

History of the Digital Economy in Russia

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Abstract

Undoubtedly, in the current age of advanced technologies and large-scale development, it is no longer possible to imagine ordinary life and work processes without various electronic mobile gadgets and access to the Internet. Any purchase and time management becomes easily accessible due to the digital economy options. The digital economy represents a combination of production, exchange, and further distribution processes, as well as consumption, which are carried out through electronic devices. The global development of the digital economy in Russia will somehow lead to fundamental changes in most economic sectors. The practical implementation of the most effective innovative technologies will make it possible to increase labor productivity, the population's quality of life, make perfect business development aspects, form the new industries and related professions, and allow the state to achieve high indicators of independence and competitiveness. It is believed that the conceptual category of the digital economy has emerged in 1995 due to the active spread and modernization of information and communication technologies, primarily the Internet and mobile communications. The World Bank explains the category of the digital economy as a combination of relations within the economy, culture, and social medium, which are based on the practical implementation of the digital format, in fact, information and communication technologies.

Key-words: Digital Economy, Mobile Communications, Public Services.

1. Introduction

In the territory of Russia, the first attempts at economic digitalization are marked by the period of 2008. At that time, the state began to actively promote broadband Internet in the subjects of the

Russian Federation. At the same time, the e-government system was formed, which was practically implemented within just one year [1].

As experience shows, this service was a real start to the spread of the digital economy in the way of life of the Russian population. Due to this fact, currently, both individuals and legal entities easily receive public services.

For example, it is impossible not to mention a significant contribution to the simplification of the life of citizens such as a service that allows booking medical appointments through an Internet resource [1].

It is important that in the territory of Russia, an electronic digital signature has long been actively used at the state level, which gives several advantages for doing business online and is used for government contracts that are also made in the online mode.

The state aims to systematize information on various economic sectors in databases to provide these data for general access and simplify control over them. For example, since 2017, online cash registers have been used for mandatory use by all companies in the Russian territory, which allows automatically forwarding all data about purchases to tax bodies, while the customers gained the possibility to receive an electronic receipt [2].

It is also necessary to emphasize that it is from the first half of 2017 that the digital economic era began, and respectively, the entire information space was filled with the corresponding newest terminology [3, 4].

On July 28 of the mentioned year, an Order of the Russian Government was put into effect, approving the implementation of the program "Digital Economy of the Russian Federation" [5]. Currently, this strategy is mainly focused on the formation of an optimal organizational climate and statutory and regulatory framework in the country for the effective transformation of the digital economy entities and the implementation of the rapid growth of the state's economy through the qualitative improvement of the management components and functions of the of Russian economic assets [6-8].

2. Materials and Methods

For Russia to enter the latest stages of digitalization on time and at par with the leading countries, the structural section of GDP by every industry should be based on the information base. Today, the digital segment in the economic space of Russia forms a small percentage while comparing

it with the same indicator in developed countries. For example, in 2017, its share was just 3% of GDP [4].

