

Revisiting the Question of Digital Economy Development in the Russian Federation *

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Abstract. The article deals with general issues of digital economy development in the Russian Federation, its impact on economic processes that contribute to economic advance increases the level of the welfare of the community. The paper identifies the role and importance of the digital economy in the development of entrepreneurship, considers the history of the emergence of the concept of "digital economy", notes the main features of the digital market. The work gives consideration influence of the spread of the digital economy on the processes of globalization and the development of international relations, business structure, culture, and consumer behavior. The positive aspects of informatization of society, the inevitability of digitization of real assets, which are presented in binary terms, are noted, which makes it possible to do without their transformation. It is also noted that digitalization saturates the physical world with digital electronic devices, tools, and systems, therefore, creates the exchange of electronic communications between them. It was revealed that the purpose of digitalization of the Russian Federation is the digital transformation of already existing jobs and the creation of new jobs in sectors of the economy to transform all spheres of life into new, more efficient, and modern ones. The main guidelines of the development of modern information technologies are determined - artificial intelligence, blockchain, quantum computing, virtual reality, etc.

Keywords: Digital Economy, Information, And Communication Technologies, E-Commerce, Digitizing, Assets, Digitalization, Financial Instruments, Globalization, Digital Innovations.

1 Introduction

The rapid pace of scientific and technological progress, which is observed in all spheres of economic activity, causes the emergence of new forms and methods of entrepreneurship and the expansion of ways to meet consumer needs.

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In the XXI century, institutions, institutional infrastructure (AI) of the digital economy (DE) acquire vital importance in the context of digitalization, reindustrialization, globalization and hybrid wars, ensuring the viability, security and competitiveness of the economy of almost any country [11]. The national program "Digital Economy of the Russian Federation" is a state platform that allows creating a fundamentally new scheme of relations between business, the state and the scientific community to increase the country's competitiveness on a global level [15].

The explosive development of information technology in the late twentieth and early twenty-first centuries led to the beginning of cultural and economic globalization. Business entities that were the first to use the advantages of the global digital network received some competitive advantages. The creation of the digital world opened additional opportunities for the development of international business in general and in various branches of the economy in particular.

2 Formulation of the Purpose and Statement of the Objectives of the Work

At the beginning of the 21st century, many entrepreneurs more than ever felt the impact of the global digital revolution, which was gradually changing the way of life worldwide. The informatization of society, of course, should be considered as active social advancement as a whole.

Digitization of real assets is an element of work in the information technology system. Therefore, each digitized asset has a binary expression or accounting:

- realizes itself as a real (having a physical form) asset, the use of which allows drawing real income in the market when conducting relevant transactions;
- is an electronic record that makes it possible to conduct transactions and gain income.

The information system described above has been available since the creation of the first computers. Even then, it was possible to digitize assets, i.e. provide information about objects in digital form. However, the use of the described method of reproducing economic information in business was hampered by the lack of computer networks. Today, digitization of assets contributes to the development of the economy and makes it possible to conduct business without transforming real assets, using the processes of distribution and transformation, as well as the transfer of information [1].

Through the use of modern information technologies, there is a steady development in international business, which affects the growth of GDP in countries, this indicates an increase in the efficiency of economic entities, therefore, conditions are created for getting more from the globalization of the international economy, overcoming barriers to the development of economic relations between various countries and meeting consumer needs.

The founder of "the postindustrial society" theory Daniel Bell was the first to pay attention to the phenomena associated with information. Analyzing these phenomena in the book "The Coming of Post-Industrial Society" [4], he concluded the importance of information as an economic category. Another outstanding thinker, Alvin Toffler

[3], supported the theory of the economy of the future and called it a “knowledge economy”, but in the course of further research, he defined it as “information economy” [2]. Manuel Castells tried to define the concept of "information age" in his works [3].

Many scientific works of both domestic and foreign scientists are devoted to the problems of the formation of the information society and the digital economy as a stage in the development of modern civilization, the functioning of which is based on the use of information and communication technologies and human creativity. That is why it is important to study the current state of e-business development [4].

Digitalization saturates the physical world with digital electronic devices, tools, and systems, therefore, creates the exchange of electronic communications between them.

The digital economy opens up new opportunities that can change the life of humanity for the better. Through the use of the advancement of electronic technology, consumers can quickly obtain more services and goods of higher quality. For each business, the switch to e-commerce can serve as a growth and development potential increasing the number of customers and facilitating the sale and delivery of services through IT, as well as using network services and cloud platforms. According to sociological research, in 2016, the number of people with easy Internet access exceeded 3 billion. In 2019, more than 53% of the world's population, or 4.1 billion people, had access to the Internet. It makes almost half of the world's population. An entrepreneur who has failed to establish interaction with his consumers on the Internet shall not withstand the competition and will be put out of business [1].

