Digital technologies in the economy: opportunities and threats

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Abstract. The article discusses current trends in the development of the newest digital technologies. Their development is an urgent task for the Russian Federation, since they have become the driving force behind the digital transformation of the economy and society. The article describes the components of an individual enterprise profile. Attention is focused on the emergence of the block chain system, the method of big data, expert systems and general decentralization, which is the process of business optimization, in the organizational structure of all industries and spheres of activity. The analysis of factors constraining the process of digital transformation in economic processes has been carried out.

1. Introduction
The development of the digital economy is currently in its active phase, as a result of which there is an urgent need for enterprises to adapt to new business realities. The implementation of the digital business concept brings an enterprise important competitive advantages. The positive effect of the introduction and use of information technologies in the activities of enterprises has been demonstrated in practice.

The individual profile of an enterprise in the digital economy is determined by complementary relationships, which are divided into three groups of assets:

- human capital (knowledge and competencies of employees, creating an atmosphere of comfort that will allow retaining highly qualified personnel, conducting online trainings);
- organizational capital (business processes, decision-making, organizational activities, standards, methods, technological processes, the introduction of new technologies, thanks to which the efficiency of the enterprise will increase);
- computer capital (information systems of the enterprise include: data sources, storage systems, data processing and transferring). Each of these assets has a different degree of activity, and the dynamics of their changes determines the development of an enterprise and its competitive advantages.

At the moment, there is a rapid development of computer capital, which defines the concept of enterprise digitalization as a transformation of the management system, in which computer capital is the main driving force behind subsequent changes.
2. Methods and Materials
The methodological basis is presented by the methods of cognition – consistency, logical analysis and dialectics – to identify the main trends, patterns in the development of the object under study. The theoretical analysis was carried out in combination with the analysis of empirical material.

3. Results and Discussion
Digital transformation covers all aspects of business and offers effective ways to improve them together with the development of digital technologies, namely:

- process optimization through the introduction of new technologies that allow enterprises to automate simpler processes and exclude intermediate stages of more complex processes. As a consequence, increased flexibility of enterprises and more efficient use of human resources can be achieved;
- search for new sources of profit and competitiveness that have become possible with the use of digital technologies;
- new strategies of customer relations, which include personalization and attractiveness of the service infrastructure. In the digital economy, maintaining the required level of competitiveness by representatives of any business level is possible only with the use of new technological models of enterprise management, otherwise they will be absorbed by the products of the development of the digital economy [1].

Thus, a modern enterprise faces the following tasks:

- the gaining experience in the use of innovations;
- awareness of benefits of innovation;
- determination of the direction and scale of transformation of business processes;
- assessment of business risks in the context of digital transformation [2].

Despite the increasing availability of digital technologies for companies of various profiles and sizes, both researchers and practitioners of digital transformation note that the pace of change could be faster if it were not for a number of prevailing factors and problems.

The main factors hindering the introduction of innovative technologies are the lack of personnel with new competencies, organizational inertia, and conservatism in management.

Digitalization has a significant impact on the ways of organizing and running a business, its marketing strategies, supply of resources, production and transaction costs which in the digital sphere are sharply reduced or disappear altogether, and on the network effect and economies of scale that become global [3].

The main components of digital transformation are: users of digital economy products; new technological tools for analyzing both individual business processes and the management model as a whole; and the results of successful implementation of digital economy innovations.

Modern management practices that determine the signs of digitalization include:

- digital products (all products become digital, and a material form cannot exist without a digital one);
- digital business models (a company does not sell equipment, but sells its technical support);
- digital management of value chains (business platform creation);
- digital business processes (digitalization of all enterprise processes for the operation of digital products) [4].

According to some practitioners in the area of digital economy, the most promising and effective management tools are a new organizational structure of a business - a blockchain system (blockchain), big data method, expert systems and universal decentralization, in all industries and spheres of activity. However, these methods are currently difficult to apply in the framework of strategic and project management of commercial enterprises. Therefore, the authors believe that the network management concept is becoming the most promising management concept in the digital economy [5].
According to I V Ilyin, for effective enterprise management in the digital economy, a process approach is required [6]. Correctly regulated business processes are the basis of a successful business, while the regulation must be holistic and kept up to date, since fragmentation leads to the fact that in a rapidly changing environment, the importance of implementing regulations is lost. In addition, the regulation of business processes acts as an effective mechanism for the formation of an enterprise's knowledge base. That is, a successful and effective digital transformation is possible only if the object of digitalization is a deterministic business process that is amenable to modeling and algorithmization.

Profiting from digital technology requires operational mobility of businesses. The new sharing operating model based on a joint use is a platform. The platform method is based on the network effect in the transition to the digital space. The digital platform brings together not only producers but also consumers.

From the above, it follows that digitalization involves not only the use of new technologies, but also a fundamentally new construction of business processes and organizational structure.

The increasing digitalization processes taking place in the world lead to the erosion of both geographical and physical boundaries, which, of course, opens up new opportunities for both states and business, and contributes to the development of competitiveness within countries (at the regional level) and globally [7].

One of the most innovative leading transformations in the digital economy is "Industry 4.0" program, the constituent elements of which are: smart manufacturing, digital manufacturing, Internet manufacturing, and open-source manufacturing.

In order to stimulate the Russian economy to transition to a new technological clade, a law on the promotion of Russian technological progress was adopted in 2003, the main goal of which was to reduce dependence on foreign technology and to build the Russian national market. This was one of the first steps in creating an independent and globally leading Russian digital economy.

Building on the progress made to date and the government's strategic strategies, the digital economy in Russia is projected to increase national GDP to RUB 8.9 trillion by 2025.

