Business in the digital economy: russian and foreign experience

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Abstract. The concept of digital economics is entering our life more confidently every day. In the near future, it can completely supplant the material. Many people have become accustomed to using cashless payments and making online purchases. This type of economy is usually considered as a kind of model that is already functioning to a certain extent. Digital economy is such an economy, where an industrial cyber-physical system acts as an industrial complex, a production system creating products and services, ensuring the life and comfort of a person, the population. The aim of the work is to study the digital economy and its role in the development of entrepreneurship on the example of Russian and foreign experience. The article examines is also given the priorities and main tools for the development of the Russian digital economy, for comparison, the experience of foreign countries. The study identified problems that impede the acceleration of these processes, presented the prospects for the development of the digital economy. The problem of the study lies in the lag of the development of the digital economy of Russia from foreign countries. The object of the study is the digital economy in the development of entrepreneurship. The article used such general scientific methods as analysis and synthesis.

1. Introduction

The digital economy is a system of economic, social and cultural relations based on the use of digital technologies.

Digital economy is an economic activity, where the key factor of production is data in digital form, processing large volumes and using the results of the analysis of which can significantly improve the efficiency of various types of production, technologies, equipment, storage, sales, and delivery.

The relevance of this topic is explained by the fact that the growth of the economic potential occurs due to the tools of the development of the digital economy, which intensify the processes that contribute to the breakthrough in the field of technology.

Tools for the development of the digital economy will be transformed into a set of recommendations for the practice and government bodies. Due to this, there will be changes in the field of legislation regulating and supporting high technology innovations. In addition, directions of strategic development of economic institutions and forecasts of economic development will be adjusted.
The beginning of the development of the digital economy can be considered from the digital revolution. Digital revolution is the transition from mechanical and analog electronic technology to digital electronics. Digital electronics began in the late 1950s [2].

The term also refers to radical changes caused by digital computing and communication technologies in the second half of the 20th century. The information age has replaced the agricultural and industrial revolutions.

The development of the digital economy contributes to the development of business, the use of innovative technologies provides new opportunities for their functioning.

2. Materials and methods

In the course of studying this issue, was considered the experience of the development of the digital economy of Russia and some foreign countries. Methods for the study of theoretical material are study and synthesis of material, analysis and synthesis. These research methods allow you to make a logical study of the collected facts, to develop concepts and judgments, to make inferences and theoretical generalizations about this study, namely, to analyze the development of the digital economy in Russia and abroad. Identify problems and prospects for the development of the digital economy and analyze its impact on the business.

3. Results

The study showed that the development of the digital economy of Russia at the government level began after, when the presidential decree of December 1, 2016, it became necessary to form a new web economy to improve the efficiency of industries through information technologies [8].

A state program was developed, whose task is to improve the lives of citizens by improving the quality of goods and services produced using modern digital technologies.

As stated in the document, the effective development of markets in the digital economy is possible only with the availability of developed technologies, so the program is focused on two basic directions. The first is the institutions where conditions will be created for the development of the digital economy: regulation, personnel and education. The second is the basic infrastructure elements of the digital economy: information infrastructure and information security.

The main goal of the program in the document is the appearance of at least 10 high-tech enterprises operating in the global market and forming a system of start-ups and research teams around them that will ensure the development of the digital economy in the future [9].

Until 2024, the government singled out 5 basic directions for the development of the digital economy in Russia. These are regulations, personnel and education, the formation of research competencies and technical reserves, information infrastructure, as well as information security.

The program will be managed at three levels: strategic, operational and tactical. At a strategic level, the system approves the direction of development of the digital economy, goals and plans. At the operational level, the implementation of implementation management functions is ensured, at the tactical level, the implementation of plans and the implementation of projects is managed.

Although the key financial indicators of the national program have been repeatedly published, TAdviser decided to present in the review a summary table on the financial support of the national program and federal projects in its composition, the data are presented in Table 1.

| Name of the federal project and sources of financial support | The amount of financial support by years of implementation (million rubles) | Total 2019 - |
|----------------------------------------------------------|-------------------------------------------------|-------------|

Table 1. Financial support of the national program «Digital Economy». 

