

"Digitalization" is the Driver of Sustainable Development of the Economy of the Country at the Modern Stage

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ABSTRACT

The article is dedicated to the consideration of the theoretical and practical aspects of the modern driver of sustainable development of the Russian economy - the process of digitalization. "Digitalization" is defined as the process of implementing digital technologies in all spheres of human life and society. Digitalization became an engine, a driver of global development, ensuring an increase in the efficiency of the economy and an increase in the quality of life. Therefore, the process of "digitalization" is looked upon as a driver, basis, rails, direction of effective sustainable development of the country's economy and effective management of the country's economic systems. The article considers the theoretical and methodological foundations of sustainable economic development, digitalization. An analysis of current trends in the development of digitalization in Russia is also presented. An important aspect of the article is the consideration of digital technologies in the banking sector.

Keywords: *digitalization, digital technologies, sustainable economic development, development driver, banking sector, smart bank*

1. INTRODUCTION

Digitalization is a key basis, the most important driver of modern sustainable economic development in Russia.

The modern age cannot be imagined without digital technologies. Digital technologies are present in all spheres of our life, they are the basis for their effective management. This process is called "digitalization" and became a set trend, a modern driver of sustainable economic development of both a single state, the world economy, and business entities for the coming decades.

The term "digitalization" of the economy and society is understood as the reform of the socio-economic sphere through the implementation of digital technologies for searching, processing, forming the exchange and transmission of information.

Now it is difficult to imagine your life without the use of digital technologies, such as the Internet and without the introduction of new innovative products into everyday life, which have a significant impact on the sustainable development of the economy, the global financial system and, as a result, progress and improve the living standards of the population.

The sustainability of economic development is understood as a state of the economy, in which the stability of production, socio-economic indicators is maintained in order to improve living conditions and satisfy the needs of people.

In the conditions of the dissemination of the coronavirus, it is digital technologies, that became the very driver of economic development.

"Digitalization" is considered as a driver of effective sustainable development of the country's economy, a driver of effective management of the country's economic systems at the modern stage.

2. THEORETICAL AND METHODOLOGICAL ASPECTS OF SUSTAINABLE ECONOMIC DEVELOPMENT AND THE PROCESS OF "DIGITALIZATION". MATERIALS AND METHODS

At present, the concept of sustainable development is the most important basis for the development of a modern "information" society.

This concept appeared back in the 70s of the 20th century, it was created by experts from international organizations of the UN system. Sustainable development was understood as the process of managing the totality of physical, natural and human capital in order to improve living conditions, satisfy the growing needs of people. [1]

This concept has a triune nature, which is based on the unity of the economic, social and environmental components. The economic component of sustainable development is based

on the optimal use of limited resources, minimization of waste through their processing and disposal. The social component of sustainable development is primarily aimed at humans. In this concept, a person is considered not as an object, but as a subject of development, participating in processes, that create an environment for his life, contributing to the adoption and implementation of decisions, controlling their implementation. The ecological component of sustainable development is aimed at striking a balance between the development of biological and physical ecosystems.

The concept of sustainable economic development evolves under the influence of factors, that change over time. The modern stage of development of society is characterized by the use of information technology from all spheres of human life.

For the first time, the term "digitalization" appeared in 1995, when the American information scientist Nicholas Negroponte from the University of Massachusetts disclosed the concept of "digital economy". The strategy of the development of the information society in Russia for 2017-2030 defines the digital economy as an economic activity, in which the key factor of production is digital data, the processing of large volumes and the use of the analysis results of which, in comparison with traditional forms of management, can significantly increase the efficiency of various types of production, technologies, equipment, storage, sale, delivery of goods and services". Thus, the term "digitalization" means the process of transition to the digital economy [3].

Currently, the term "digitalization" is used in various understandings. Digitalization in the narrow sense is understood as the transformation of information into digital form, which should lead to a decrease in costs and the emergence of new means of carrying out any activity, to become a "helper". The use of such transformations of information in most cases leads to extremely positive consequences, and they determine the use of the term in the enlarged sense of the word.

The role of digitalization in the modern economy is now extremely important. It became the engine of development, improving the private aspects of the economic and social life of mankind, increasing the quality and comfort of life. In the modern world, digitalization is in a broad sense understood as the use of converting information into digital form. This entails an increase in the efficiency of the economy and an increase in the quality of management of economic forms, which eventually should improve the quality of life in the social and economic spheres.

Due to the existing requirements, digitalization will be the main engine of economic progress. The coverage of digital transformation spreads in many areas and is accompanied by high application efficiency. Access to the results of analysis and transformation of information should be general, and the application should be clear to everyone.

