantine**
*Source: compiled by the authors based on survey results*[325]

4. To the question "How much time per day do you spend studying remotely?" (Fig. 12.) answered by 100% of respondents. Of them, 16.1% (20 respondents) answered that they study for 2 hours or less, 18.5% (23 respondents) study 3-6 hours a day, only 4.8% (6

respondents) believe that they spend studying more than 6 hours a day, 60.6% (75 respondents) cannot answer because they do not study regularly.

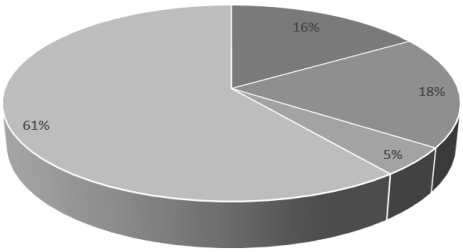


Fig. 12. **Amounts of time that respondents spend daily on distance learning**
*Source: compiled by the authors based on survey results*[325]

5. To the question "What are the biggest problems you encountered when switching to distance education?" (Fig. 13.) answered by 100% of respondents. Of them, 19.4% (24 respondents) chose the answer "Lack of a well-equipped workplace", 79% (98 respondents) noted that they get more tired in the online learning format, 60.6% (75 respondents) feel blurred in the work rotation and recreation, 81.5% (101 respondents) complain about the lack of live communication, 44.4% (55 respondents) had a problem with the lack of a stable Internet connection, and 25.8% had a misunderstanding with interlocutors due to a remote format.

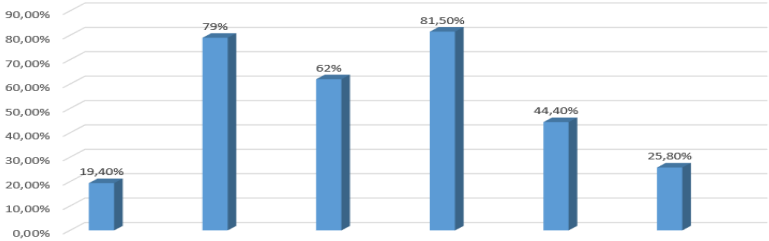


Fig. 13. **The biggest problems faced by respondents when switching to distance education**
*Source: compiled by the authors based on survey results*[325]

6. To the question "How did the success of your studies change after switching to the distance form?" (Fig. 14.) answered by 100% of respondents.

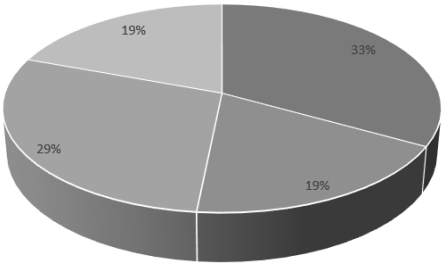


Fig. 14. **Changes in the study performance of the respondents after the transition to the remote form**

*Source: compiled by the authors based on survey results*[325]

Among the respondents, 33.1% (41 respondents) chose the answer "increased", 18.5% (23 respondents) believe that the success rate of their studies has decreased (due to unsatisfactory completion of one discipline), 29% (36 respondents) believe that the success rate their studies decreased (due to unsatisfactory completion of two or more subjects), 19.4%, which is 24 respondents, believe that the success of their studies remained unchanged. So, if we consider the success of studies as one of the indicators of students' adaptation to distance education, we see that a rather large percentage of students, namely 47.5% (59 respondents) did not adapt enough.

7. To the question "How has your performance changed after switching to a remote form?" (Fig. 15.) answered by 100% of respondents. Among those surveyed, 25.8% (32 respondents) believe that their performance has "increased", 40.3% (50 respondents) believe that their performance has decreased, 33.9%, which is 42 respondents, believe that their performance has remained unchanged.

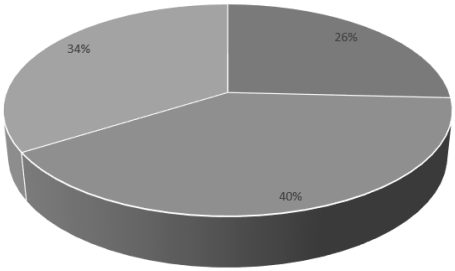


Fig. 15. **Changes in the performance of respondents after switching to a remote form**
*Source: compiled by the authors based on survey results*[325]

So, we can see that the majority of respondents, namely 59.7% (74 respondents), despite the transition to distance learning, feel quite effective in the new conditions, which indicates that they have good self-management. However, 40.3% of students who are not satisfied with their own performance need help in improving their self-management.

8. To the question "Did you use self-management techniques to improve your own performance during distance learning?" (Fig. 16.) answered by 100% of respondents. Of them, 40.3% (50 respondents) indicated that they do not use self-management methods, 44.4% (50 respondents) used time management and planning methods, 19.4% (24 respondents) used methods for combating stressful conditions, 4, 8% (6 respondents) – methods of building a career, 9.7% – methods of overcoming conflicts, 25.8% (32 respondents) – methods of self-motivation and self-adjustment, and 16.1% (20 respondents) – methods of combating procrastination, or "postponement".

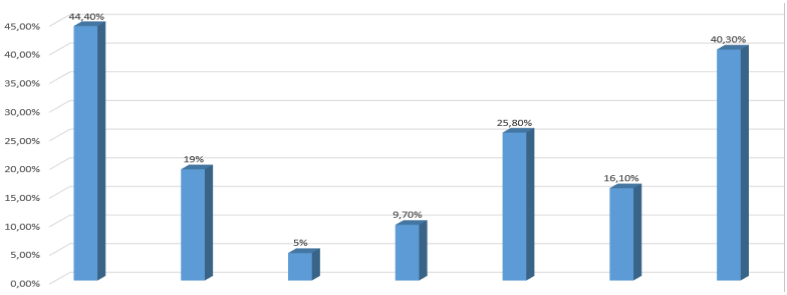


Fig. 16. **Self-management techniques used by respondents during distance learning to improve their own performance**
*Source: compiled by the authors based on survey results*[325]

As we can see, a fairly large percentage of students, namely 59.7% (74 respondents) use various self-management methods, and the most popular are time management and planning methods, that is, methods of the self-management section - time management, as well as methods of self-motivation and self-adjustment, which are also are quite relevant in the remote form, when the teacher is not always able to actively stimulate the student's educational activity.

9. To the question "Evaluate your own self-management during distance learning?" (Fig. 17.) answered by 100% of respondents. 4.8%

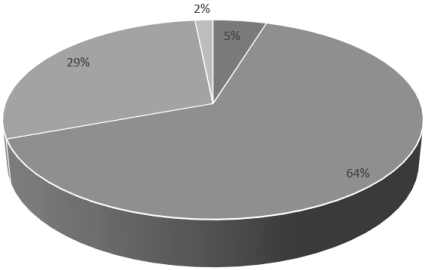


Fig. 17. **Respondents' assessment of their own self-management during distance learning**
Source: compiled by the authors based on survey results[325]

(6 respondents) assessed their own self-management as "excellent", 64.6% of respondents, which is 80 respondents, rated their self-management as "good", 29%, which is 36 respondents, and 1.6% consider their self-management to be "satisfactory" (2 respondents) chose the answer "unsatisfactory".

It is noteworthy that almost all respondents positively assessed their own self-management. 98.4% of respondents, which is 122 people, rated their self-management positively. Despite the fact that 40.3% (50 respondents) indicated that they do not use self-management methods and only 1.6% (2 respondents) consider their self-management unsatisfactory, that is, they recognize the existing problem.

In the course of the study, the peculiarities of students' perception of their own self-management in the difficult conditions of the transition to distance education during the period of the COVID-19 pandemic and military operations in Ukraine were determined.