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The increase in funding for the task of "Creating end-to-end digital infrastructure and platforms" (in terms of activities for the development of the Mir system and ensuring the functioning of an identity card of a citizen of the Russian Federation) is possible subject to the allocation of additional funding over the limit set by the Ministry of Finance of Russia.

By 2024, the state intends to carry out a comprehensive digital transformation of the economy and social sphere of Russia. To do this, it is necessary to develop legislation on digital technologies, modernize digital infrastructure, introduce digital practices in key areas of economics and public administration, and organize training for transitional personnel.

Initiatives, plans and methods for implementing hundreds of activities in each of these areas at the Digital Economy platform are daily discussed by over 1,500 experts from business, government, industry and research organizations. All these people are united in their readiness to make a personal contribution to a large-scale project that should help Russia to become one of the world leaders in the field of technological development.

For comparison, we analyze the development of China's digital economy. China is one of the mysteries of world civilization. In Europe, the world is measured in centuries. In the Middle Kingdom through the millennia. Over 5 thousand years of its history, Chinese civilization has always been a world leader in technology, irrigation, and state administration [1].

For the first time, the government of the People's Republic of China seriously preoccupied itself with the sphere of high technologies in the late 1980s. The signal was a letter from a group of scientists to the Central Committee of the CPC, which laid out a plan for how to catch up with the hi-tech world as a national economy in a short time.

The launching site for two competitive state projects, Plan 863 (name 863 - dated March 3, 1986) and Torch, with the active assistance of a specially created bureau for the assimilation of foreign technologies, became the launching pad for the emergence of a competitive ICT industry. The first focuses on the long-term catch-up development of high technology in seven key areas, including information technology. The focus of heightened attention was education reform - the training of qualified personnel. The best students went to study abroad, and the attraction of national specialists to foreign companies was also encouraged. Launched in 1988, the “Torch” project, more targeted towards the information industry, eventually turned into a kind of cluster of legislative documents and initiatives aimed at the successful and rapid development of a new high-tech industry [11].

The next stage is more serious - not only the competence of national vendors across the entire spectrum of ICT innovations, but also the presence of their own independent industry. The State Council of the People's Republic of China declares this decision first in a “plump” instruction (more

| n/ | Financing | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | (Million Rubles) |
|---|-----------|------|------|------|------|------|------|------|-----------------|
| 1 | Federal project | 220  | 979  | 297  | 307  | 265  | 265  | 266  | 1,697           |
| 2 | Federal project | 2    | 391  | 6    | 0    | 799  | 59   | 1    | 772,401         |
| 3 | Federal project | -    | 864  | 10   | 14   | 24   | 30   | 31   | 143,088         |
| 4 | Federal project | 387  | 9764 | 7    | 9674 | 10   | 1    | 979  | 30,204          |
| 5 | The federal project | 505  | 41   | 7    | 1762 | 139  | 6734 | 6599 | 451,809         |
| 6 | The federal project | 723  | 284  | 916  | 814  | 078  | 775  | 838  | 23,705          |
than 400 items have been proposed for execution) on the scientific and technological development of the country in the period 2006-2020. At the same time, it establishes directives in the plan for the 11th five-year plan. In the context of its implementation (and later in the process), Chinese companies were actively encouraged to develop “local innovations”, including through “joint innovations with foreign vendors”, especially in the case of “improving foreign hi-tech solutions”. In fact, the government set itself the task of making a qualitative breakthrough, at once overcoming several technological stages and achieving parity with Western leaders. The gap in high technology had to be closed in the shortest possible time. To date, the results are more than convincing. Thus, over thirty years, the contribution of the information and communications industry to national GDP has quadrupled (6.0%); the weight of production of ICT services and equipment in its worldwide sales reached 11%, the mobile phone fleet is 1.3 billion (population –1367 million). The growth of the Internet is unprecedented: for two decades, the ratio has reached 47.9%; there are now almost 4 million websites in China; Internet audience exceeds 600 million people, of which 83.4% are users of the mobile version; Of the world’s 10 largest Internet companies, four are currently Chinese. E-commerce is becoming a new stimulus for the growth of the Chinese economy. Its volume in 2014 amounted to $ 2.2 trillion, (21% of GDP), and growth - 31.4%. More than 20 million people are employed in this area (2.8 million in full and more than 18 million in part) [4].