Computing technology was used only in informatization and computerization, but with the development of technologies and the emergence of new problems, there was a need to solve economic issues, then digitalization replaced. Ample digitalization resources, that make it

possible to present information in a convenient form, lead to the emergence of already integral technological environments of "habitation" (ecosystems, platforms), where the user has the opportunity to collect the friendly environment he needs (technological, instrumental, methodological, documentary, partnership, etc.) in order to solve already more significant and extensive tasks [3].

Digitalization has many directions. The most significant ones can be noted, such as: product lifecycle management, automation of manual labor, using robots and electronic document management, cybersecurity, flexible corporate culture, based on the operational Internet interaction of geographically distributed employees and departments, the use of information technology in the banking sector, and others.

Analyzing two definitions of the digital economy, it can be noted, that each of them captures only some of its significant features. By collecting the most important features of the definitions, it is possible to compose one whole, which gives the most accurate definition of this term. The digital economy is a system of socio-economic relations, that pursues the goal of increasing the efficiency and competitiveness of the economy, showing a modern model of economic development, in which the increase in competitiveness and efficiency is made a vital necessity, explained by the relevance of the stage of evolutionary development of the socio-economic and production model of society.

Also, the digital economy captures the sphere of social life, production, business, science, management, households and individuals, reflecting the characteristics of a new technological generation - the use of big data, which is produced by various information systems and their subsequent processing and analysis, which will help to benefit from information.

The digital economy is aimed at the creation of new industries, business models, management models, new markets and new consumers, is based on digital transformation, i.e., assuming the transition from analog interaction and the use of analog media to electronic interaction, which is based on the use of modern electronic means. It can be as innovative digital information and communication technologies, advanced electronic communication channels, electronic document management with an electronic signature, electronic methods of accounting and processing, storage and transmission of information.

The digital economy is based on the use of the latest mathematical methods and models of information processing. It is implemented online through platforms such as the Internet, mobile and sensor networks.

At the moment, the following definitions of the digital economy are official and adopted at the government level in Russia:

- the digital economy is an economic activity, in which the key factor of production is digital data, the processing of large volumes and the use of the analysis results of which, in comparison with traditional forms of management, can significantly increase the efficiency of

various types of production, technologies, equipment, storage, sale, delivery of goods and services;

– the digital economy is an economic activity, in which digital data is a key production factor. It contributes to the formation of the information space, taking into account the needs of citizens and society in obtaining high-quality and reliable information, the development of the information infrastructure of the Russian Federation, the creation and application of Russian information and telecommunication technologies, as well as the formation of a new technological basis for the social and economic sphere.

The concepts of “digitalization” and “digital economy” are different, but they are related. Digitization is a broader concept. It is the basis of the digital economy, a development driver, that determines the improvement of the economy and society. Summarizing the above, digitalization is the primary modern trend of the development of the economy and society, organized on the transition to a digital format of the presentation and use of information, aimed at increasing the capabilities of the economy, the efficiency of managing all systems and improving the quality of life.

Digitalization contributes to the consistent improvement of all business processes of the economy and related social spheres. Increasing the efficiency of managing economic systems is based on an increase in the rate of interchange, democracy, and information safety, and on the increasing importance of automation as a basis for digitalization [3].

In the course of the study, the theoretical and methodological basis of the system approach, investment management, economic and mathematical modeling, economic analysis, and the theory of a market economy were applied. The methodological framework of the study is based on the analysis of the existing experience of using digital technologies in the activities of Russian organizations, as well as on the analysis of modern foreign and domestic practices of managing economic systems.

3. RESULTS AND DISCUSSION - "SUSTAINABLE ECONOMIC DEVELOPMENT AND PROBLEMS, BENEFITS AND TRENDS OF DEVELOPMENT OF THE DIGITAL ECONOMY OF THE RUSSIAN FEDERATION"

On the state of the digital economy back in 2016, the following economic benefits, that the digitalization of the economy would bear, are presented:

- increase of labor efficiency;
- increase in the competitiveness of the company;
- implementation of new vacancies;
- reduction of production losses;
- poverty and public inequality reduction;

– increasing the degree of satisfaction of human needs.

Already at that time, it stated about the significance and significance of the use of digital technologies in all spheres of human life. But you should not forget about the risks and problems, that arise with the implementation of digital technologies.