An analysis of research and publications by domestic and foreign authors was conducted regarding the problems and trends in the development of higher education during and after the COVID-19 pandemic. In most studies, it is emphasized that in many ways stationary education is more student-oriented, however, after the situation with the epidemic ends, some elements of distance education, using ICT technologies, can be left.

As a result of an online survey of students conducted during distance learning, it was found that the majority of students believe that it was easy for them to switch to a distance form of education, while a fairly large percentage of students did not adapt to the new form of education enough, as indicated by the percentage of students with a reduced, compared to previous results, success.

Also, most of the respondents feel quite productive in the new conditions, which indicates that they have management at a level that satisfies them. A large percentage of students use various methods of self-management, of which the most popular are the methods of time management and planning, that is, methods of the self-management section - time management, as well as methods of self-motivation and self-adjustment, which are also quite relevant in the remote form, when the teacher is not always in able to actively stimulate the

student's educational activity. It is noteworthy that almost all respondents positively assessed their own self-management.

Therefore, as we can see from the research, many Ukrainians have self-management techniques and actively use them to optimize their own learning and self-improvement.

Facilitation is a fairly effective tool for supporting remote teams, along with self-management.

As stated in the work[12], facilitation is a modern method of organizing teamwork based on facilitating interaction between team members, as well as decision-making based on common ideas and ideas of each team member.

Facilitation techniques are aimed at increasing the effectiveness of communication and decision-making in a team. The range of issues that facilitation helps to solve is very wide: team management, the process of making jointly adopted group decisions, training, team development.

The issue of facilitation was considered by many authors. Donald L. Anderson examines team facilitation in the context of organizational development and change. In his work "Team Facilitation", in the section "Cases and exercises for organizational development and changes", the author provides practical and experimental exercises with realistic scenarios for the development of relevant skills in managers and organizational change specialists[337].

Franziska Engelhard and Dirk Holtbrugge examine the challenges of facilitation in multicultural teams. In their work "Biculturals, team facilitation and multicultural team performance: an information-processing perspective", the authors examine bicultural team members and their influence on team activities. Their research revealed a mediated effect of intragroup processes and group cohesion on the relationship between team facilitation and team effectiveness. Therefore, the authors conclude that it is better for managers to choose bicultural candidates when forming multicultural teams. This simplifies the facilitation process and increases team effectiveness[338].

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[337] Anderson, D. (Ed.) (2018). *Activity 12: Team Facilitation*. SAGE Publications, Inc, https://dx.doi.org/10.4135/9781071872734

[338] Engelhard, F., & Holtbrügge, D. (2017). Biculturals, team facilitation and multicultural team performance: an information-processing perspective.

Annette Burgess, Christie van Diggele, Chris Roberts, Craig Mellis examines the benefits of using facilitation as a tool to improve the effectiveness of team learning. In the work "Team-based learning: design, facilitation and participation", the authors consider in detail the main stages, components of team learning and the process of facilitation when learning in small groups. At the same time, the role of a facilitator is not typical for a teacher. Facilitators identify gaps in the knowledge of the students, challenge them by asking additional questions (rather than lecturing), promoting the development of critical thinking. Feedback is the key to acquiring and retaining knowledge and affects team development[339].

Chursinova O.V. considers facilitation as a set of techniques and methods that help the productive team interaction of the management team and when making complex management decisions. In the work "Facilitation as a technology of productive team interaction in an educational organization"[340], the author suggests using such techniques and methods as "World Cafe", discussion, "Open Space", "Icebreaker" at various stages of team facilitation "Clarification assessment criteria", SWOT analysis, "Sad Sun", "Trailer", "Brainstorming".

Shirinkina E.V. [341] [342] examines facilitation issues in team management and facilitative leadership in a team, comparing it to

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European J. of Cross-Cultural Competence and Management, 4(3/4), 236. https://doi.org/10.1504/ejccm.2017.084521

[339] Burgess, A., van Diggele, C., Roberts, C., & Mellis, C. (2020). Team-based learning: design, facilitation and participation. BMC Medical Education, 20(S2). https://doi.org/10.1186/s12909-020-02287-y

[340] Chursinova O.V. (2021) Facilitation as a technology of productive team interaction in an educational organization. Modern school in the era of systemic transformations: a collection of scientific articles following the results of a scientific and practical conference (with international participation), Orel, October 27–28, 2021, 52-56

[341] Shirinkina E.V. (2021) Facilitating leadership model in management. Innovations in Management, 3(29), 50-55

[342] Shirinkina E.V. (2021) Facilitation as a new form of labor organization // Vestnik NGIEI, 10 (125),105–116. DOI: 10.24412/2227-9407-2021-10-105-116

classical team management. In his works, "Facilitating leadership model in management" and "Facilitation as a new form of labor organization", the author provides a model of facilitating leadership and emphasizes that a facilitating leader does not do its work for the team, providing ready-made answers to questions, but implements a strategy that makes the team more effective. This is done thanks to the involvement of all team members in achieving the set goal, comparing goals and actions and generating ideas.

The function of a facilitator is one of the most subtle and at the same time important functions that a team leader should possess. Let's give a definition of facilitation that quite accurately reflects this role: it is the behavior and guidance of a facilitator that helps others improve their work.

In many cases, this effect can be achieved thanks to the ability to influence others. The role of a facilitator includes four areas of expertise: the ability to communicate (communication skills), conflict resolution skills, the ability to proactively provide the necessary materials and resources for a project, and the ability to motivate individual team members and the team as a whole.

The role of the facilitator is the same as that of the project manager. Its purpose is to create opportunities and conditions for team members to work effectively, and then rely on team members to achieve the desired result. The project manager as a facilitator does not create the desired solution himself - it is a matter of the team (Tab. 3).

Attention should be paid to the role of the facilitator. In the process of facilitation, the facilitator always takes a neutral position, in no case dictating his own opinion to the team members, not adding his own comments to the proposals of the team members and not singling out someone's individual proposals from his own preferences.

The facilitator only provides the conditions and pushes the team members to productive cooperation based on a constructive discussion taking into account the opinion of each team member. Also, it should be noted that the role of a facilitator is not the same as the role of a leader, manager, curator or coach. Accomplishing this task always requires careful preparation and planning. The preparation stage includes:

- setting goals;
- predicting the desired result:

- the choice of the facilitation technique, which will depend on the role of the facilitator.

Table 3

**Roles of a facilitator when working with a team**

| № | The role of the facilitator | Actions of the facilitator |
|---|---|---|
| 1. | Group leader | the facilitator forms a cohesive group, monitors the participation and equality of the participants, compliance with the rules of interaction, facilitates decision-making and problem solving, and provides feedback. |
| 2. | Managing the subpoena | the facilitator makes sure that results are achieved within the specified time without losing quality - he guarantees compliance with the timing, coverage of all the issues raised, stimulates discussion and deals with them. |
| 3. | Role model | the facilitator demonstrates professional behavior and communication style, constructively resolves conflicts and takes into account the opinions of all team members. |
| 4. | Expert | the facilitator expresses his opinion or vision of the topic, increasing the credibility of his person in the group. |
| 5. | Consultant | the facilitator brings the participants to the applied aspects of the acquired knowledge and skills, offers them to understand for themselves what tasks they can solve using the new material. |

*Source: compiled by the authors based on materials* [337] [340] [341]

So, there are different approaches to facilitation. As in self-management, it is possible to use various techniques and methods, combining them depending on: needs; goals; tasks facing the team; characteristics of the target audience in which the facilitation is conducted; temporary regulations.

For example, the SWOT analysis method, which is mostly used for business analysis. We will remind you that the classic SWOT analysis consists in studying the external and internal environment of the enterprise, identifying strengths and weaknesses, which in turn can bring opportunities and threats. At the same time, SWOT analysis is

perfectly used in self-management when planning a personal career. It is possible to use this method in facilitation.

Table 4 shows the main techniques and methods that the facilitator can use, as well as the conditions under which it is better to use this or that technique and actions for its implementation.