The purpose of digitalization of the Russian Federation is the digital transformation of existing jobs and the creation of new jobs in sectors of the economy to transform all spheres of life into new, more efficient, and modern ones. The creation of modern digital space and the corresponding infrastructure is beneficial for everyone: citizens, companies, and foreign investors. Another important task is to create motivation for digital technologies in society, that is to provide consumers with financial access to digital technologies, create conditions in various spheres of life for the formation of needs of citizens and businesses to use digital methods instead of using conventional, traditional ones.

The past few decades have seen the development of digital innovation and cyber-physical systems ("cyber-physical systems" - CPS). These changes and transformations were formed during the Fourth Industrial Revolution [5]. CPS is increasingly being used to serve human needs and their technological and social base has been formed. As of April 2020, 4.57 billion people were active Internet users; 4.2 billion - mobile Internet users; 3.81 billion were active users of social networks, including 3.76 billion - on mobile devices [6].

Preliminary forecasts show that Russia has a good chance of reducing "electronic barriers" if the state begins to build a regulatory policy following global practice and does not create artificial obstacles to the development of digital business.

The market in the digital economy has its peculiarities:

- the lack of reliable technical protection (incorrectness and user errors break programs, antiviruses, etc.);
- the problem of illegal distribution of programs;

- the absence of customs barriers contributes to the unimpeded entry of software developers into the markets of other countries;
- it is not a software product that is sold, but a license to use it (the product itself is referred to the category of so-called shareware);
- individual peculiarities of the client and his requests are taken into consideration;
- the absence of binding not to the object of production, but binding to the client;
- difficulties with typing the product due to different software and computer configuration among users.

Informatization of all sectors of the economy is only a matter of time. Even today we can see how quickly intelligent automation systems are being introduced into all spheres of the economy. It seems that the entire economy will sooner or later find itself at the center of the digital spiral. However, this process is not as easy as it sounds. The industry that is at the center of the transformation does not disappear; it feeds and strengthens other industries. There is some kind of division of the economy, when a part of the business, which is controlled automatically, easily leaves the field of view, and other activities appear in its place.

First of all, these are those sectors of the economy that benefit from digital transformation - those that are associated with the provision of services that, potentially, cannot be automated, where thinking, creativity, and human participation are necessary.

The program of the digital economy of the Russian Federation involves the development of various modern information technologies - artificial intelligence, blockchain, quantum computing, virtual reality, etc. But this is exactly what the state should do least of all, business and science should do it. And the state should regulate the economy in such a way that, the result of its digital separation could make it possible to avoid imbalances in the labor market, in the social sphere, etc. And, oddly enough, the help that is needed here is not digital at all, but a rather analog one. Small and medium businesses should be supported in the development of new (non-digital) services, which will make the economy more adaptable. It is necessary to impose restrictions from below on the cost of labor, so that slave labor was no longer profitable. Helping to the digital transformation of the economy lies in the non-digital area [4].

It is very important to understand that a distinctive feature of IE is the immaterial nature of the products and assets it creates. The fact is that with the development of IE, both the volume and the significance of various types of information will grow - both formalized intellectual products (knowledge) and structured databases created systematically, including those created without human involvement. And since with an increase in the volume and quality of information, its importance will grow, its value will also increase. And the day is not far away when the total cost of capitalized information that humanity possesses will surpass the value of its material assets. Moreover, it is not unlikely that it has already happened, since today the list of the most valuable corporations in the world consists mainly of companies, where the lion's share of the wealth is made up of intangible assets, which are nothing more than structured and capitalized information. It follows from the above that, information, being a catalyst of economic relations, unlike numbers, is capable of creating not only products/services but also assets in huge amounts.

Therefore, it is information, as an economic category, that should become the basis for determining the name of the coming economic era. The impact will have on the world economy, and how it will happen, will be discussed further [7].

Fig. 1 presents the process of the selection of financial instruments, their use, and transformation in the context of the digital economy. The distinctive feature is the possibility to expand the choice of financial instruments, hence improving the conditions for interaction with counterparties and expand the enterprise capabilities.