Between the likely risks of using digital technologies, the following can be implied - unauthorized access to information and other cybersecurity dangers, mass unemployment, as well as digital inequality - there is no uniform access to offers and products by residents of different countries and from different social classes. In addition to such access to information, problems, that have arisen in the field of education, are touched upon.

Digitalization became an inevitable process in every area (industry) of the economy and the country as a whole. To avoid these problems, and for the digital economy to become a reality, several problems should be solved:

- Lack of IT specialists;
- Lack of IT infrastructures;
- underdeveloped population in the sphere of digital literacy
- corporate structure
- “traditional” consciousness, focused on working with material, not digital objects;
- the need for a radical restructuring of business models and management paradigms. [6].

Thus, if do not pay attention to the use of the identified problems, it is possible to say, that the implementation and application of digital technologies in the management of economic systems in the Russian economy continues to develop rapidly.

Also, the banking sector, digital technologies were more affected, taking into account the specifics of the organization of the banking sector and the specifics of the banking product and its services.

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Creation of new platforms, which are referred to as "smart" factories, the main features of which are a high level of automation and robotization, where human factors and the possibilities, associated with these errors, leading to various losses, are not used at all.

Factories of the future can be called a special type of organization of business processes, which include the following characteristics:

- creation of digital platforms, advanced digital technologies. Based on the analysis system and big data, this approach allows to unite geographically distributed participants of these processes, to increase the level of

flexibility and "customization" taking into account the needs of consumers;

- "customization" (from english Customize - change something, set) is the process of individualizing products for specific needs, desires of specific consumers by making changes at the final stages of production;
 - creation of digital models of new design products and production processes;
 - "digitalization" of the product life cycle of products (from concept idea, design, production, operation, service and to disposal). The cost increases when changes are made. And the later it is entered, the more the cost increases. That is why special attention is paid to the design stage, since at this stage high consumer needs or the main features of the product's competitiveness are laid down.
- On the basis of the accumulated knowledge of the creation and operation of smart factories in the production sphere, three types of banks of the future can be distinguished by analogy: "digital", "smart", "virtual".

"Digital bank" is focused on creating a new generation of banking products from the stages of study and planning, laying down the basic principles of the service, to the stage of creating a digital model of banking service, a digital twin, and a prototype. "Digital bank" reduces costs by 10-50%, reduces production time by 20-70%, and leads to an increase in profit by 10-50%.

The activity of "Smart bank" are aimed at developing a new generation of banking products from a single service to a finished product. Promotion of a "smart bank" leads to a 2-4-fold reduction in the production time of a banking product and an increase in profits up to two times.

"Virtual bank" integrates digital and smart banks into a unified network for the production of a banking product from the analysis of needs for a banking product (service), the development of a digital layout of a banking service and its further customization for the specific needs of the end consumer, to the release of a ready-made banking service for a mass audience of bank clients. The virtual bank enables 2-4-fold productivity growth and 40% cost reduction.

Based on the experience of creating and functioning of smart banks abroad, it is possible to say, that they showed a high degree of efficiency both for the banking sector and for the end consumers of the banking product, who get the maximum benefit from satisfying their needs. This, in turn, results in improving the quality of banking services and increasing the efficiency of banking services.

Digital technologies are becoming an integral part of the economic, political, and cultural life of the economic entities of the Russian Federation and the driving force of the development of society as a whole. Russia is at the initial stage of development of modern civilization, which is characterized by the rise of the role of knowledge, science, technology and information in all spheres of life. The Government of the Russian Federation, studying foreign policy events and world trends, is primarily interested in ensuring the country's competitiveness and national security, where the promotion and development of the digital economy plays an important role in the

implementation of the set goals. Some elements of the digital economy have already been implemented and are functioning successfully. Thanks to the authorization of the electronic signature, new forms of information interaction became available. Communication with government bodies became much more comfortable and easier.

Based on the values of digitalization indicators, such as its level and share in GDP, the development of technologies and the rate of their implementation, it is possible to say, that at the moment Russia is not among the leaders in mastering the digital economy. The share of the digital economy in Russia's GDP is only 3.9%. This is 2-3 times lower, than that of the leading countries. There are also favorable trends in the growth of the digital economy. Over the past few years, large digital companies have appeared in Russia, which after a while became famous all over the world. Among them are the world's largest independent online bank "Tinkoff Bank", which has no physical branches, digital portals and service ecosystems "Yandex" and Mail.ru, the producer of marine simulators and electronic navigation systems "Transas", the "Avito" electronic advertisement site, the social network "VKontakte", the company, producing digital security solutions, "Kaspersky Lab" and many others.