During 2015-2025 It is planned to focus on the digital upgrade of the national industry, finance and trade (from a road map, design work to commissioning). The key is the project implementation of "smart" production.

According to analysts, creative fulfillment of the tasks set by 2025 in these industries can ensure productivity growth of up to 22% and add at least 2.3 trillion to annual GDP, dollars. And if today the contribution of the Internet economy is only 3.3% of GDP, over a decade it will grow to 10 - 16%. Considering the above, in the next ten years, China will direct maximum efforts towards the improvement of its country, and, consequently, it will not be stingy with the informatization of the economy. Analysts predict an unusually high rate of deep diffusion of ICT into the fabric of production of all sectors of the Internet economy (Fig. 1).

![Figure 1. Informatization of branches of the Chinese economy in the period 2015-2025. (Rates of growth, %).](image)

Today, China is in a dual situation: as a traditional recipient of technologies, it is interested in their maximum accessibility, but as a potential donor, it has to think about protecting their rights. Leading Chinese technology companies are already faced with those wishing to use their developments in the same way as Chinese technology pioneers once “learned” from their Western competitor vendors.
Perhaps for the world there is nothing new. We will have to raise the "degree" of research, and their protection.

At the present level, advanced countries are increasingly inclined to believe that "innovations cannot exist apart from production". An increasing number of states, the most advanced countries in the field of high technologies, are thinking about the return of production processes from China to their homeland. In the meantime, the center of gravity is in the Celestial Empire, and after the workplaces there patents and high technologies are increasingly flowing. Celestial is something to think about. Industrial equipment of the Celestial Empire, in the opinion of the country's leadership, wants much better. According to modern criteria, it hardly fits into the second order. At the same time, the United States and Germany recently announced the beginning of a new industrial revolution - the fourth order, Industry 4.0 (Industry 4.0), which implies intellectualization and robotization of not only the processes of manufacturing "goods", but also equipping them with intelligence. [3]

The fourth industrial revolution (Industry 4.0) is a transition to fully automated digital production, controlled by intelligent systems in real time in constant interaction with the external environment, going beyond the boundaries of one enterprise, with the prospect of uniting into a global industrial network of Things and services.

We can not ignore the development of the US digital economy. The United States and the world as a whole are undergoing very important economic and social transformations, and technology occupies a prominent place in them. In our changing world, economic growth and competitiveness are closely linked to the digital economy [13]. And this whole technological revolution is truly impressive.

For many people, the digital economy will be the best place to find their next job or business opportunity. In 2013, 60% of all unemployed Internet users in America 15 years and older used the Internet to find work.

That is why we decided to implement in our country the departmental program Digital Economy Agenda, according to which the US will fully support the transformative influence of the Internet and reveal its role as a global platform for communication, commerce, expression of people as individuals and, of course, for innovation. This initiative relies on the work of 12 bureaus and almost 47 thousand employees.

Many governments around the world are increasingly beginning to pursue policies that restrict the free flow of information on the Internet.

Such a policy, in particular the requirement to localize data, poses enormous risks to the competitiveness of both American and foreign companies. The recently announced initiative, the EU-US Privacy Shield (EU-U.S. Privacy Shield Framework), is a prime example of the importance of the digital economy. For companies in all sectors of the economy - not just the digital economy and Internet companies - effectively eliminating such regulatory and trade barriers is a kind of help that they need [10].

To meet these needs, the Department of Commerce, as the main pillar and protector of US business, has brought the country's digital commercial interests to the fore. Therefore, I am pleased to inform you that today we are launching the Digital Attaches pilot program to ensure that all US companies can participate in the global digital economy and work in the market of any country in the world.

The main task of Digital Attaches, members of our Foreign Commercial Service, will be to provide assistance and support to US businesses. This will allow them to successfully address issues of digital policy and problems in foreign digital markets, as well as increase the export of their products through our global e-commerce channels.

