

# Program Development of Digital Economy in Russia



Vyacheslav Vasiliev, Evgenia Bolotnova, Alexander Turovski, Elena Batishcheva, Natalya Lazareva

**Abstract:** *The structure and content of the development strategy of the information society in the Russian Federation shows compliance with the generally accepted approach in the world, including the Seoul Declaration and the results of a survey of OECD countries. However, this strategy has drawbacks, namely: the consequences of the development of digital technology (and the information society as a whole) on the structure and level of employment of the population have not been determined; the issues of the existing technological lag of individual sectors of the economy and social sphere and the ways to eliminate it have not been worked out; the problems of regional differentiation of the level of readiness for implementation and the potential for using the capabilities of the digital economy have not been studied.*

*These important questions are fraught with threats to the successful implementation of the strategy, as they form the basis for the implementation of the negative consequences of globalization of the economy, including increasing the dependence of local economic entities on transnational corporations, widening the gap in the socio-economic development of individual regions and the living standards of individual strata of the population. Insufficient attention is currently being paid to the classification of the effects of digitalization on the functioning of the regional economy and the appropriate response by local authorities and businesses. Based on the foregoing, it is proposed to consider the possibility of introducing elements of the digital economy in the field of agriculture and food production, that is, the transition to the so-called "digital agriculture".*

**Keywords:** *Digital economy, technology initiatives, development, strategy.*

## I. INTRODUCTION

Digitalization of economic processes is becoming a comprehensive trend, covering not only the information and communication industry itself, but also all areas of economic

activity. Internet commerce, digital agriculture, smart grid systems, unmanned vehicles, personalized healthcare, no matter what direction we take, the influence of the growing digital revolution is felt everywhere.

Under these conditions, individual companies, regions, countries and their associations are beginning to actively participate in the process of formation and implementation of strategic decisions in the field of the digital economy, striving to ensure their long-term competitive advantages in the newly formed markets of new types of technologies, goods and services. Our country is no exception, and President Vladimir Putin back in 2014 identified the need for the active formation and implementation of new technological initiatives. Over the past few years, a number of fundamentally important documents have been adopted in Russia in this direction, including the Strategy for the Formation of the Information Society and the Digital Economy of the Russian Federation Program. In addition, the program of the National Technology Initiative is gradually developing.

At the same time, a number of fundamentally significant issues remain unresolved related to assessing the consequences of realizing the benefits of the digital economy in the context of individual industries, regions, and even social groups of the population. How technologically backward sectors of the economy will fit into the newly formed value chains, what will happen with employment in regions far from the forefront of the digitalization process, how much will the role of transnational corporations in the functioning of national and regional economies strengthen. To all these questions, there are currently no unambiguous and clearly formulated answers. And for their development, deep applied research is required, which will make it possible to more fully realize, systematize the ongoing processes and prepare informed decisions on emerging challenges and threats.

The TechCrunch digital economy news site recently noted: "The world's largest taxi company, Uber, has no cars. The world's most popular media owner - Facebook does not produce content. The highest-cap retailer Alibaba has no stock. The world's largest apartment rental service Airbnb does not own real estate. Something interesting is happening" [5]. Many more similar statements can be made, all of them only confirm what each of us observes in our lives, and convinces us that we are already living in a digital economy.

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In addition to the above statements, one can cite statistics that show that currently more than 7.7 billion search queries are carried out on Google every day, about 152 million calls are made on Skype, 58 million messages are posted on Twitter, 36 million purchases committed in Amazon and 2.3 billion gigabytes of information runs on the Internet.

Every minute, every day, 204 million emails are sent, 2.4 million posts are posted on Facebook, 72 hours of video are posted on Youtube, and 216 thousand photos are posted on Instagram. Each year, the amount of digital data is increased by 50% [1].

From the point of view of assessing the impact of the digital economy on the development of society, the reports of the Organization for Economic Co-operation and Development (OECD) are of particular interest. In 2008, a declaration on the future of the Internet economy was adopted within the framework of this organization in Seoul (South Korea) [3].

According to a survey conducted by the OECD in 2016, 32 countries that are members of this organization and another 6 partner countries stated that they have a digital economy development strategy, plan or program [2]. Since September 2017, the Australian Government has announced the development of a Digital Economy Strategy. In 2015, the United States announced the formation of a digital economy agenda, and in 2016 created the Council of Digital Economy Advisers at the Department of Commerce, which functions to formulate a range of tasks and solutions for the development of the Internet, information security, promoting innovation and etc., implemented by private business [4].

It should be noted that the analyzed set of goals for the development of the digital economy has a peculiarity associated with the fact that the survey processed data mainly on developed and a number of developing countries (Brazil, Mexico, Russia, etc.). The information provided does not include the views of most developing countries and underdeveloped countries. In this regard, for these purposes, issues related to resolving the negative effects of digitalization, including unemployment, technological and economic lagging and increasing dependence on a small number of transnational (large) corporations, were not reflected.