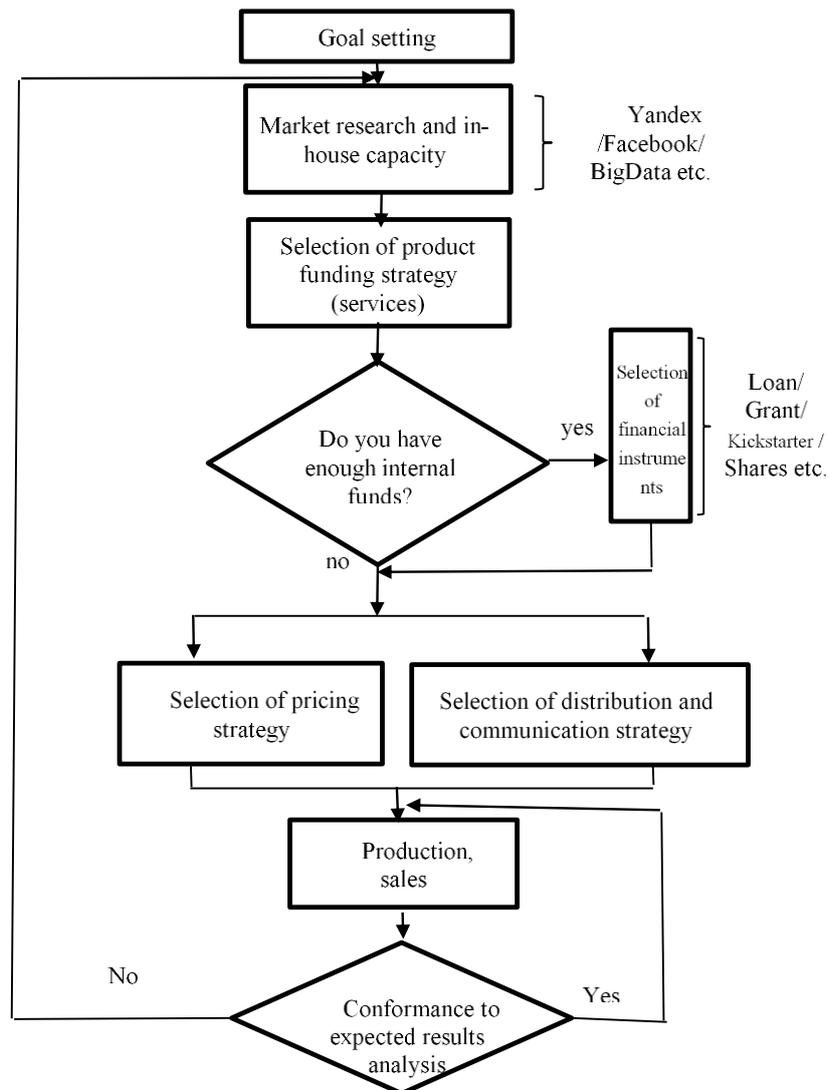


Fig. 1. Scheme for the selection of financial instruments in the digital economy.

In the process of the digital economy development, all stages of life, functioning of an enterprise, in one way or another, interact with digital technologies. In the modern world, at all stages of strategy development and decision-making, it is advisable to involve relatively new sources of digital information.

So, when collecting information, it is possible to use Big Data information processing technology along with standard methods of obtaining data.

Grants are gaining popularity among financial instruments because they can be obtained using Internet technology without a physical presence. Kickstarter, which makes it possible to attract resources to start-up entrepreneurs, should not go unnoticed. At the stage of data analysis, large companies use appropriate programs: Dynamics 365 Finance, Microsoft Power BI, and others.

Thus, the area of the digital economy provides exceptional opportunities for new fields of business and social development in general, requiring new approaches to implementation and management of this area. Besides some familiar categories, and trends in economic sciences need further scientific study and transformation.

Economic culture is one of the promising areas of digital transformation. The concept of "culture" today is interpreted as a resource for changing the quality of life by improving its conditions, as a creative element for the development of the economic sphere. The influence of culture on the economy has a significant impact on the quality of human capital and is becoming a driver of economic growth. This is the result of economic knowledge evolution [8].

The components of economic culture are also changing: new models of the formation and determination of human economic behavior are emerging; the way of life is changing following new needs. Today, the study of economic culture phenomenon resolves itself to the study of changes taking place in the world in general, in particular, due to the development of digital technologies. Thus, digital culture has become an integral part of modern economic culture.

If at the macro level we are talking about the "digital" modernization of society and the "digitalization" of the main aspects [9], then at the micro-level we should talk about the formation of a digital element of the economic culture of institutions as a new driver of "reset" and development.

The lack of a unified concept of the digital economy for statistical purposes, as well as a methodology for measuring the contribution of the digital economy to the gross domestic product, complicates the digital transformation processes, since there are no necessary control and monitoring tools [12].

Information production is the most dynamically developing sphere of the Russian economic activity. At the same time, the growth rate of the market of the digital services' producers exceeds the growth rates of the markets of consumers and digital services intermediaries in the Russian regions [13]. The digital economy as a set of economic relations, which are mediated by information and computer technologies used by all participants in the socio-economic system [14].

3 Findings from the Study and Prospects for Further Development of this Sphere

As practice shows, the digital economy in Russia is developing quite steadily, depending on the economic situation of the state. However, there are a large number of barriers that can hinder positive changes in the formation of the digital economy in the domestic market. The main guidelines for stimulating the development of the digital economy can be considered the unification of legal provisions, as well as providing legal protection for e-commerce entities to eliminate obstacles to the development of the electronic space.

Accelerated transition to the digital economy in the Russian Federation as a necessary element of the stability of the Russian statehood and maintaining its competitiveness in the global economic and political space [10].

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