

# Digital economy in Russia

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**ABSTRACT--** *The authors consider the trends and prospects for the development of the digital economy in this article. The authors study the terminology of the "digital economy", its specifics and content. Statistical data reflecting the peculiarities of the digital economy implementation in Russia are presented. The authors also explore positive trends in the development of the digital economy.*

**Key words--** *digital economy, infrastructure, the Internet, digital technologies, information security.*

## I. INTRODUCTION

M. Castels considers computer networks as the material and organizational basis of the information society [5], but slightly corrects the concept itself in his work "The Information age: economy, society and culture " (1996 - 1998). He calls such a society the "informational society", not the "information society", because information played a significant role in earlier societies, and his designation marks a parallel between «informational" and "post-industrial" societies. He focuses on the increasing role of the "information economy", which is associated with information activities and its technical support. We can't disagree with this, since the success of the computer industry and the development of the Internet makes the network economy, network Internet communities, and network labor collectives a reality [6].

The term "digital economy" was first used in 1995 in D. Tapscott's book "Digital economy: promise and danger in the age of network intelligence. The author does not define the digital economy directly, but applies the concept of "Age of Networked Intelligence", the essence of which " is not only in network technologies... but in the interaction of people through network technologies", which "combine intelligence, knowledge and creativity to make a breakthrough in creating social capital and well-being" [2]. The scientist focuses on the fact that the digital economy explains the causal relationship between the new economy, business types and modern technologies, and how one element

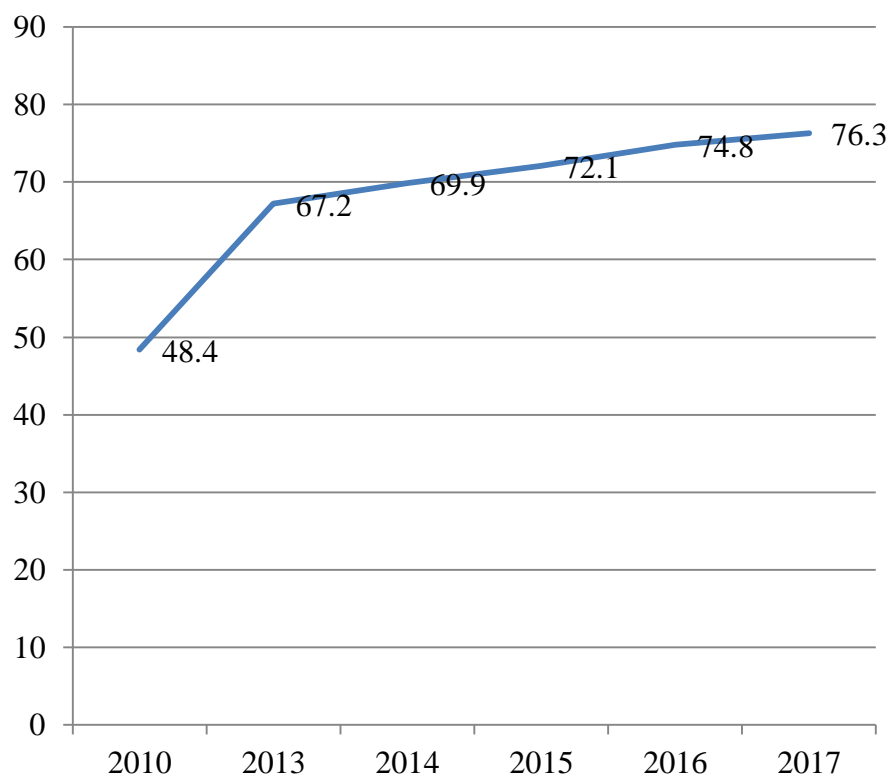
The last interpretation of the term is found in 2017 in Dalman's work "Using the digital economy for developing countries (OECD)" "the digital economy is a combination of technologies of general application and a number of economic and social activities carried out by Internet users using appropriate technologies. The digital economy, therefore, includes the physical infrastructure that digital technologies (broadband conducting networks, routers), access devices (computers, smartphones), information systems (Google, Salesforce) and the functionality provided by them (the "Internet of things", big data analysis, cloud computing)", as well as the "Digital economy" – an economy that operates mainly through the use of digital technologies, in particular non-cash transactions over the Internet" [1]. The authors highlight the advantages of ensuring inclusive and sustainable growth based on the potential of digital technologies.

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The Internet economy has been growing significantly in recent years. Digital platforms take on a special place in the life of every Internet user. Consumers are increasingly influenced by information broadcast on social platforms. The Internet is integrated into all aspects of human life, including such irreplaceable structures as health, education and commodity supply. The dynamics of the introduction of the Internet into society is shown in the Picture 1.