## II. MATERIALS AND METHODS

In Russia, the term “digital economy” received an official state definition in 2017, which is contained in the Strategy for the Development of the Information Society in the Russian Federation, approved by the President of the Russian Federation on May 9, 2017.

From the point of view of the state, the digital economy ensures the realization of national interests. The digital economy is considered, first of all, from the perspective of the formation of new markets based on the use of ICT, which will strengthen the growth of the Russian economy on the basis of high-tech industries and industries that use the possibilities of using ICT. Increasing the competitiveness of domestic organizations representing the new digital economy, according to the developers of the strategy, will increase the share of non-resource exports. An important component of the digital economy is the protection of the interests of

citizens, organizations, as well as national security in the field of information, transmission and data processing. All these tasks as a whole will enhance the country's role in the international arena, including through strategic partnerships such as the EAEU and others.

In general, an analysis of the structure and content of the Strategy for the Development of the Information Society in the Russian Federation shows compliance with the generally accepted approach in the world, including the Seoul Declaration and the results of a survey of OECD countries. However, the analyzed Strategy, in our opinion, is not without the previously formulated shortcomings of similar documents of OECD countries, namely:

1. the consequences of the development of digital technology (and the information society as a whole) on the structure and level of employment of the population have not been determined;

2. the issues of the existing technological lag of individual sectors of the economy and social sphere and the ways to eliminate it have not been worked out;

3. the problems of regional differentiation of the level of readiness for implementation and the potential for using the capabilities of the digital economy have not been studied.

These important questions are fraught with threats to the successful implementation of the Strategy, as they form the basis for the implementation of the negative consequences of globalization of the economy, including increasing the dependence of local economic entities on transnational corporations, and the widening gap in the socio-economic development of individual regions and the standard of living of certain segments of the population. The following sections of the work will present the author's vision on the possibility of eliminating these shortcomings in the formation of programs for the implementation of this Strategy.

## III. RESULT AND DISCUSSION

In order to implement the considered Strategy, the Government of the Russian Federation approved the Digital Economy of the Russian Federation Program (hereinafter - the Program). The main goals of this program are to create an ecosystem of the digital economy, create the necessary and sufficient institutional and infrastructural conditions to remove obstacles and restrictions for the development of high-tech businesses, as well as increase the competitiveness of the Russian economy in the global market [1].

Analyzing the goals indicated in the Program, it is worth noting their incomplete formulation without indicating quantitative criteria for achievement. For example, the first goal associated with creating an ecosystem of the digital economy. In accordance with the Information Society Development Strategy, “the ecosystem of the digital economy is a partnership of organizations that ensures the constant interaction of their technological platforms, applied Internet services, analytical systems, information systems of government bodies of the Russian Federation, organizations and citizens”.

Thus, the first goal of the Program is to create a partnership within which the basic functions of the digital economy will be implemented. In our opinion, in this case there is a methodological inaccuracy when the means (or mechanism) of its achievement are defined as the goal of the program.

Moreover, the developers of the Program themselves in its substantive part provide a more precisely defined (semi-quantitative) criterion for assessing the digital economy - the Network Readiness Index (GIS) of the World Economic Forum. This index, in the interpretation of the developers themselves, demonstrates "how well the economies of countries use digital technologies to increase competitiveness and welfare, and also assesses the factors affecting the development of the digital economy" [1]. According to data for 2016, Russia ranked 41st, significantly lagging behind the leading countries. The logical assumption is that if the GIS is a universally recognized measure for the development of the digital economy, then why not use it to determine the development goals of the digital economy. For example, by 2030, enter the first 10 countries in terms of GIS.

The next important omission is the division into levels of the digital economy formulated in the Program, namely [1]:

1. markets and sectors of the economy (areas of activity) where specific entities (suppliers and consumers of goods, works and services) interact;
2. platforms and technologies where competencies are formed for the development of markets and industries;
3. an environment that creates the conditions for the development of platforms and technologies and the effective interaction of market entities and sectors of the economy and encompasses regulatory regulation, information infrastructure, human resources and information security.

There is also some inaccuracy in the wording, because it is unreasonable to separate the concepts of the market as a mechanism of interaction and the environment as a set of conditions for the interaction of subjects in modern conditions. This is confirmed by the fact that the market mechanism is a process of pricing under the influence of supply and demand, which also takes into account the conditions of interaction (level of competition, state regulation, information efficiency, and other categories).

This, at first glance, there may be a slight inaccuracy, further led to the following thesis of the Program: "Due to the fact that the effective development of markets and industries (fields of activity) in the digital economy is possible only if there are developed platforms, technologies, institutional and infrastructural environments, this program focuses on the 2 lower levels of the digital economy"[1]. In other words, the block of the digital economy was deliberately excluded from the Program, associated with specific markets and industries in which subjects will interact directly using digital technologies. In our opinion, this is a significant drawback of the Program, since creating specific platforms without exploring the needs and characteristics of specific markets and industries is quite risky. Moreover, without this block it is impossible to achieve the goal of creating an ecosystem of the digital economy, which includes, among other things, as noted above, the interaction of organizations and citizens, which, obviously, takes place within the framework of specific markets and industries. However, the developers of

the Program themselves recognize the need to supplement it with the relevant sections.