Table 4

**Facilitation techniques**

| № | Techniques used in facilitation | Terms of use | Actions of the facilitator |
|---|---|---|---|
| 1. | World cafe | It is used when it is necessary to collect information, exchange ideas in a large group and explore options for decision-making. | The facilitator prepares 4–5 questions related to the topic of the meeting. The questions are distributed among the tables of the mini-groups. Each table chooses a "host" who will capture the ideas of the discussion. Then the whole group, except for the host, goes to the next table, where they discuss the next question. The host of the table answers questions and writes down new ideas. Each group makes a complete circle and returns to its table. Then the results are analyzed, and the results are presented to the whole group. |
| 2. | Brainstorming | It is used when it is necessary to find new ideas and summarize the information available in the team. | The facilitator acts as a leader, asks questions that bring the team closer to the goal |
| 3. | Polarization of opinions | Used when it is necessary to reduce the negative attitude towards the problem discussed in the team. | The facilitator divides the participants into two groups: one group analyzes the negative aspects of the issue, the other - about the positive aspects. |
| 4. | Future Search | It is used when there is a need to find a common basis for future cooperation. | It is held in the format of a conference. the organizing committee together with the facilitator choose the topic, develop the conference program, select and invite other participants, prepare handouts with tasks and worksheets.<br>The conference consists of five blocks:<br>1. A look at the past – warm-up of participants, discussion of trends that influenced groups in the past.<br>2. The real view is the creation of a group-wide "consciousness map" of trends that affect the group or the investigated problem in real life.<br>3. Looking to the future - creating ideal future scenarios. |

| № | Techniques used in facilitation | Terms of use | Actions of the facilitator |
|---|---|---|---|
| | | | 4. Identification of common principles - formation of scenarios of the common future.<br>5. Process planning – drawing up specific plans. |
| 5. | SWOT analysis | It is used when it is necessary to comprehensively consider the strengths and weaknesses, opportunities and threats of the existing system. | The facilitator introduces the participants to the technology of SWOT analysis (strengths, weaknesses, opportunities, threats). Each mini-group conducts a SWOT analysis of its decision or proposed situation |
| 6. | Open Space | It is used when the team needs to answer many private questions or find solutions to problems within a single topic. This technology allows you to collect a large number of opinions on a given topic in a short period of time. At the same time, all team members feel involved in the process. | The facilitator helps the interested parties formulate the topic so that it sounds attractive and starts the discussion. During the session, after getting acquainted and warming up, mini-groups work in a self-organizing format, prepare reports, set priorities, plan further actions, present their solutions. |
| 7. | Real Time Strategic Change | It is used during large-scale changes to the company, involving people in the implementation of a new strategy. | The facilitator holds a meeting with the leadership team, explains the facilitation process, helps to develop the structure and tasks of the event, and draw up a plan for further actions. |
| 8. | Work Out | It is used, if necessary, to improve business processes, when searching for innovative approaches. | The facilitator helps the customer and the development team select areas for change, formulate a general goal for "Going beyond the scope", define sub-goals and questions for working groups, monitor the selection of participants for cross-functional teams and the availability of data necessary for their work.<br>The event consists of five stages:<br>1. Introduction - goals, agenda, work plan.<br>2. Brainstorming – discussion of individual aspects of the problem.<br>3. Gallery of ideas - selection of the best ideas.<br>4. Development of an action plan – development of an action plan of selected ideas. |

| № | Techniques used in facilitation | Terms of use | Actions of the facilitator |
|---|---|---|---|
| | | | 5. "Town meeting" - approval of selected ideas for implementation. |
| 9. | Decision tree | A decision tree is used when making complex decisions. | In the process of its construction, ideas and decisions are generated by all process participants, then their group analysis is carried out and several results are predicted. Based on the results of the facilitation, the facilitator together with the team chooses the most effective and profitable solution. |
| 10 | Vote | It is used when it is necessary to determine priorities. | The facilitator writes on the board the questions that need to be prioritized for the decision. |
| 11 | Mind Maps | It is used when it is necessary to gather information, exchange opinions, formulate a problem. | The facilitator draws a large circle on the board with the key topic of the discussion and asks the participants to supplement the diagram with their subtopics, and each subtopic with private aspects and questions |
| 12 | Group study | It is used when it is necessary to gather information, exchange opinions and explore options for decision-making. | The facilitator presents the topic, goals and stages of the research, divides the participants into teams. Each team gets its question. Within the team, each participant gets his question. Then, in the mode of chaotic movement, opinions are collected in the general group. Then the team analyzes the results and draws conclusions. The solution is presented to the joint group |

*Source: compiled by the authors based on materials* [337] [340] [341] [343]

Therefore, if when transferring the team to a remote form of work, the manager is unable to achieve the required efficiency and effectiveness from the team, self-management and facilitation techniques will come in handy. At the same time, both self-management and facilitation can show good results both in classic team management and when using remote work and agile Agile management methodology.

[343] Bondarenko O.M. (2022) Facilitation as a Team Management Method. 77th scientific and technical conference of professors and teaching staff, scientists, young scientists, graduate students and students, Odesa, December 21-23, 2022

Thus, facilitation is one of the promising and most effective technologies that contribute to team building, the development of creativity, and the improvement of team effectiveness. The great advantage of the facilitation technology is that it can be easily applied in the online space with the help of such tools as: Zoom, Moodle, Meet, Viber, Telegram, Skype, interactive boards, etc. This is especially relevant in the conditions of a pandemic and the transition to remote work mode.

## 2.11. EVOLUTION AND DEVELOPMENT PROSPECTS OF THE CRUISE INDUSTRY IN DIGITAL ECONOMY

In conditions of sustainable development, before the onset of the COVID-19 pandemic, the cruise industry was developing very quickly and had the potential for further development. The COVID-19 pandemic has undermined the foundations of the further development of this area, and has had a profound impact on the prospects of cruise tourism. Large cruise companies suffered significant losses during the coronavirus pandemic. However, the cruise tourism industry had a rapid development until 2019, almost doubling the number of shipments in 10 years. That is why cruise liners and large cruise lines have a margin of financial strength. Noting the importance of this area for the development of the service economy and its impact on the ecology of the world ocean, the determination of the strategic prospects for the development of the cruise industry becomes relevant. In addition, the consequences of the pandemic caused social tension, a decrease in the standard of living and further transformation of the living standards of the population. Most research studies support these findings.[344] These trends contributed to the formation of integrated systems of economic security in the conditions of digitalization of society, which cover all spheres of activity, including tourism.[345]

[344] Mašľan M. The declining standard of living of the population and the subsequent growth of social tension and radicalization of society. - confirmed publication in VSEM Bratislava, december 2022

[345] Mašľan M., Britchenko I. Formation of an integrated system of state economic security. AD ALTA: Journal of Interdisciplinary Research, 13/01-

The purpose of the article is determination of promising directions and strategic foundations of the development of the cruise industry and its impact on environmental foundations.

In 1818, the Black Ball Line, operating out of New York, became the first shipping company to offer regular transatlantic passenger service from the United States to England. Taking care of passenger comfort one of their top priorities. In 1830, the use of steamships began, which later began to dominate the passenger and mail transportation market, replacing sailing ships. At that time, English companies dominated the cruise industry. The largest shipping company was the British and North American Postal Company, named Cunard Line.

The origins of sea cruises date back to the mid-19th century, when shipping companies transporting migrants from Europe to America. The companies began to look for ways to fill their cruises from America to Europe, which were always half-empty. During this period, the comfort and convenience of sea travel increased due to the use of electricity, the availability of more spacious decks, and the organization of entertainment on board. In 1867, the wheeled steamer belonged to the company named Quaker City made what can be considered the first sea cruise from New York to Europe and Palestine. One of the passengers was the famous writer Mark Twain, whose book "Commoners Abroad" gives us a detailed account of the journey. The support of sea travel by the British Medical Journal in the 1800s encouraged wealthy people to take sea cruises and transatlantic trips.

