

CIEDR 2018
The International Scientific and Practical Conference
"Contemporary Issues of Economic Development of Russia:
Challenges and Opportunities"

DIGITAL TECHNOLOGIES AND THEIR ROLE IN MODERN
ECONOMY OF RUSSIA

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Abstract

The article is devoted to the study of the influence of digital technologies that are of priority importance in the economic development of Russia. All advantages in the integrated state of the digital economy in Russia and the world are explored, an analysis of the Digital Economy Program is carried out as a priority direction in the economic development of the country, and prospects for the development of digitalization of the economy are determined. In the article, the authors points to the existing problems of the implementation of relevant digital technologies in the Russian Federation, and also justifies the importance of the use of digital technologies by modern enterprises. In the article the following questions are raised: is there a strategy for introducing and adapting digital technologies to the Russian economy, can digitalization contribute to the economic development of the country. At the moment, both throughout the world and in Russia in particular, there is a sufficiently large amount of unused assets, infrastructure, information and resources. A collaborative digital economy should highlight the effective and cost-effective use of these elements, rather than the mere possession of them. This should be a new foundation, the fundamental principle of the new economy. After analyzing all aspects of the development of the digital economy in the world, the authors suggested directions for its improvement. Special attention is paid to the experience of introducing digital technologies in China, as the Russian Federation has all the opportunities to establish close cooperation with this country.

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Keywords: Digital economy, digital technologies, digitalization, economic growth, innovation.



1. Introduction

Currently, the 21st century is associated with the era of global change, transforming all spheres of life. The digital revolution, which resulted from the rapid development of digital technologies in the context of economic globalization, has proved the dominant role of information as the main resource for all economic entities of the modern market. Digital technologies provide an opportunity to take a fresh look at the resource potential of economic activity. The present and future of any economic entity, its level of competitiveness and adaptability, efficiency and synergy depend on the successful application of digital technologies. It is necessary to note the importance of network coverage of market relations - mutually beneficial and harmonious communication of market participants using digital payment systems, digital money, common information bases and technologies.

Among current trends, digital technologies are of paramount importance for the development of the state and society, since their effective use is the key to the success of many industries. In Russia, the problem of introducing digital technologies is in the zone of constant attention, both from the side of state authorities and various economic entities. One of the key obstacles to the introduction of digital technologies in the economy of the Russian Federation is the lack of coordinated actions on the part of the state, enterprises and scientific laboratories. At the moment, the legislative and regulatory framework does not meet modern requirements, there is a low level of application of digital technologies in business (Kudrin, 2017).

In the current economic conditions, Russia needs to conduct a re-industrialization policy on a new technological basis using digital technologies that promote economic growth.

A study by a global expert group of McKinsey experts proves that firms actively using digital technologies are developing twice as fast, exporting twice as many products and services, and also creating jobs more than twice as large (Digital Russia: a new reality, 2017).

Many domestic experts believe that in order to achieve a higher level of economic development, the state should actively encourage companies using and developing digital technologies, as well as motivate other companies to use mobile technologies, business intelligence, digital payment systems and other technologies.

2. Problem Statement

One of the most important tasks of the state policy of Russia is the transition of the economy to the digital development path. It is necessary to modernize it, because this is the only way to form a sustainable development of the economy and reach the level of the European Union countries. Today the main problem of the country is the slow adaptation and incomplete use of the potential of digital technologies. The state is not able to quickly solve the problem of income inequality, unemployment; the access to world markets due to the low competitiveness of business entities is difficult.

It is also necessary to identify the main goal of the digital economy, namely, the widespread automation of all production and economic processes, the emergence and growth of the market of individual production and consumption, cumulative increase in the efficiency of all economic entities,

increased exchange of knowledge and information, and an increase in the share of jobs in high-tech industries.

3. Research Questions

- 3.1** Is there a strategy for introducing and adapting digital technologies to the Russian economy?
- 3.2** What digital technologies are most applicable in Russia?
- 3.3** Can digitalization contribute to a country's economic development?

4. Purpose of the Study

In modern discussions, the problem of the influence of digital technologies on the economy is increasingly being discussed, but still many issues remain poorly understood. Not enough attention is paid to the development of digital potential in order to achieve the innovation growth of individual companies and industries, problems and prospects for business development in the conditions of the digital economy are poorly covered, the place of the digital economy in the general system of modern economic relations is not properly reflected.

The aim of the study is to consider new digital technologies that ensure Russia's competitiveness and increase economic growth.

All digital technologies can be divided into three key categories:

- Gradually implemented (digital education, digital platforms, public clouds, marketing integration, teamwork technologies, multichannel, microservices, digital twins, adaptive security, smart helpers (chat-bots), nebulous computing, mobile business applications, mobile payments, wearable electronics, centralized platforms).
- Breakthroughs (Internet of Things, Artificial Intelligence, User Experience Management, Distributed Registries, Social Businesses, Open Interfaces, Big Data, Sharing Economics, Machine Learning, Virtual Reality, Wireless (5G), 3D / 4D Printing, Real-Time Processing , applications without writing code, augmented reality, contextual computing).
- Near-future technologies (man-machine interfaces, strong artificial intelligence, office robots, business drones, quantum computing, universal digital identification, nano devices, bio printing, artificial intelligence control, cryptocurrency, policy analytics) (Maslennikov, 2017).