The digital economy is currently the foundation of the country's economic development. Figure 1 shows the stages of the digital transformation of the Russian economy, from 1997 to the present.

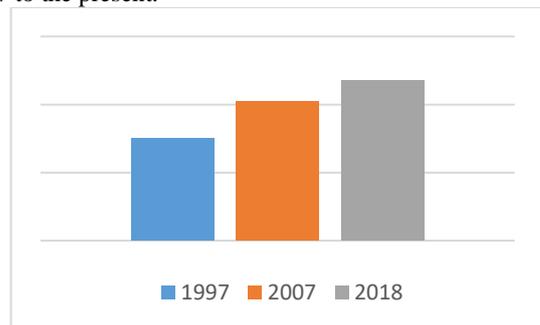


Figure 1 Stages of digital transformation of the economy

In 1997, there was the first stage of optimization of business processes and organizational structures, an increase in the utilization of production capacities. In 2007, further automation and optimization of processes takes place, and the quality of personnel training and development of the financial system is being improved. Since 2016, Industry 4.0 has been developing in Russia and digitalization has been taking place, the development of a modern system of education, innovation and science has been being noted, since the digital economy "requires" "digital" skills.

The digital economy of Russia has achieved significant development results in recent years. Thus, private companies achieves certain successes, the labor market is changing, and large-scale infrastructure projects are emerging, implemented with the help of the state. Such projects are aimed at increasing the availability of digitalization products for society and business. Internet,

mobile, and broadband communications are widespread. Today it is extremely problematic to assess the influence of the digital economy, its efficiency, since there is no single approach to measurement. Accordingly, the applied methodology for calculating key indicators may be inaccurate, since all spheres of the digital economy are insufficiently analyzed.

Despite the rather high pace of digitalization implementation, Russia continues to lag behind the digital leaders in key indicators of the development of the digital economy, in particular, the European Union, which can be seen from Figure 2.

Currently, the key indicator for the development of the digital economy, expressed as the ratio between the volume of the digital economy and the country's total GDP, is 3.9%, which is almost 2-3 times lower, than in the EU countries.

Building a digital economy in the Russian Federation makes it possible to obtain a number of potential advantages, for example, the use of digital technologies, both in the public sector and in business. The portal www.gosuslugi.ru has already been launched on the territory of the Russian Federation, the use of which significantly increases the availability of various public services and reduces the time to receive them. In addition, in the Russian Federation, there are such "digital giants" as "Yandex", "Kaspersky", online ordering services, which also participate in the diversification of the Russian economy. Also in Russia, there is a high rate of mobile communications penetration, which includes Internet service. In addition, it is planned, that by 2020, 95% of the population of the Russian Federation will have access to the Internet.

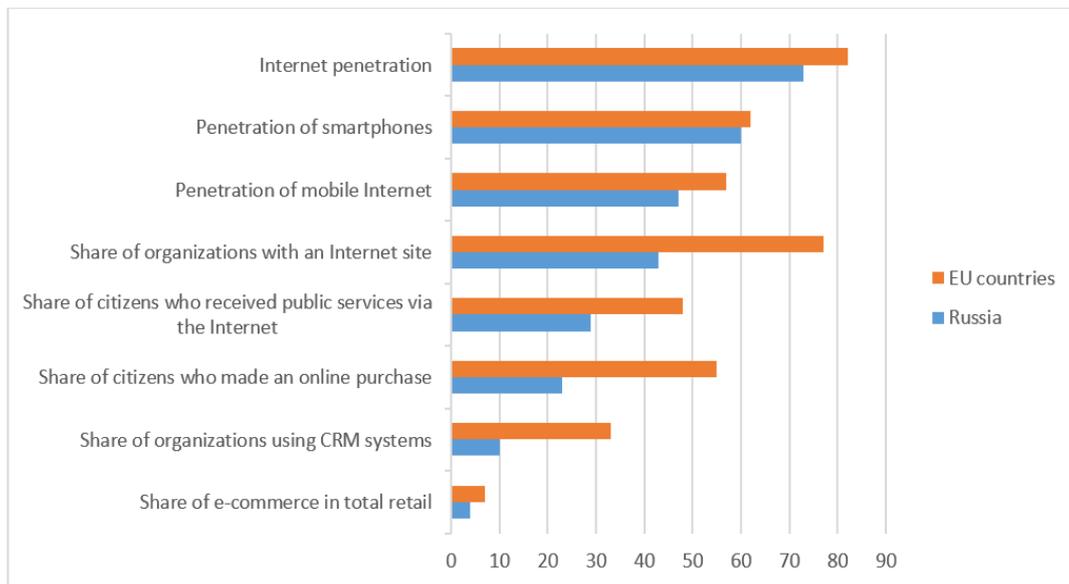


Figure 2 Access to digital services in Russia and EU countries

The degree of digitalization has a large influence on the level of a country's GDP. The influence of this indicator will be more and more significant every time. Since technologies are developing and being implemented in all areas of life. Consequently, given a number of existing problems, for the state, the implementation and development of the digital economy is the primary and most important way of strengthening the strategic positions of the Russian Federation in the world economy.