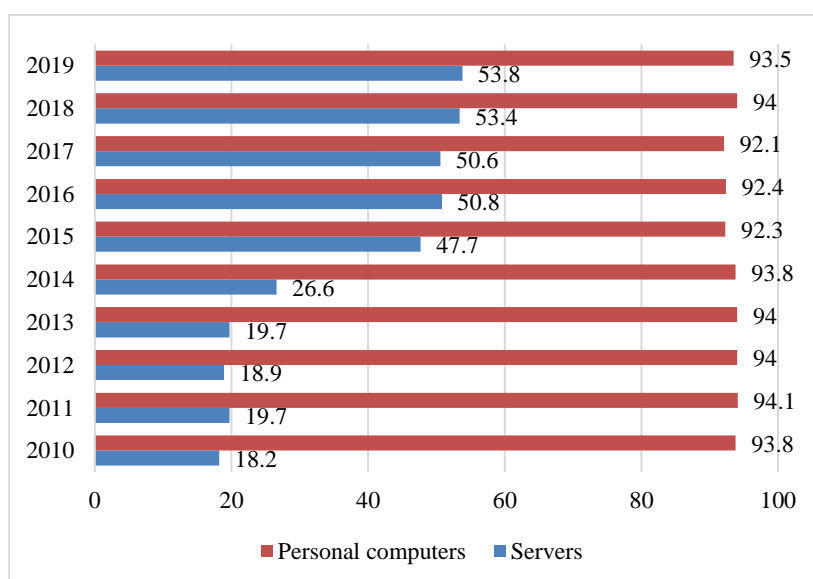
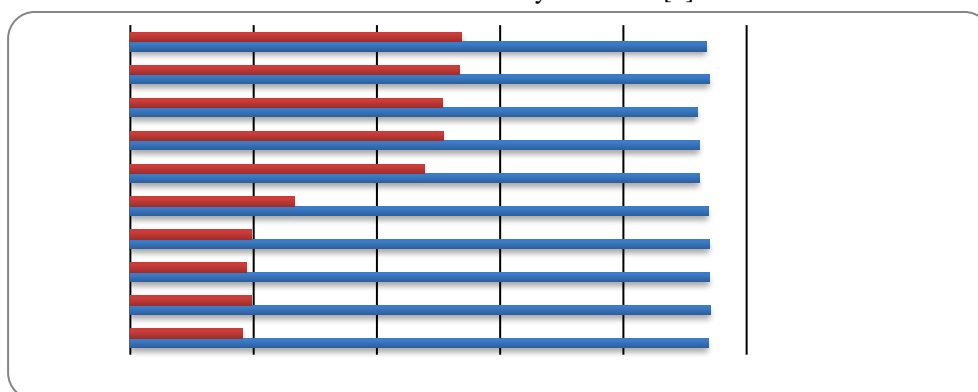
According to forecasting experts, in 2021 the share of the digital economy in the Russian gross domestic product will increase to 5.5-5.7% due to the current digitalization of isolated industries.

Russian Federal State Statistics Service (Rosstat) notes that the share of business entities that use servers in their economic activities is steadily growing from year to year (Fig. 1).

Thus, for the period from 2010 to 2019, this value increased three times: from 18.2 to 53.8% of the total number of surveyed companies.

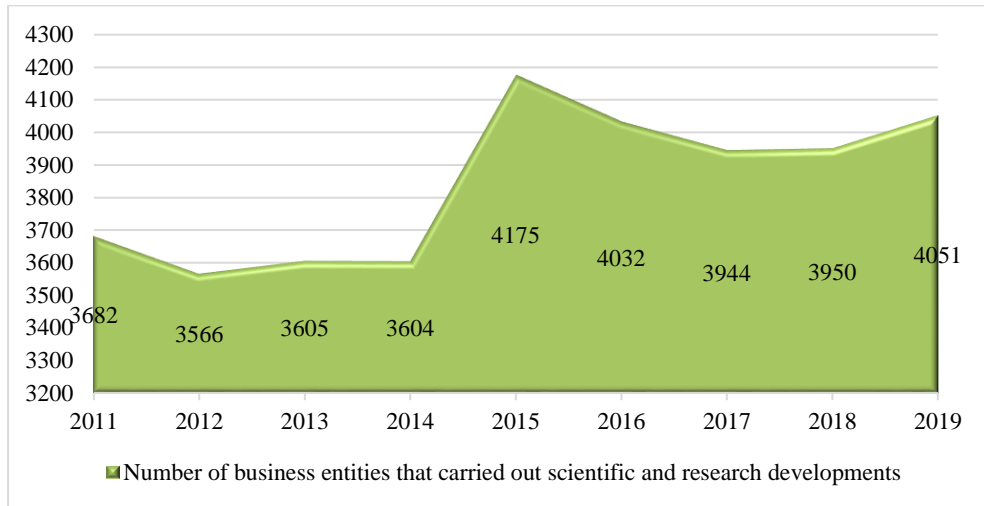
As for the share of business entities that use personal computers in their practical activities, only minor deviations of this indicator occurred over the specified time interval. For comparison, in 2019, it was lower (93.5%) than in 2010 (93.8%).