In 1881, the Peninsular & Oriental Steam Navigation Shipping Company, abbreviated as P&O, converted its liner Ceylon into a cruise ship, a rather bold experiment at the time. Ceylon is considered to be the first cruise ship in history designed exclusively for leisure sea travel, and the company created this ship rightly considers itself the inventor of leisure sea voyages. The owners of the company used the ship on a regular basis even during the off-season, when the number

XXXII, 2023. – p. 159-163. http://www.magnanimitas.cz/ADALTA/130132/papers/A_29.pdf

of passengers using their services was small. However, before that, there were no cruise ships that organized cruises on a regular basis[346].

At the beginning of the 20th century, liners returning from New York and Canada to Europe were not filled with passengers. Gradually, these voyages from the New World to the Old began to be positioned as comfortable voyages, although in reality they were ordinary linear voyages. Conditions on board gradually improved, and ships began to be built with an emphasis on comfort rather than speed.

Before the First World War, with the exception of a few specialized cruise ships and the organization of sea travel on ordinary linear ships not adapted for leisure cruises, the sea travel industry was still in its infancy. The outbreak of the First World War suddenly stopped the development of the cruise industry.

After the end of the devastating First World War, several shipping companies switched from linear passenger transportation to the sea cruise industry. At that time, almost all the ships used for this purpose were passenger steamers, converted and adapted, more or less, for leisure cruises.

Post-war passenger ships were full of luxury, more reflecting the interiors of hotels on land or country estates. This was not surprising, as many of them were designed by architects Charles Mewes and Millar, well known hotel decorators. Many passengers viewed sea voyages as something not entirely pleasant, something to be endured rather than enjoyed. Extremely luxurious interiors were designed to divert the attention of travellers from the stormy seas they had to endure. This type of passenger ship interior dominated the industry until the early 1930s, when a more modernist style emerged.

In 1927, French shipbuilders introduced the Ile de France, which is considered to be the first passenger ship to be fully decorated in a modern style. It was this ship that introduced the famous modernist Art Deco style, which was manifested not only in architecture but also in fashion and painting. Its distinctive features were strict regularity, luxury, and modern materials. With the appearance of the Ile de France

[346] Royal Caribbean International cruises. cruiseexpress.com.ua: website. URL.: https://cruisexpress.com.ua/kruiznye_kompanii/royal_caribbean_international.html

ship, the era of floating hotels with their classic, rich interiors has to come to an end.

In the period from 1920 to 1933, America had a law in place that dissolved alcohol consumption in the United States. This law made cruises extremely popular in the country. When a ship left the port, left the country's inland waters and simply sailed on the open ocean, not calling at any other port, every passenger was allowed to drink. A day or two later, it would return to receive another group of passengers who wanted to travel to nowhere. At the time, they were often called binge cruises. This allowed Americans to legally consume alcohol outside the territorial waters of the United States.

In 1922, the Laconia, owned by the British company Cunard Line, made the first ever voyage around the world. She departed from New York, crossed the Panama Canal, visited Japan and other countries of the Far East, then continued her journey through the Suez Canal, the Mediterranean Sea, and returned to New York. In the following years, Cunard's company offered round-the-world cruises lasting 6 months, almost twice as long as the cruise business offers today.

In 1929, the North German Lloyd shipping company began operating the ship Bremen, which was later joined by another ship, the Europe, in the design of which standard cabins for passengers were first introduced. At that time, passenger ships offered passengers different types of cabins. Bremen and Europe offered standard accommodation in first- and second-class cabins. They were furnished in a rational modern style, although passengers were used to a more refined environment. Other shipping companies followed suit only after the end of World War II[347].

The 30's saw the emergence of cruises organized by the German Ministry of Labor for its workers. The Nazi fleet consisted of several ships, the Wilhelm Gustloff and Robert Ley being the most famous of them. These ships had a number of new features hitherto unknown to the cruise industry: a large number of cabins with exactly the same furnishings - a typical phenomenon for all cruise ships today. All cabins on board were located along the hull of the ship, so each cabin had access to natural light. Wilhelm Gustloff and Robert Ley were the

[347] Floating City in the middle of the Ocean. How is the largest liner in the world built? URL: https://www.youtube.com/watch?v=elGHo_-4uzA

forerunners of the layout of all cabins along the hull, adopted by the famous cruise line Royal Princess in 1984. German ships were characterized by comfort rather than luxury. It is noteworthy that the crew members had exactly the same living conditions as the passengers.

The cruises suddenly stopped in 1939 with the outbreak of World War II. The need to transport a huge number of troops and personnel led to their conversion into transport ships, and after the war they were used to transport refugees seeking a new life in a foreign land.

After the end of World War II, the maritime passenger transportation industry recovered very quickly. The lack of ocean liners at the time prompted the US government to subsidize the construction of new ships. An additional incentive was the deterioration of relations between Western countries and the Soviet Union, so the ships were planned to be used as vehicles in case of a possible military conflict. Shipping companies made a profit by transporting refugees and emigrants to America and Canada, and business class passengers and ordinary tourists to Europe.

The operation of the Boeing 747 aircraft model allows for non-stop transatlantic flights, which led to a crisis in the maritime passenger transportation industry. By the end of the 1960s, transatlantic linear flights had become obsolete. They were no longer necessary from both a practical and economic point of view.

The owners of shipping companies faced serious problems due to a sharp drop in demand for their services. The shipping companies were looking to the future and realized that the opportunity to make money by continuing linear passenger transportation was coming to an end, and that their ships had to be able to fulfill a dual role - linear transportation and the development of voyages with an emphasis on the latter. Home Lines was one of the first shipping companies to fully reorient itself to the development of the leisure marine travel industry in 1963.

Although advances in the aviation industry dealt a devastating blow to transatlantic travel, the 1960s marked the birth of the modern cruise industry. It can now be argued that the achievements of aviation have recreated and revived the sea travel industry today. In the new environment, cruise lines began to offer passengers voyages to the Caribbean and created an image of a ship for entertainment that

attracted many passengers. Cruise ships focused on creating an informal atmosphere by providing numerous onboard entertainment options.

The conversion of the former ocean liner France into a cruise ship and its renaming to Norway in 1979 marked the beginning of the mega-ship era. It instantly gained recognition, although the ship's displacement was 76,000 tons and its length was 315 meters. At the time, it was believed that the optimal displacement for cruise ships should be 30,000 tons.

Royal Caribbean responded by launching the Sovereign of the Seas (1988), Monarch of the Seas (1991) and Majesty of the Seas (1992), each with a displacement of 73,000 tons and a capacity of about 2,300 passengers.

For many years, the Queen Elizabeth 2 (built in 1969, 70,000 tons, 293 meters long, 1892 passengers) was ranked first as the largest ship in the world cruise fleet. Today you will not find it in the list of the top 25 in terms of cargo capacity and capacity.

The launch of the Carnival Destiny (year of manufacture 1996, displacement 101,000 tons, length 272m, number of passengers 2,642), the first cruise ship with a displacement above 100,000 tons, was the most vivid example of the competition for the ownership of the largest cruise ship.

The struggle for the largest cruise ship has not stopped and continues. In October 2009, the largest cruise ship, Oasis of the Seas, with a displacement of 220,000 tons and a hull length of 360 meters, was launched, able to take on board 6296 passengers. It is anyone's guess when this race will end, if ever.

The introduction of new, larger ships has more advantages, as it allows the shipping company to offer passengers better services, including large accommodation cabins, shopping centers, ice rinks, climbing equipment, and more. The large number of restaurants on board has allowed us to introduce a new dining concept where passengers can freely choose where and with whom they want to dine.

Onboard entertainment has evolved from shows performed by talented crew members on former Greek and Soviet ships in the 1970s to professional shows on modern mega liners.