The country's government set a strategic goal for the development of Russia - to triple the volume of the digital economy from 3.2 trillion rubles in 2015 up to 9.6 trillion rubles in 2025, in 2015 prices (figure 4), while maintaining the average annual growth rate of the digital economy at the level of 12%, which was traced in 2010–2015. These results will be equivalent to an increase in the share of the digital economy from the current 3.9% to 8-10% of GDP (depending on oil prices and other macroeconomic parameters), this corresponds to the current level of the

leading countries in terms of the volume of the digital economy: the USA, China, and Western Europe.

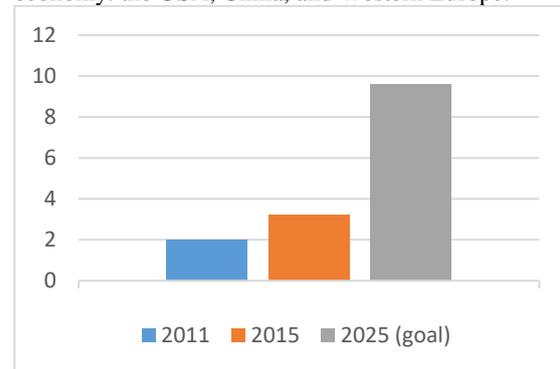


Figure 3 Strategic goal - to triple the digital economy in Russia

Thanks to the active implementation of digital technologies, Russia's lagging behind will be significantly reduced and sustainable development will be ensured. According to the forecast for 2020, the share of the digital economy in Russia should increase. Such an economic forecast is associated with the possibility of automating existing processes, as well as using innovative and modern business models and technologies. For example, digital platforms, digital ecosystems, big data analysis, "Industry 4.0" technologies, such as 3D printing, robotization, Internet of Things [6].

4. CONCLUSIONS

Sustainable economic development is a process of economic, social changes, in which natural resources, investment directions, orientation of scientific and technological development, personal development and institutional changes are coordinated with each other, strengthen the potential for today and for future generations, and all this is done to satisfy the growing human needs and improving the quality of their life. The modern driver of sustainable economic development is digital information technologies, crosscutting all spheres of human life.

"Digitalization" is understood as the reform of the country's socio-economic system through the implementation of digital technologies for searching, processing, forming the exchange and transmission of information in order to increase and improve the living standards of the population. Digitalization is turning into a driver of world social development, ensuring an increase in the efficiency of the economy and an improvement of the quality of life. Therefore, "digitalization" is considered as a trend of the effective development of the country's economy, a trend of the effective management of the country's economic

systems. For this, digital transformation of information must meet the following requirements:

- 1) Cover all spheres of human life;
- 2) Be accompanied by the effective use of its results;
- 3) Its results should be available to users of the converted information;
- 4) Its results should be used not only by specialists, but also by ordinary citizens;
- 5) Users of digital information must have the skills to work with it.

Analysis of trends in the development of digitalization of the Russian economy showed positive results, that meet the requirements of effective development of the country's economy, effective management of economic systems. Among them are: the widespread and accelerated process of transferring documents and communications to digital media, the implementation of an electronic signature, communication with the state becomes possible on an electronic platform, the labor market is being reformed, the most important infrastructure and social projects are being implemented with the support of the state, ensuring a sufficient level of availability of digital services for society, the Internet, mobile and broadband communications are widespread. Digital technologies became the basis of effective private business management. The digital economy in Russia has been growing rapidly in recent years. The banking sector was most affected by digital technologies. Smart banks are becoming a reality in the economic life of Russia.

Today, it is extremely difficult to assess the efficiency of the digital economy through coefficients and numbers. Due to the fact, that there is no unified approach to assessment, a methodology for calculating key indicators has not been drawn up, which would clearly show an infographic of that, which is happening. An analysis of the digital economy is now insufficient to draw any valid conclusions.

But it is already possible to say for sure, that digital technologies became ingrained in our lives, became the basis of effective management, a modern driver for managing economic systems.

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