Figure 1- The share of business entities that used personal computers and servers in practice in 2010-2019 as a % of the total number of surveyed entities [9]



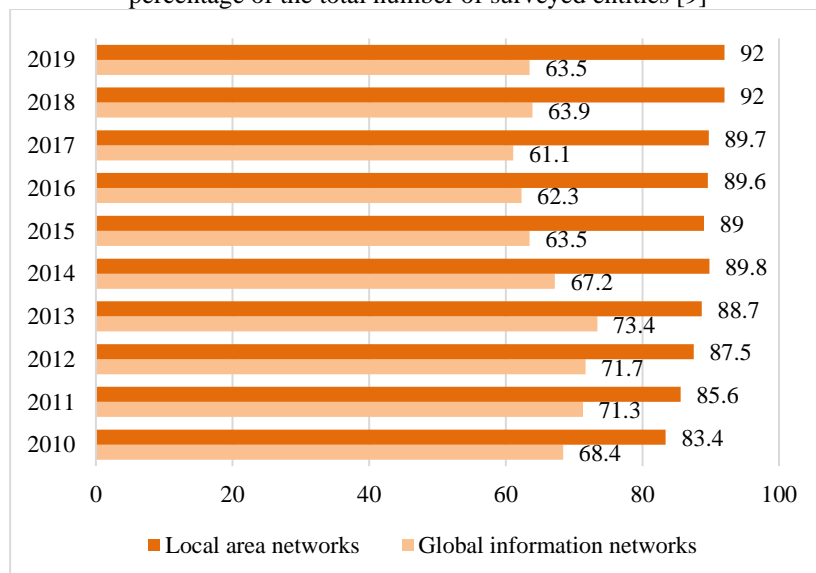
At that, Russian statistics for the period of 2011-2019 indicated a significant increase in the number of companies engaged in scientific and research development (Fig. 2): from 3682 companies in 2011 to 4051 in 2019 (the pick was achieved in 2015 and equaled 4175 companies).

Figure 2- Number of business entities that carried out scientific and research developments in 2011-2019 [9]



Having previously touched on the topic of popularization of the Internet in the lives of individuals and legal entities, the authors note what changes have occurred in the shares of companies that used global information networks and local area networks in 2010-2019 (Fig. 3).

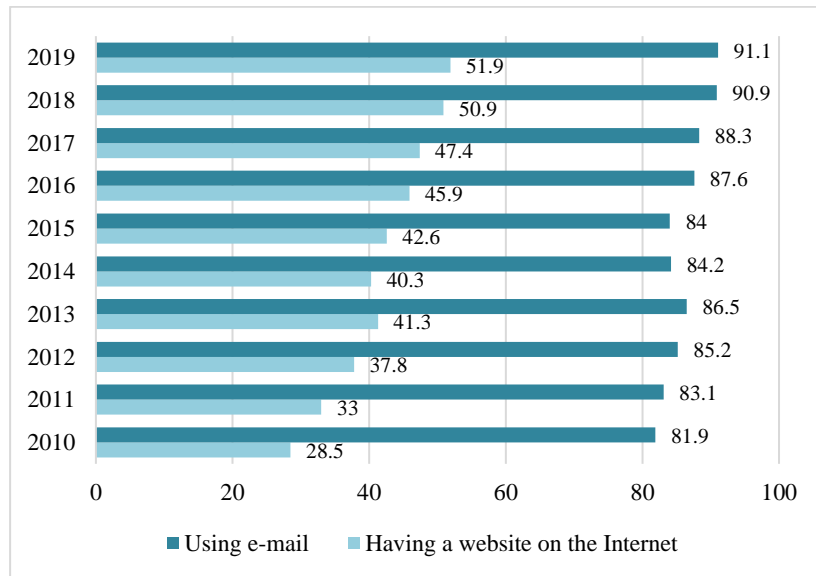
Figure 3- The share of business entities that used global information networks and local area networks in 2010-2019 as a percentage of the total number of surveyed entities [9]