Cabins with balconies, Internet access, the ability to watch TV, and room service within 24 hours are available on all modern cruise ships.

After the terrorist attacks of September 11, the number of cruise passengers dropped sharply, as most of them were American citizens. But gradually the situation has normalized, and the current growth rate of the industry plus the fact that there are still many untapped markets (Europe, Asia), the future looks bright[348].

Due to the new SOLAS (International Convention for the Safety of Life at Sea) regulations, many old ships were forced to cease to exist. For companies trying to continue operating these old ships, these are difficult times, as they require large investments to comply with the new safety regulations, which have become even stricter since 2010 (e.g., installing a new fire extinguishing system).

Outdated ships consume a lot of fuel, so they are very costly to operate and do not generate significant profits. They require more crew members per passenger. Only a few shipowners are still able to maintain them. They mostly work on short cruises, lasting two, three or four days. Once upon a time, global cruise companies such as Regal Cruises, Premier Cruises, Commodore Cruises, Royal Olympic Cruises and Empress Cruises tried to continue operating these ships. All of them went bankrupt.

For passengers looking for something more unusual than a large cruise ship with 2000 thousand passengers on board, several specialized operators began to offer the opportunity to visit previously unexplored places in Antarctica, sailing voyages on sailing ships (fully controlled by computer systems), cruises on more fashionable ships. There are many different options in the cruise industry today.

Thanks to its fantastic comfort and entertainment of the highest level on board the ship, cruises today have turned a sea voyage into a sightseeing rather than an opportunity to see something new and unknown. The days of serving rich people are gone. This industry is focused on the general public and is now the fastest growing sector of the tourism industry. The cruise industry is on the rise and provides quality vacations to millions of passengers around the world.

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[348] Cruise Lines International Association, 2022 State of the Cruise Industry Outlook. URL.: https://cruising.org/-/media/clia-media/research/2022/clia-state-of-the-cruise-industry-2022_updated.ashx.

Thanks to this increase in the cruise fleet, the number of passengers who choose cruise vacations annually is expected to grow from 28 million in 2018 to almost 40 million in 2030[349].

The world's cruise fleet currently includes 386 ships, with 221 of them being North American cruise ships, which is not surprising: almost half of cruise ship passengers are from the United States and Canada. Passengers from Europe account for less than a third of the total, with 124 cruise ships in the European region. Asia, the Pacific and Australia account for 41 ships. The cruise market is an oligopoly. According to The Cruise Industry News Annual Report 2019, the largest player is Carnival, which includes nine cruise companies with the brands Carnival Cruise Line, Princess Cruises, Holland America Line, Seabourn, Cunard, AIDA Cruises, Costa Cruises, P&O Cruises (UK), P&O Cruises (Australia)[350].

Carnival owns 105 ships and held a 41.8% market share at the end of 2018. Royal Caribbean Cruises owns 52 cruise ships that sail the seas and oceans under six brands: Celebrity, Royal Caribbean, Pullmantur, Azamara, TUI, and Sky Sea.

Royal Caribbean Cruises owns the latter two brands jointly with other companies, and it is appropriate to talk about Sky Sea in the past tense, as by the end of 2018, the commercial activities of this enterprise were completed. The cruise line, created to operate in the Chinese market, has existed for three years and has carried more than 200 thousand Chinese passengers during this time.

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[349] Jamaica's voluntary national review (2018) defines 'unattached youth . . . as those who are in the age group of 14–24 years, unemployed or outside the labour force, and not in school or in training'. Jamaica Voluntary National Review Report on the Implementation of the 2030 Agenda for Sustainable Development, June 2018, https://sustainabledevelopment.un.org/content/documents/19499JamaicaMain_VNR_Report.pdf.

[350] Jacobides M.G., Sundararajan A., Marshall van A. Platforms and Ecosystems: Enabling the Digital Economy. World Economic Forum. 2019. URL: http://www3.weforum.org/docs/WEF_Digital_Platforms_and_Ecosystems_2019.pdf

Royal Caribbean Cruises' market share last year was 23.3%. The third largest player is Norwegian Cruise Line with 26 ships and three brands - Norwegian, Oceania and Regent Seven Seas - with a 9.4% share. Another 8% is held by MSC Cruises and 4.6% by Genting Hong Kong. The five players listed above account for almost 90% of the market, a situation that has developed as a result of a series of mergers and acquisitions; in the past, the market was more segmented. Now market participants are positioning their brands based on marketing segmentation - Carnival has both luxury cruise lines and Costa, which operates in the lower price segment for the cruise market[351].

The growth in the affordability of cruise tourism is one of the reasons for the jump in its popularity; modern cruise passengers are on average not as wealthy as their predecessors from the 80s of the last century. 7 days - this is the duration of the cruise chosen by 40% of passengers, according to the International Cruise Line Association (CLIA). Cruises from 3 to 6 days are slightly less popular - they are chosen by 27% of tourists. 11% of travellers are ready to spend just a couple of days on the ship, while slightly more - 15% - agree to stay for 8-13 days. Two-week cruises are chosen by 4% of passengers, and only 3% of tourists are ready to travel even longer.

Tourists in the 50+ age group account for more than half of all passengers, and it is especially surprising that tourists aged 70 and older on cruise ships account for 14%. There is a global explanation for this trend. According to American experts, it will cost an elderly person about the same amount to live in a private retirement home as to stay on a cruise ship.

Obviously, this option is not suitable for elderly people with dementia who need constant supervision or for bedridden seniors. But at the same time, there are people in retirement homes who live completely independently, with assistance limited to cleaning, entertainment, catering, and medical services when needed.

Paradoxically, cruise ships offer similar amenities, such as all-inclusive meals, games and shows, and an equipped medical center.

[351] Perfect Day Island. Royal Caribbean International: URL: https://www.royalcaribbean.com/cococay-cruises

11 cruise trends CLIA identifies 11 trends in the cruise industry that are most relevant in 2019.

Despite the COVID-19 pandemic and slow recovery, coastal and marine tourism remains one of the fastest growing sectors of the global economy. For small island developing states, tourism, including cruise tourism, is a major driver of economic growth and job creation, a major source of foreign exchange earnings, and crucial to economic sustainability. Going forward, a major challenge for the sector's sustainability, especially for coastal states and vulnerable small island states such as the Caribbean, will be the extent to which the international community (both public and private) commits to decisive climate action related to ocean use. Cross-cutting sustainability considerations, such as protecting ecosystems, reducing pollution and plastic waste, preserving biodiversity, and investing in green technologies as part of the blue economy, must be taken into account when developing the cruise and tourism industry in general. Oceans provide domestic and international tourism for nearly 200 countries and overseas territories. Globally, the market value of marine and coastal resources and industries is estimated at US$3 trillion per year, or about 5 percent of world gross domestic product, while the contribution of the ocean economy to world value added is conservatively estimated at about US$1.5 trillion per year, or about 3 percent of world value added.

The development of coastal and marine tourism is an important part of the blue economy and its ability to help us achieve the Sustainable Development Goals (SDGs). This applies not only to SDG 14 ("Conserve and sustainably use the oceans, seas and marine resources"), but also to the role of the blue economy in achieving other SDGs, such as SDG 1 ("Eradicate poverty in all its forms everywhere"). According to the United Nations World Tourism Organization, the cruise sector supports 1.2 million jobs and contributes $150 billion to the global economy annually. As the global ocean economy is rapidly expanding, this creates more and more opportunities and challenges to achieve sustainability in our oceans and on our coasts, especially in the face of climate change and the current COVID-19 pandemic.

Coastal and ocean tourism contributes significantly to economic development around the world - especially in the Caribbean, which is

highly dependent on tourism. The significant reliance on marine and ocean resources is vital to the experience cruise passengers receive. According to the Cruise Lines International Association (CLIA), the cruise sub-sector contributed USD 150.13 billion to the global economy in 2018 and USD 154.46 billion in 2019. At the national level, in 2019, cruise tourism contributed J$21.6 billion to the Jamaican economy through tourist recreational services, food and beverage services, passenger transportation services, and recreational and cultural services.