The most common are such digital technologies as cognitive neurotechnologies, big data technology, Internet of Things, cloud technologies, artificial intelligence. Each of the technologies has its own characteristics that can be adapted to each of the countries (Dobrynin, Chernykh, Kupriyanovsky, & Sinyagov, 2016).

The experience of the USA and China shows that the application of these digital technologies has a very strong impact on the economy, namely, the competition of countries is increasing, labor productivity and qualification of labor resources are increasing, documentary operations are being

automated, and new ways of cooperation and coordination of economic agents are emerging for a joint solution of certain tasks.

The most promising direction is cloud technologies, which at present have served as the basis for most business models of the future and the principles of most economic interactions. The trend in the use of cloud technologies among Russian companies is constantly growing and currently stands at 31.7%. Amazon, IBM, Microsoft, Google, HP, AT & T are recognized as the leaders of cloud technologies in the world (Avdeeva, Golovina, & Parakhina, 2017).

In Russia, the most successful project based on cloud technologies is Moysklad service from Workle, which represents new opportunities in trade management, namely, it allows us to process warehouse accounting orders and control financial calculations. This service has affected the unemployment prevailing in the country, as specialists from different areas (sales, finance, insurance, tourism, etc.) have the opportunity to work remotely (Keshelava, Budanov, & Rummyantsev, 2017). But despite this, due to the inadequate use of the full potential of digital technologies, Russia lags behind the leading countries and occupies only 39th place, therefore the digitalization of the economy is the most important issue in the strategy for the development of the information society in Russia for 2017-2030. According to this strategy, approved by Decree of the President of Russian Federation of 09.05.2017 No.203 "On the Strategy for the Development of the Information Society in the Russian Federation for 2017-2030", the main objectives are to create the necessary conditions for the development of high-tech businesses, as well as improving competitiveness in the global market, as individual sectors of the economy of the Russian Federation, and the economy as a whole (On approval of the program "Digital Economy of the Russian Federation", 2017).

5. Research Methods

The study is to determine the role of digital technologies in the economy of the Russian Federation. The first methodology used was an extensive review and analysis of the literature conducted to create a research base. Then, to achieve the objectives of the study, all the studied analytical and empirical data were summarized and structured in terms of substantiation of the main points.

6. Findings

This article discusses modern digital technologies and their role for the Russian economy. Today, all companies are striving for digital trends, thanks to which they can plan their further development in the crisis conditions and increase the efficiency of economic processes. Russia has all the necessary prerequisites for further realizing digital potential and accelerating the pace of digitalization of the economy. The introduction of digital technologies will have a strong impact on the development of Russian business, allowing enterprises and business entities to achieve leadership positions in global markets, as well as help to improve the business and investment climate.

If all the goals set for Russia in the direction of digitalization of the economy are realized, then by 2030 our country will be able to achieve high competitiveness in world markets, as well as ensure high GDP growth.

In general, the totality of digital technologies used in economic activity forms the concept of the digital economy.

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The digital economy is usually divided into three levels that are closely interrelated and have a direct impact on society:

- markets and sectors of the economy, where the interaction and cooperation of economic agents (suppliers and consumers);
- digital platforms and technologies that allow for the qualitative development of markets and industries;
- an environment that provides the necessary conditions for the development of digital platforms and technologies, as well as the fruitful and rational cooperation of economic entities in markets and industries. The environment covers legal and regulatory framework, information structure, staff and information security.

The development of the digital economy in Russia is based on the trends of the third and fourth industrial revolutions.

Let us also consider also the key conditions that Russia must adhere to in the development of the digital economy. Among the main criteria for the formation of a high-quality digital economy are:

- rational financial and resource investments in research activities;
- continuous and active development of scientific schools, laboratories, institutes;
- improvement of fundamental and applied research, methodologies, knowledge;
- formation of qualitative highly qualified personnel in accordance with advanced technologies and training systems;
- development of technical culture, accessibility and quality of education;
- constant and effective cooperation of scientific institutions and industrial organizations;
- the formation of unique research and development institutes to create ideas and products with high competitiveness in the global market of high technologies;
- creation of an effective regulatory framework that provides exceptional protection of intellectual property rights;
- ensuring high adaptability of production to changing market requirements, the actual introduction of innovations into production;
- development and maintenance of experimental and experimental production.

It is necessary to note the importance of investing in risky or “specific” assets - the study of unique technologies, the improvement of unique skills and knowledge.

When considering digital technologies in the economic aspect, it is important to pay attention to such a term as “sharing digital economy”. A sharing digital economy is based on the idea that it is not just

property or opportunity that is important, but their rational use. In general, this principle has long been known in economic theory and practice, digital technologies and the effective use of physical, digital and virtual worlds only provide an opportunity to apply this aspect where it was impossible. It is for this reason that the digital economy has an abundance of rapidly developing areas.