According to statistical data, local area networks experienced a decline from 68.4 to 63.5% during the estimated period, although there was an upward trend until 2014. Global information networks experienced a stable share-based growth from 83.4 to 92% [10].

The dynamics of business entities for 2010-2019 that use e-mail and have a website are presented in Fig. 4.

Figure 4- The share of business entities that used e-mail in practice and had a website on the Internet in 2010-2019, as a % of the total number of surveyed entities [9]



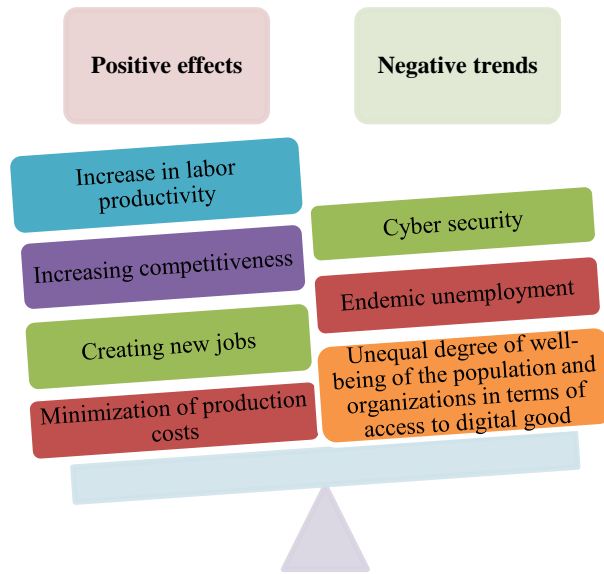
It is characteristic that companies, having appreciated and understood all the advantages, quickly began to create corporate websites on the Internet [11]. Their share of the total number of business entities is steadily growing from period to period: from 28.5% in 2010 to 51.9% in 2019.

The e-mail has always been a fairly popular communication option for businesses, and the share of companies using it continues to grow steadily: from 81.9% in 2010 to 91.1% in 2019.

3. Results and Discussion

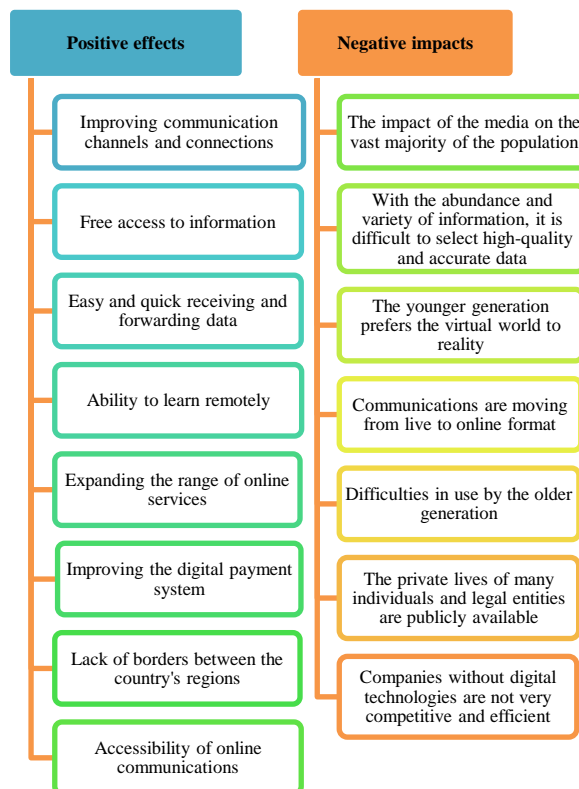
According to the World Bank report, published back in 2016 and entitled "Digital dividends", the current state of the global digital economy, including Russia, and its promising development paths carry not only expected positive effects but negative trends as well (Fig. 5).