It is important to balance the economic benefits to be derived from the blue economy with the proper conservation and sustainable use of resources, as well as the social impact on coastal communities. The period 2010-20 was marked by the fastest growth of the cruise industry worldwide, which had a significant impact on the marine and coastal environment. Prior to the COVID-19 pandemic, Jamaica's economy earned an average of USD 174.5 million from cruise tourism. In 2020, foreign exchange earnings from cruise tourism amounted to USD 45.5 million.

At the same time, while countries have been recovering from the economic consequences of the pandemic, there have been positive environmental effects of the "anthropause". According to the Organization for Economic Cooperation and Development, energy emissions decreased by 7%, and the environmental pressure associated with agriculture decreased by 2%. The environmental impact of cruise tourism needs to be considered, as cruise ships are a major producer of untreated sewage and other pollutants that threaten the survival of the ocean. The United Nations Environment Program has identified cruise ships as one of the main sources of pollution in marine ecosystems. In addition, the U.S. Environmental Protection Agency estimates that the amount of waste from cruise ships ranges from 2.6 to 3.5 kilograms per person per day. Waste management is regulated by the International Convention for the Prevention of Pollution from Ships[352].

[352] Patil P.G., Virdin J., Diez S.M., Roberts J. and Singh A. Toward a Blue Economy: A Promise for Sustainable Growth in the Caribbean (Washington, DC: World Bank, 2016),

The cruise tourism sector's response to the demands of sustainable development is vital to its existence. In other words, the ocean must be preserved in a pristine state, effective solid waste management practices must be implemented, and epidemiological standards must be strictly adhered to, to ensure safety and protect human health. One can take solace in the fact that while cruise tourism can cause environmental damage, it also has the potential to support sustainable responsibility, and the integration of tourism into the local community. Particular attention should be paid to environmental factors that ensure the prosperity of the cruise industry. Efforts should be made to preserve the ocean in its pristine state. In addition to pollution concerns, lessons learned from the pandemic require the cruise industry to carefully manage medical protocols to ensure a safe, secure, and seamless experience for travellers. In addition, shore excursions, attractions, and experiences associated with cruise tourism must be structured to ensure compliance with environmental standards and practices. This also ensures that partnerships with local communities are established, as cruise ships consume cultural assets. This approach has been actively demonstrated in the historic city of Falmouth, where the Jamaica Port Authority, in partnership with the Ministry of Tourism and Royal Caribbean Cruise Lines, has implemented several projects aimed at making the port city more sustainable and inclusive.

Despite the impact, the pandemic has provided opportunities to strengthen the cruise industry's viability and resilience. For example, it has provided an opportunity to review the industry's operations and impacts in order to develop strategies and policies to effectively manage disruptions. In this regard, CLIA announced its intention to have 26 cruise ships running on liquefied natural gas (LNG), 81 percent of the world's capacity equipped with modern wastewater treatment systems, and 174 cruise ships with shore power connections by 2027. The Montego Bay cruise port provides LNG equipment for ships, but only for a few cruise ships. Connection to the shore power

https://documents1.worldbank.org/curated/en/965641473449861013/pdf/AUS16344-REVISED-v1-BlueEconomy-FullReport-Oct3.pdf.

grid is also available in Montego Bay. The cruise industry is expected to return with a more sustainable, streamlined, and efficient model that places greater emphasis on adherence to risk management protocols and preserving and protecting the industry's operations and the marine and ocean resources on which it depends. The cruise industry's operations in Jamaica must strictly comply with the regulations of the Ministry of Health and Wellness, as well as the Ministry of Tourism's COVID-19 Health and Safety Protocols.

As the world begins to prepare to emerge from the pandemic, one of the most important considerations is public health and safety. In partnership with health authorities and port authorities, strict health and safety measures and protocols should be developed. Harmonization and cooperation between public health requirements and industry practices are necessary to develop and comply with safety protocols and measures, especially those related to medical and wellness facilities on board ships.

Cruise tourism is critical to the economic sustainability of the Caribbean. The Caribbean region is one of the world's leading ocean cruise destinations and one of the most lucrative cruise destinations. According to Caribbean News Digital magazine, the Caribbean region accounts for about 60 percent of the world's share of cruise ship passengers. The Caribbean Tourism Organization reported that approximately 25 million cruise ship passengers visited 24 destinations in the Caribbean in 2014, a figure that grew by 11 percent in 2015. This presents significant opportunities for economic development of ports as well as social development of port communities. This will allow for the development of measures that will enable ports and cruise lines to systematically address the economic, social and environmental impacts of the industry.

More importantly, cruise tourism and sustainable cruise tourism can be a transformative tool for communities that have traditionally been locked in a culture of silence. The integration of cruise port development in the historic town of Port Royal aims to transform a historically rich community into a sustainable heritage, environmental and cultural attraction, while modernizing its physical infrastructure and improving the economic and social conditions of residents. Ultimately, this development will contribute to the transformation of the city into a city that engages the local population, as well as ensures

good governance and management of sensitive environmental and natural resources. Throughout the project, concerted efforts were made to strengthen cooperation between key government agencies and to promote the integration of Port Royal residents into the entire development process. A significant design modification that emerged from discussions with stakeholders was the relocation of the port's on-site tertiary sewage system (originally intended for the port only) off-site. The wastewater treatment plant will use modern technologies to minimize environmental impact and increase operational efficiency.

Today offers an ideal opportunity to redefine cruise tourism. The future of the industry will be shaped by investments in technological advances that aim to increase efficiency and enhance the experience while reducing social and environmental impact. Now, more than ever, we have the ability to pinpoint the physical boundaries of destinations, diversify travel routes and develop effective projects to preserve and restore destinations. Governments will need to adapt to the growing demand for cruises by ensuring that the necessary regulatory and legislative mechanisms are in place. Promoting sound environmental practices, sustainability strategies and environmental management systems will be essential for a reimagined cruise tourism industry. Finally, the land-based experiences and attractions that support cruises must adapt and evolve with new creative and innovative strategies to meet growing demand.

The health and sustainability of our oceans is critical to the survival of the tourism industry and, by extension, our planet. In this regard, as a small island developing nation, Jamaica welcomes the goal of the High-Level Panel on the Sustainable Ocean Economy (Ocean Panel) to achieve a sustainable tourism economy by 2030. The post-COVID-19 period will witness increased growth in coastal and marine tourism, especially cruise tourism. This requires the implementation of sound and robust strategies, policies and management practices that ensure viability and sustainability for countries and communities, for this and future generations.

In the maritime transportation industry, and especially in the cruise ship passenger industry, it is necessary to take into account not only tourism-related factors, such as covid, but also general changes in the maritime transportation industry. For example, the continuous process of improving and "greening" the ships used. One of the newest laws

that has been adopted is the gradual transition to a new type of fuel. In English, the name of this statute is "International Code of Safety for Ships Using Gases or Other Low-flashpoint Fuels (IGF Code)", which translates as "International Code for the Safety of Ships Using Gases or Other Low-flashpoint Fuels (IGF Code)".

All currently known enterprise strategies can be categorized into certain groups, but it should be noted that any strategy chosen by a particular enterprise will always be individual in nature, as it is formed and implemented under the influence of many factors of the internal and external environment. It is safe to say that no two strategies are exactly alike, just as no two people are exactly alike. However, despite this, enterprise management often defines general enterprise strategies, gives them certain names and characterizes them based on the common features they have in common.

Thus, well-known enterprise strategies can be classified into the following groups:

I. Concentrated growth strategies. They usually include:

— strategy of strengthening the market position (with this strategy, the company tries to take the best position with this product and in this market);

— market development strategy (when a company is looking for new markets for a product that has already proven itself in other markets);

— product development strategy (in the already conquered markets, the product is improved through modernization, modification, etc.)