Speaking about the use of digital technologies in the economy of Russia, it can be noted that one of the main and potentially effective ways of introducing technologies can become the logistics industry. At its core, logistics is the connecting link of the entire existing economy, since it is it that carries out the transfer of real goods and services between the producer and the consumer. In turn, a sharing digital economy through information and digital platforms and technologies makes it possible to efficiently and quickly exchange goods and services between all market entities, thereby revealing the potential of the logistics and logistics infrastructure. Directions in logistics based on digital technologies open new niches for business, create new workplaces, increase the general level of economic well-being.

Studying the world experience in the use of digital technologies, it can be said that gradual shifts in traditional foundations towards the digital economy began with logistics. For a long time, the business adhered to the well-established concept: manufacturers are engaged in the manufacture of goods, and intermediaries carried out its implementation. However, the departure from the outdated model began to occur a long time ago.

The modern development of a sharing digital economy began with the transition to a new model of consumption - people realized that temporary access to goods and services is more preferable than permanent possession of them. This literally led to an “economic boom” - new companies began to realize the potential of underutilized assets using digital technologies. At the moment, such companies satisfy a significant share of demand, possessing only a convenient and mobile user interface. This, in turn, had a significant impact on the change in ideas about such concepts as cost, taxation and regulation of this activity. A sharing digital economy quickly gained momentum and became a worldwide phenomenon.

In general, digital sharing refers to an economic activity based on the use of digital platforms that facilitate transactions to provide users with temporary access to a service provider or, otherwise, owners of underused assets, services or skills incur losses. The degree of ownership and application of these technologies depends on the competitiveness and efficiency of any modern economy.

7. Conclusion

In this research, the task was set to establish the role that digital technologies play in the economic development of the country.

Digital technologies are a modern phenomenon with a huge potential to promote the growth of a country's GDP. According to analysts' annual forecasts, the potential economic effect from the digitalization of the Russian economy will increase the country GDP by 2025 by 4.1–8.9 trillion rubles (Yudina, 2017). However, this result is possible only with full use of the potential of digital transformation of industries.

At the moment, the use and development of digital technologies in the world is quite relevant, which are divided into three categories: gradually introduced, breakthrough and future technologies. The

use of these technologies by developed countries confirms a heightened interest in this phenomenon and suggests that digitalization can contribute to the economic development of a country by increasing productivity, skills, competitiveness and automating information.

In modern economy, companies that use digital technologies can lead in world markets and promote competition for markets, since their main advantage is the possession of unique digital technologies or a platform, and not some basic aspect.

Many scientific discussions on the digitalization of the economy come to the conclusion that in the Russian Federation, despite the great lag behind the leading countries of the European Union, there is every opportunity to achieve high economic indicators through the introduction of digital technologies. For example, Russia has talented scientists in the field of the digital economy, who have already achieved some success, and should also study the experience of introducing digital technologies in the leading countries. Another priority for introducing digital technologies into the economy is close cooperation with China.

Thus, we can conclude that the modern state must quickly adapt to the realities of new technologies in order to achieve the highest economic indicators.

References

- Avdeeva, I.L., Golovina, T.A., & Parakhina, L.V. (2017). Development of digital technologies in economics and management: Russian and foreign experience. *Journal Voprosy upravleniya*, 6, 50-56. Retrieved September 03, 2018 from <https://cyberleninka.ru/journal/n/voprosy-upravleniya>
- Digital Russia: a new reality (2017). *McKinsey*. Retrieved August 10, 2018 from <http://www.tadviser.ru/images/c/c2/Digital-Russia-report.pdf>
- Maslennikov, M. I. (2017). Technological innovation and its impact on the economy. *Economy of the region*, 15, 1221-1235. <https://dx.doi.org/10.17059/j. bandc>.
- Dobrynin, A. P., Chernykh, K. Yu., Kupriyanovsky, V. P., & Sinyagov, S. A. (2016). Digital economy - various ways to efficiently apply technology (BIM, PLM, CAD, IOT, SMART CITY, BIG DATA, etc.). *International Journal of Open Information Technologies*, 4(1), 4.
- Keshelava, A. V., Budanov, V. G., Rumyantsev, V. Yu. (2017). *Introduction to the "Digital Economy"*. M.: VNNI Geosystem. Retrieved September 06, 2018 from: <http://spkurdyumov.ru/uploads/2017/07/vvedenie-v-cifrovuyu-ekonomiku-na-poroge-cifrovogo-budushhego.pdf>
- Kudrin, A.L. (2017). Serious problems of the Russian Federation – weak technical development and weak rates of “digitalization” of the economy. *Online edition "Finmarket Information Agency"*. Retrieved August, 01, 2018, from <http://www.finmarket.ru/news/4476598>.
- On approval of the program “Digital Economy of the Russian Federation” (2017). Order of the Government of the Russian Federation of 28.07.2017 No. 1632-p. *SPS "Garant"*.
- Yudina, T. N. (2017). Digitalization as a trend of modern economic development in the Russian Federation. *Pro Ycont*, 3, 139-143. <https://dx.doi.org/10.23394/2079-1690>