Figure 5- Comparison of positive and negative aspects of the Russian digital economy development in the future [1, 4, 12]



As the figure above shows, the immediate positive effects of economic digitalization outweigh its negative aspects. However, in addition to the main trends, several additional aspects of the positive and negative effects in the development of the digital economy in the perspective of domestic practice are identified by the economic community (Fig. 6) [1, 12].

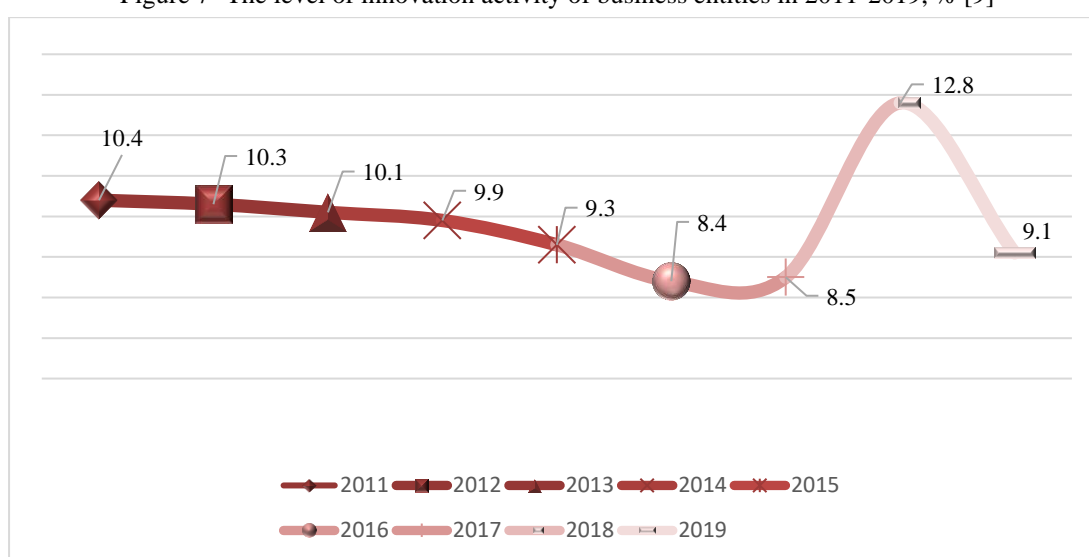
Figure 6- Additional aspects of the positive and negative impacts of the digital economy development in the domestic practice perspective



Despite the incomparable positive impact (which prevails over the negative aspects) and the negative impact that takes place, the progression in the digital economy inevitably affects every sector of the entire socio-economic space, namely, production processes, the educational segment, healthcare, transport, and logistics, the financial segment, trade, and much more [13].

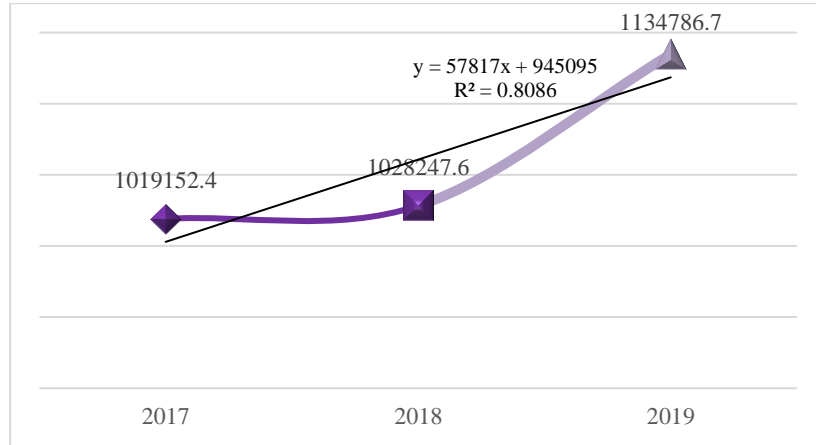
It should be noted that according to the current data provided by the Russian statistics in the general access, the boom in the innovation activity of business entities occurred in 2018, when the highest percentage of enterprises involved in digitization was recorded (Fig. 7). This is obviously due to the implementation of several legal regulations and a strategy in the field of the digital economy since 2017.