Presidential Decree No. 203 of 09.05.2017 "On the Strategy for Development of Information Society in the Russian Federation for 2017-2030" gives direction to the strategic development of information society in Russia and defines the digital economy as all economic activities in which the key factors of production are digital. Compared to traditional forms of economy, the digital economy allows more efficient production, technologies, supply, storage, sale and access to goods and services.

One of the drivers for the development of the economy, business and society is the program "Digital Economy of the Russian Federation" adopted in 2017. The implementation of the main goals of this program is planned in three stages (2018, 2020 and 2024). For this, it is planned to create a monitoring center for the supervision and improvement of digital economic law.

The use of digital technologies makes it possible for both business and people to place orders from a certain place in the world, store and process significant amounts of information, and reduce costs.

Having analyzed Russia in the context of information and communications technologies (ICT), we believe it is appropriate to consider specific aspects and additional players in the Russian digital economy in terms of industry trends. Let’s mention some of them, that plays a significant role in the digital market.

YANDEX is publicly traded and provides a number of projects similar to those of Google. YANDEX added advertising to its search engine in 1998 and merged its food-sharing services with Uber in 2017. YANDEX is constantly acquiring companies and start-ups.

MAIL.RU, founded in 1998, is the publicly traded and most visited Russian site.

KASPERSKY specializes in cyber security and is a globally renowned company for large corporate and government contracts.

1S was founded in 1991 and is privately owned. 1S offers office software, translation of international software, video games and programming in Russian.
ABBYY was founded in 1989 and is also privately owned. Although it does not have high revenues, ABBYY is recognized by the international community. Its products include OCR and translation.

The Russian digital IT industry, almost entirely headquartered in Moscow (with the exception of Luxoft, headquartered in Geneva), is characterized by a focus on domestic business and a lack of global presence. The Russian IT industry needs to turn its attention to international markets. MTS has done this successfully, becoming a recognized global brand and ranking 82nd overall and 9th among telecom service providers in 2013 BrandZ Top 100 Most Valuable Global Brands. Kaspersky and ABBYY have successfully presented internationally, while 1S localizes international software.

The degree of impact of digitization across sectors is not uniform. As the greatest value in the economy comes the digitization of manufacturing stands to generate significant revenues. Leading technologies include energy-saving technologies, business process automation, advanced enterprise resource planning systems, e-management, modern equipment, R&D and growth in market research.

In terms of infrastructure improvements in regional connectivity, the digital divide between Moscow and the periphery has narrowed from 2 600 to 1 353 due to a more even distribution of infrastructure - an important achievement of the digital economy. The degree of digitization still varies from region to region, which gives us grounds to define four main groups. Regions actively participate in the digital economy as soon as access to technological infrastructure becomes available, although there are still inequalities in a number of additional indicators. But it can be concluded that companies cannot be competitive and cannot effectively develop in the modern world without the use of digital technologies.

The digitalization of economic life has a positive impact on human well-being. This conclusion, however, applies only to developed countries that demonstrate a high level of government involvement in the development of the digitalization process, a significant amount of investment in this area, a high rate of digital literacy of the population, and the inclusiveness of digital services. The growth of prosperity under the influence of digitalization in the group of developing countries is constrained due to the underdevelopment of these factors.

At the same time, the fast-moving digital transformation process is alarming due to negative consequences associated with it. Threats to the security of digital data, protection of human rights in the digital world, cybercrime, malicious content, and an increase in the possibility of negative impact on the information infrastructure from the outside are becoming acute.

By now, along with property differentiation, a digital inequality has formed, consisting in uneven access to information and new technologies, as well as the asymmetry of benefits derived from digitalization between different segments of the population and regions of the country.

The introduction of artificial intelligence technologies and the automation of production can free up a significant amount of labor; first of all, this will affect workers with low and medium skill levels performing routine operations. On the other hand, digitalization can bring benefits to the category of workers who have adapted to changes, since the automation of standardized jobs allows workers to focus on activities with higher added value [8].

In order to minimize the threats of digital transformation, it is necessary to pay attention to the main areas of activity, which include:

- formation of a regulatory and legal framework contributing to digitalization of industries and regions by attracting business structures and creating innovative business models;
- expansion of investments in information and communication technologies (primarily in the broadband fixed Internet);
- widespread introduction of educational initiatives designed to adapt various categories of the population to changes: digital literacy, business incubators, retraining and advanced training programs, etc.

We should also note the fact that the probability of a particular threat being realized is different for different regions of the country.
4. Conclusion

Thus, the main goal of digital transformation of an enterprise is to improve the efficiency of its business processes. Changes in management technologies and business processes based on them lead to the restructuring of the management system and business culture. In addition, digital transformation is characterized by disappearance of signs of mass character, continuous innovations, the transition to horizontal communication links and decentralization; the methods and tools of the enterprise management system should also be transformed.

Digital transformation of the economy is a rapidly developing process which is difficult to study, as scientific research is forced to catch up with a rapidly changing reality. Digitalization of economy offers opportunities for development and efficiency growth, but it is not devoid of significant threats. The strengths of the digital transformation process are the growth of labor productivity and GDP, higher efficiency of investments in digital technologies in comparison with the non-digital sector, a decrease in the entropy of information systems and an increase in the well-being of the population. Threats of digitalization determine the growth of unemployment among a significant part of the working population, digital inequality between different segments of the population and regions, contraction or even disappearance of traditional markets, the threat of monopolization in foreign trade, the risk of deindustrialization and the marginalization of labor resources for developing countries. The main areas of activities to overcome the threats of digital transformation are improving the institutional environment, increasing investment in the digital sector and developing relevant educational programs. Also, regions – outsiders of the digitalization process require appropriate support from the state for the development of information and communication infrastructure and the growth of digital competencies of the population.

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