II. Integrated growth strategies. The main ones are as follows:

— reverse vertical integration strategy (this strategy implies that a production company combines its activities with supplier companies);

— "forward" vertical integration strategy (implies that the production enterprise combines its activities with the enterprises of the distribution network);

— horizontal integration strategy (implies that an enterprise combines its activities with other enterprises on which it is neither functionally nor organizationally dependent)

III. Stabilization strategies. These strategies include the following:

— market share protection strategy (this strategy implies that the company protects the conquered market by gradually modifying products, establishing service, etc.);

— strategy to support production potential (this strategy is aimed at strengthening individual business lines of the enterprise and maintaining property complexes for the production of certain types of products in good condition);

— product modification strategy (aimed at continuous improvement of the product, the essence of this improvement is regularly communicated to the consumer through powerful advertising support and other measures).

IV. Restructuring strategies. The most commonly used of these strategies are the following:

— growth strategy through acquisitions (this strategy means that the company buys up other companies (property complexes) through the acquisition of controlling stakes and other means);

— strategy of product and market reorientation (under this strategy, the company gradually abandons traditional products and moves to the production of new products);

— organizational change strategy (this strategy involves changing the organizational or production management structure and implementing other organizational and technical measures).

V. Diversified growth strategies. Among these strategies, we would like to focus on the following:

— strategy of centralized diversification (in this strategy, the existing business remains the focus of the enterprise, and the new business arises on the basis of the opportunities of the already mastered market, existing technologies, and also depends on other strengths of the enterprise);

— conglomerate diversification strategy (in this strategy, the company expands its activities by mastering the production of products that were not previously produced and are typical for other industries);

— horizontal diversification strategy (this strategy involves the search for growth opportunities in the existing market through new products, which requires new technologies that differ from existing ones).

VI. Downsizing strategies. There are four main types of strategies for targeted business downsizing:

— cost reduction strategy (this strategy provides for cost reduction through appropriate organizational measures, and is classified as temporary in terms of the period of its implementation);

— a "harvesting" strategy (involves refusing to view business as a long-term activity in a given market and is aimed at maximizing returns in the short term);

— downsizing strategy (this strategy means that the company closes or sells one of its divisions or property complexes producing a certain product);

— liquidation strategy (represents an extreme case of the downsizing strategy and is used when an enterprise cannot continue this business for various reasons).

In recent years, new trips have been formed - group cruises. They are based on the following: tourists are gathered from different parts of the world; you can join the cruise from different points: from the very beginning of the cruise or from intermediate stops; travel agencies from their other countries are involved in the formation of group cruises on a contractual basis. This technique is used to increase the service area, i.e. to expand the "geography" of tourists.

Travel agencies organizing water cruises do not consider it advisable for tourists to visit this polluting industrial facility and the surrounding area in the coming years.

The current "cruise fashion" in the company is largely determined by NCL. This company organizes original itineraries in the Caribbean and Alaska, and was the first major cruise line to offer tourists routes from Argentina to the Chilean fjords and further along the coast through the Panama Canal to Miami.

The ship's innovations also include the largest complex of villas and suites at sea on the two upper decks, studio rooms for single travellers and family spas.

For a wide range of entertainment, there are 7 decks for free family recreation and entertainment, a sports deck for 8 different sports and three separate areas for children and teenagers, and a large water park.

Environmental protection is one of the main factors in shaping the strategic development of the cruise industry. That is why the company's ships use the latest environmental technologies and meet

all international and local standards, including those of MARPOL, the Coast Guard, and the US Environmental Protection Agency[353].

The construction of giant cruise ships is a characteristic feature of the modern cruise market. Currently, Japan Contents Network is developing the Princess Kaguya cruise ship, which can accommodate 8,400 passengers.

Recently, in order to attract tourists with different incomes, new companies have appeared on the cruise market that organize more economical trips. This is especially true in Europe. Ferry services have also developed.

However, the level and variety of passenger services here are lower than on cruise ships. Nevertheless, the ferry market is one of the most promising in international shipping.

The Baltic Sea is the world leader in terms of ferry traffic. Compared to the North and Mediterranean Seas, it holds the lead in terms of the number of ferry lines (about 80) and the volume of ferry trips made annually. Short and medium-length routes prevail here.

"Cruise ferries" have captured a significant part of the cruise business. These are large-tonnage and comfortable vessels with a high level of service.

Sea cruises are one of the most popular and fastest growing segments of the international travel market. According to the European Cruise Lines Council, 73% of cruise tourists in the world are Americans, 21% are Europeans. Once ashore, almost 77% of travellers visit museums, entertainment and recreation venues. 66% have fun on their own, while the rest go shopping, to cafes and restaurants, and on excursions. In other words, travel is not limited to the deck of a cruise ship. Every year, cruise ships and their designs are being improved, comfort is increasing, and new sea and ocean routes are being developed.

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[353] Portincaso M., de la Tour A., Soussan P. The Dawn of the Deep Tech Ecosystem. Boston Consulting Group & Hello Tomorrow. 2019. № 3. URL: http://image-src.bcg.com/Images/BCG-The-Dawn-of-the-Deep-Tech-Ecosystem-Mar-2019-R-2_tcm91-216221.pdf

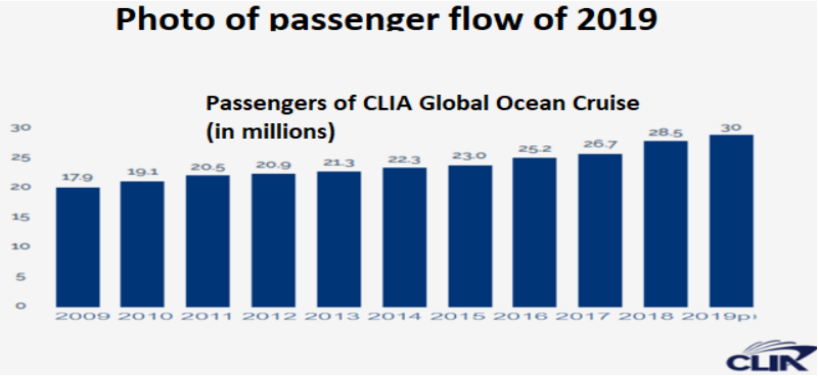


Fig. 1. **The volume of passenger transportation by cruise ships in the world according to the International Cruise Line Association**

The melting of the ice helps to open the Arctic waters to tourists. Today, the Arctic tourism market of three countries (the United States, Norway, and China) generates $6 billion in revenue, which is a very promising area of activity.

Sea voyages to the North Pole may become a new development area that has no analogues in the global tourism industry.

Currently, the cruise vacation market is in its heyday. Figure 1 shows a diagram of the growth dynamics of the number of passengers traveling on ocean cruises.

Only 10 years ago, there were 17 million people who chose the cruise option for travel. Ten years later, 30 million passengers enjoy this journey, crossing our oceans, seas and rivers on a daily basis.

The data confirming the upward trend of the cruise market speaks for itself: in 10 years, the cruise industry has increased its passengers by 40% and multiplied its capitalization.

Over the next decade, the construction of hundreds of ships is expected to add nearly 500 cruise ships crossing our seas, oceans and rivers.

With the construction of larger ships, with more capacity but also more sustainable and energy efficient, the supply of berths is expected to exceed one million within 10 years.

The cruise sector still retains significant growth potential. Today, this industry accounts for only 2% of the 1.4 billion tourists who travel around the world each year, and in 2020 it generated $134 billion worldwide.

There are some cruise companies specializing in the exclusivity and luxury of five-star hotels. For example, Seabourn, Silversea, Cunard, Windstar, or Princess.