Figure 7- The level of innovation activity of business entities in 2011-2019, % [9]



According to Rosstat, the decline in the innovation activity of a set of Russian business entities is in no way related to the level of companies' internal costs for research and development. This suggests that simultaneously with a decrease in the number of innovatively active companies, the mass of scientific and research developments in individual organizations increases [14]. The dynamics characterizing this indicator in 2017-2019 is shown in Fig. 8.

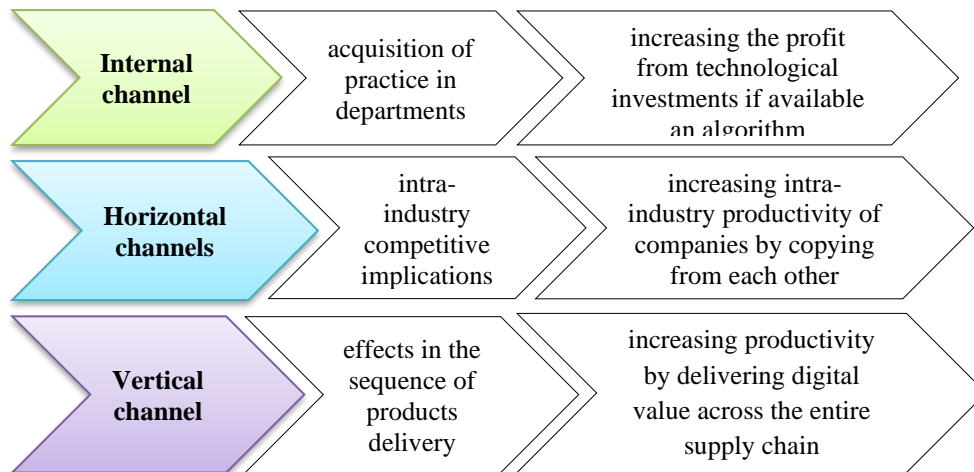
Figure 8- Internal costs for R&D of Russian business entities in 2017-2019, million rubles [9]



While from 2017 to 2018, the increase in the volume of internal costs was within the trend and increased slightly, then already in 2019 a sharp jump was noted, which indicated a greater popularization of digital economic components in the economic life of companies engaged in scientific and research development.

As noted in the economic community, every year, starting from 2017, the following types of efficiency can be obtained in the future from the further dissemination and transformation of digital economy tools through various channels of economic relations (Fig. 9) [1, 2, 11].

Figure 9- The potential effectiveness of further dissemination and transformation of digital economy tools through various channels of economic relations



4. Conclusions

Understanding the real benefits and strengths of improving the digital economy in Russia, it is important to point out that most domestic business entities are practically not ready to use digital

economy tools [15]. To a greater extent, the transition to absolute digitalization is complicated by the fact that a significant number of employees are simply not prepared for the transition to the use of digital technologies in everyday work. In addition, channels in which information data is stored and transmitted are poorly developed, and the potential of the domestic Internet for business scaling yet is quite weak [1].

It is important to provide state support and assistance in improving the Russian digital economy by increasing the digital activity of all socio-economic entities to fulfill the strategic provisions of achieving the effect of digitalization [16]. Further support measures will lead to an increase in the competitiveness of individual physical and legal entities, and the very state economy in general.

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