It should be recognized that, despite the criticisms formulated above, the Program in terms of regulatory regulation, staffing and education, the formation of research competencies and technological reserves, as well as information infrastructure and the security of the digital economy is deeply developed and well-structured, contains a "road map" and indicators for evaluating its implementation.

The development of the digital economy in the Russian Federation, in accordance with the program adopted in 2017, takes into account and complements the goals of the national technological initiative (STI). NTI in accordance with the Message to the Federal Assembly on December 04, 2014 of the President of the Russian Federation V.V. Putin is one of the priorities of public policy. It serves as a certain basis for developing understanding and long-term forecasting of the development of advanced technological solutions to ensure national security, improve the quality of life of people, and develop industries of a new technological structure.

The formation of STI is carried out with the involvement of a wide range of experts, scientists and practitioners for wide discussion and development of effective solutions related to the addition of existing programs of scientific and technological development and the creation of new industries and markets for domestic high-tech products. Within each area of STI, working groups are created led by well-known experts, entrepreneurs and representatives of relevant ministries.

Within the framework of NTI, it is planned to implement 10 cross-cutting priority technologies, including big data; artificial intelligence, distributed registry systems; quantum technologies; new and portable energy sources; new manufacturing technologies; sensorics and components of robotics; wireless technology; technologies for managing the properties of biological objects; neurotechnologies, virtual and augmented reality technologies.

In May 2015, 9 promising markets for the implementation of STI were identified, including:

- Aeronet (AeroNet) - the market for distributed systems of unmanned aerial vehicles.
- Avtonet (AutoNet) - the market for unmanned vehicles.
- Neuronet (NeuroNet) - the market of human-machine communications.
- Helsnet (HealthNet) - The market for personalized medicine.
- Energy (EnergyNet) is a market for intelligent and distributed energy networks.
- SafeNet (SafeNet) - the market for new personal security systems.
- Finnet (FinNet) - a market for decentralized financial systems and currencies.
- Foodnet (FoodNet) - the food market, provided by intellectualization, automation and robotization at all stages of the technological process (from production, processing to consumption).
- Marinet (MariNet) - the market of marine intelligent systems.

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In 2017-2020, the following allocations from the federal budget were planned for the implementation of NTI: in 2017 - 2.0 billion rubles; in 2018 - 2.4 billion rubles; in 2019 - 1.8 billion rubles; in 2020 - 1.6 billion rubles.

Currently, in the context of the development of a digital economy in the field of agriculture, the term "e-agriculture" is being actively introduced, which can be interpreted as "digital (electronic) agriculture" (C (E) CX). The term was coined by the Food and Agriculture Organization of the United Nations (FAO) and is seen as a new area of activity aimed at improving the development of agriculture and rural areas by improving information and communication processes [8, 9, 12, 14]. In this context, the basis of C (E) CX is based on information and communication technologies (ICT), including special devices, networks, services and applications used to develop concepts, design, develop, evaluate and apply innovative ways in rural areas, especially focusing on agriculture.

The strategic vision and development goals of C (E) CX are determined by such factors as:

1. the role and importance of the production and sale of agricultural products in the region and the development of individual municipal regions;
2. existing and desired priorities in the development of agriculture, processing and sales of products on the regional market;
3. structure and features of the existing regional agricultural system;
4. regional strategy, goals and priorities;
5. experience in implementing C (E) CX.

The main objectives of the implementation of C (E) CX are:

1. improving the efficiency of the region's agricultural production system and improving value chains;
2. increased use of ICT in the agricultural sector and other related fields;
3. accelerating the achievement of goals and overcoming the difficulties of sustainable development of rural territories from the position of efficient use of resources;
4. creating new opportunities for rural employment through the development of new types of entrepreneurship using ICT.

The implementation of C (E) CX is a comprehensive area and should take into account its components such as:

1. the role of local initiatives (leadership) and the state;
2. availability of strategy and investment opportunities;
3. the availability of information infrastructure and the development of specialized ICTs;
4. formation and management of information and service content
5. creation of a regulatory framework and regulatory mechanisms;
6. provision of labor and fixed assets.

### IV. CONCLUSION

The development of the digital economy is currently one of the most significant global trends, the consequences of which are felt in various spheres of life. Under these conditions, in many countries, strategies and plans for the formation of a digital economy have been developed and are being

implemented. In Russia in 2017, documents were also adopted that defined the prospects for this area, including the Strategy for the Development of the Information Society and the Digital Economy in the Russian Federation Program. However, as an analysis of these documents and strategic planning documents of the Republic of Bashkortostan showed, insufficient attention is currently being paid to assessing the effects of digitalization on the functioning of the regional economy and the appropriate response measures by local authorities and businesses. Based on the foregoing, it is proposed to consider the possibility of introducing elements of the digital economy in the field of agriculture and food production, that is, the transition to the so-called "digital agriculture".

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