This initiative will be led by the US Department of Commerce Office - International Trade Administration, with the support of other offices of the Ministry of Commerce, and in collaboration with the US Department of State and our partners in the industry. This initiative will strengthen our trade diplomacy, promote technology policies, link policy and trade, and provide the necessary assistance to small and medium-sized enterprises who can take advantage of our reliable e-commerce channels [5].
The goals of this Department of Commerce initiative are to support American businesses, support the development of trade relations, and provide all American companies with the opportunity to operate in a fair and competitive market.

4. Discussion

The study revealed that the development of the digital economy in the field of entrepreneurship in Russia lags by about five to eight years from the level of development of the digital economy in similar business areas than in foreign countries. The main and most important problems of this lag are:

- there is no infrastructure to promote the development,
- domestic entrepreneurs underestimate innovation activity and its possible results.

It should be noted that the digital economy is an important link in the scientific and technological development of Russia, has a significant beneficial effect on the development of Russian small and medium-sized innovative entrepreneurship. In this sector of the economy, the use of innovative technologies of the economy of the country increases efficiency and productivity, the potential increases, all this contributes to increasing competitiveness in the market [6].

Therefore, despite the current problems of the development and establishment of the digital economy in the field of small and medium-sized innovative entrepreneurship, the state is focused on the introduction and development of the digital economy. The introduction of the digital economy is the only possible way to strengthen Russia's strategic position, both in the domestic market and in the global economy. Most clearly digital technologies have shown themselves in commerce and services via the Internet. The leader in the degree of development of online commerce is called China. In particular, the company Alibaba Group. For the development of Internet services - the United States. Namely, the company Uber, which, starting with applications for taxi, has significantly expanded the range of services. Russian companies should also pay attention to the e-commerce sector to promote national goods around the world.

One of the successful domestic companies, which managed to enter the world market is the antivirus company Kaspersky, for Russia this is a great success.

The main difficulty in entering the world market is the imperfection of the innovation methodology [7]. Russia is doing well in the defense, space areas, for success you need to focus on the development of high-tech manufacturing. For example, “Russian Space Systems” managed to automate production, ranging from the idea to sales and disposal.

Another example is Severstal, using the latest technology in their plants. In addition to this, smart machines have been introduced into the innovative system.

• “White biotech” is a trend direction of the global bio economy.

With the help of these technologies, one can artificially grow food and animal feed without harming the environment.

• Similar developments are in Russia.

Specialists from Krasnodar have successfully synthesized lactic acid bacteria designed to clean the pipes from industrial scale. The achievements of the "white biotech" can be used in agriculture to protect crops. Thus, chemical reagents can be replaced with safe biological elements, while reducing the cost of eco-products.

The digital economy equalizes the chances of players achieving leadership positions on the world stage, because it is not based on excised natural resources and electricity, but on intellectual potential [13].

Read about the peculiarities of mobile communication, economic, technical and business models, as well as the role of mobile communication in the Russian digital economy in the unique telecom edition Mobile Communication on the Road to 6G.
Development institutes and research centers should act as a platform for translating innovative ideas, creating the conditions for development. This requires their modernization, the development of a new methodology, the formation of a culture of interaction between institutions and working groups, the attraction of investors.

5. Conclusion

The study showed that Russia is about 5-8 years behind the developed countries in the field of innovation and the digital economy. Despite this, Russia has all the necessary prerequisites for further realizing the digital potential and accelerating the pace of digitalization of the economy. State support is provided, with each year the amount of financing for the development of this area increases. New technologies will have a significant impact on the development of business and government, the growth of the quality of life, the emergence of new forms of socialization of people and their communication. Russia has the necessary intellectual and scientific base; there are original organizational and technological solutions for creating an effective infrastructure of the digital economy [12]. When implementing the “Digital Economy of the Russian Federation” program, the amount of funding for research and development should be increased, and the training of personnel in the field of high technologies should be improved.

The digital economy has a significant impact on the development of small and medium-sized innovative entrepreneurship in Russia.

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