In general, these are small ships, some of them even sailboats, with excellent service, customer service oriented, with sufficient space for passengers, high level of cuisine and a very complete all-inclusive product. Itineraries tend to be longer, with more overnight stays in ports and exotic destinations that larger ships do not reach. They also offer exceptional and unique experiences, such as helicopter flights, a night at the opera at the opera house, or tickets to the final of a Grand Slam tennis tournament.

On the other hand, there are economy or more commercial cruises that offer high quality services and amenities at very competitive prices for all customers. This applies to the largest and most popular cruise line companies such as Carnival, Costa, Pullmantur or MSC.

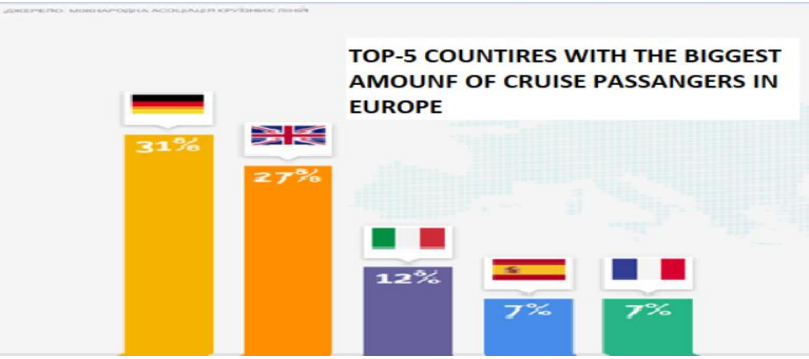


Fig. 2. **Top 5 countries with the largest number of cruise passengers in Europe**

The European market (Figure 2) has grown by 5.5% in recent years to reach 7.1 million passengers, with Germany being the largest cruise passenger market in Europe with 31%, followed by the UK with 27%,

Italy with 12% and Spain in fourth position with 7%. The fastest growing European regions in 2018 were Portugal and Russia with 24% and 14% respectively.

According to the latest data, more and more Europeans are traveling within their own geographical region, with the Central and Western Mediterranean being their favourite destinations, followed by Northern Europe, leaving the Caribbean in third place, leaving the Caribbean in third place. The Canary Islands, up 10%, are becoming a favourite destination for the most popular cruise passengers, with 52% of Germans and 36% of Brits favouring travel to these Spanish islands.

Europeans prefer cruises lasting 7 to 8 days and have an average age of 50 years. Among them, the youngest are Italians at 46 years old and the oldest are Germans and Britons, who are the main European cruise passengers.

That is why the major cruise lines are developing ambitious strategies to enter these markets, adapting their product culturally to the needs of this region, which is growing with an expanding middle class and increasing purchasing power. An expanding middle class and greater purchasing power.

Investment in this market is multilateral, and local governments are also opting for solid infrastructure to be able to absorb its full potential. Currently, there are more than 300 destinations in Asia, around 20 markets, with China being the major passenger issuer with more than 2 million cruise passengers and Japan the country with the largest number of port destinations.

In this region, 79 ships operate through 39 different cruise lines, totaling nearly 2,000 itineraries. Given the potential of this market, cruise lines in the market, cruise lines are increasingly investing in destinations in this area to be able to capture market newcomers and thus further increase the number of cruise passengers, as it is easier for them to try this product if they have it on board.

Another feature of this market is the passenger profile, which remains younger than in the rest of Europe; in this case, 4 out of 10 cruise passengers are under 40 years old. For decades, North America has remained on the throne as the main issuing market for cruise passengers with 40% of the global share, followed by Europe, which is growing year on year with 25%, and in third place Asia Pacific (with

20% of the market share), which is growing at an average annual rate of 33%, becoming one of the most promising markets in the industry.

The opportunities we see in this business, which combines online and automated sales methods with offline and more traditional sales methods in its sales process, are to increase cross-selling and up-selling.

After automatically capturing the initial customer interest, the potential customer moves into the virtual world and receives personalized attention from a travel agent who guides them through the buying process to increase the profitability of the sales opportunity while meeting specific needs. This user, who ends up making a purchase over the phone, starts by searching online. During the website search, the user has already placed the first purchase-related filter to provide information about the destination, month of departure, and even the cruise in which they are interested.

Subsequently, through a quote request, the agency does contact the traveler with a hot call to gauge interest, support you in the decision-making process, refine the choice of the decision-making process, refine the choice and offer peripheral products (cross-selling) or higher profitability (up-selling) in order to have more control over the conversion rate.

In order to achieve effective and efficient guidance, it is necessary that the travel agent immediately travel agent immediately communicate to the client all available information about the cruise offer available cruises in order to offer the client the best alternative to the client.

In addition to being experts in terms of product knowledge, these agents need commercial and sales skills to be able to persuade and understand what the customer needs, putting them first.

The sales process is influenced by many factors, but one of them is the impulsiveness of the customer at that moment. The faster we provide the user with information and all the data they need, the more we can take advantage of the time window in which the customer is more receptive and more impulsive.

## CONCLUSIONS TO PART 2

The second chapter of the monograph examines the philosophical, social and legal aspects of digital transformations. Considered aspects of adaptation of information and communication technologies for management needs in the field of business administration, taking into account a client-oriented approach. A conclusion was made regarding the presence of a powerful potential for the further development of digitalization in Ukraine in the administrative and management spheres, which is a lever for increasing the competitiveness of the national economy. The priority directions of digital transformations have been formed in terms of the formation of digital infrastructure in the field of communication and business administration, increasing the level of digital literacy and the use of digital technologies in the field of finance. All involved levels of digital transformation are able to form a powerful innovation and investment base to achieve all the goals of the development of the national economy in the digital plane.

The monograph proposes ways to modernize the legislation of Ukraine, which relate to the sphere of economic regulation in the digital economy. Increasing the transparency of governance, the legal framework for digitalization, and government accountability will be crucial for attracting investment to Ukraine and fulfilling the conditions for joining the EU. Investments in digital technologies affect the entire reconstruction process by increasing efficiency and reducing costs in connection with the change of traditional business models, production chains, and also create chances for improvement and competitiveness of the Ukrainian economy in the future.

The second chapter examines the communications system as a potential for socio-economic and sustainable development. Conclusions have been drawn regarding the communication management system as a controlled socio-economic process in which analysis prevails over empirical knowledge, where the purpose of communication clearly defines its structure, the choice of means and methods of influence.

The complex of legal and economic relations that arise in the process of the circulation of land plots, namely such transactions as purchase and sale, inheritance, exchange and donation, pledge, lease, emphytheusis, is studied. The structure and dynamics of the number

of operations with targeted land plots were analyzed. The extreme values of operations with agricultural land are determined. The European experience of the development of land management and the formation of the agricultural land market was studied. A cluster analysis of the level of development of land management in different regions of Ukraine was conducted. The use of the k-means method and Ward's method made it possible to divide the regions of Ukraine into three cluster groups according to the level of land management development. The features and specifics of the modern state of land management development are clarified; and the reasons for the delay in the market introduction process.

The current state of management information in the agricultural sector of Ukraine in the conditions of digitization is studied. The current state of the management information support system at all levels of the management hierarchy (rural households; enterprises; local self-government bodies; industrial and state management; Ukraine in the world) is assessed and directions for its improvement by combining social, economic and ecological (natural-spatial) dimensions are outlined. The accounting and information management system of business entities were analyzed - at the level of agricultural enterprises and farms of the rural population. Generalized accounting and information management system in territorial communities - local self-government bodies.

Prospective directions for the development of the digital economy in Ukraine have been developed. The stages of the formation of the global digital economy under the influence of the acceleration of innovations have been studied. The proposed vectors for the development of the digital economy, the main ones of which include the following: reforming the educational infrastructure, funding applied research and digital entrepreneurship, retraining and additional education, addressing priorities for the digital development of industries, developing digital infrastructure, implementing and developing innovations. Recommendations were given to business structures regarding possible directions of development in terms of the development of the culture of innovation and the development of new technologies.

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