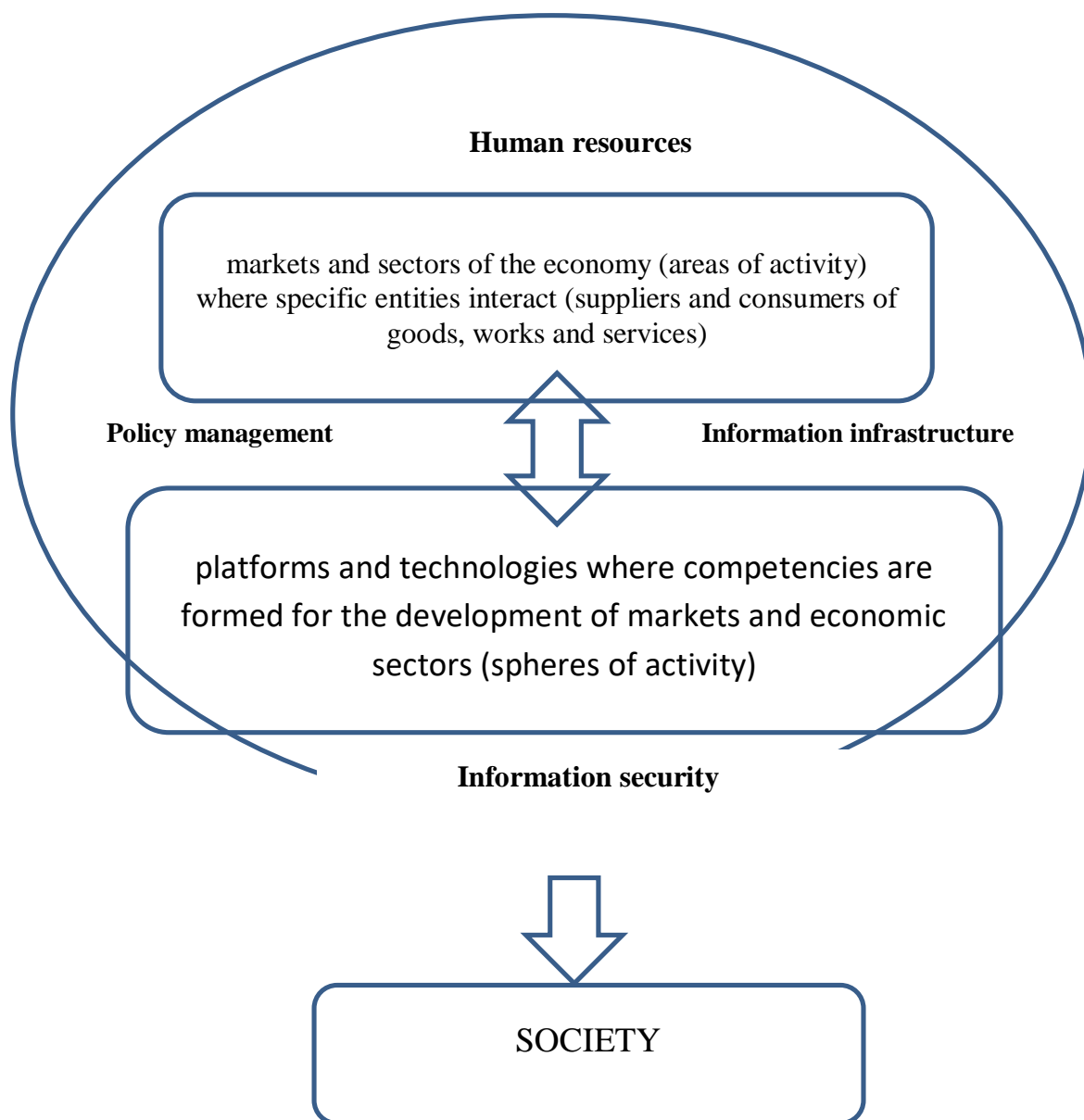
**Picture 1.** The Internet access in Russian households, %

Despite the constant growth of Internet users, Russia is ranked the 35th in comparison with the Republic of Korea and Iceland, where 99% of the population has access to the Internet [4].

Digital economy is the direction of economy based on digital and electronic technologies. It includes electronic business and commerce, as well as the tangible and intangible goods they produce. This definition includes all business, cultural, economic, and social transactions performed on the Web and using digital communication technologies.

The positive dynamics of the digital economy development has a significant impact on the entire economy. With globalization and the active development of innovative technologies implemented in various fields, such as blockchain, artificial intelligence and cloud computing, the Internet economy has become an integral part of the global and state economy.

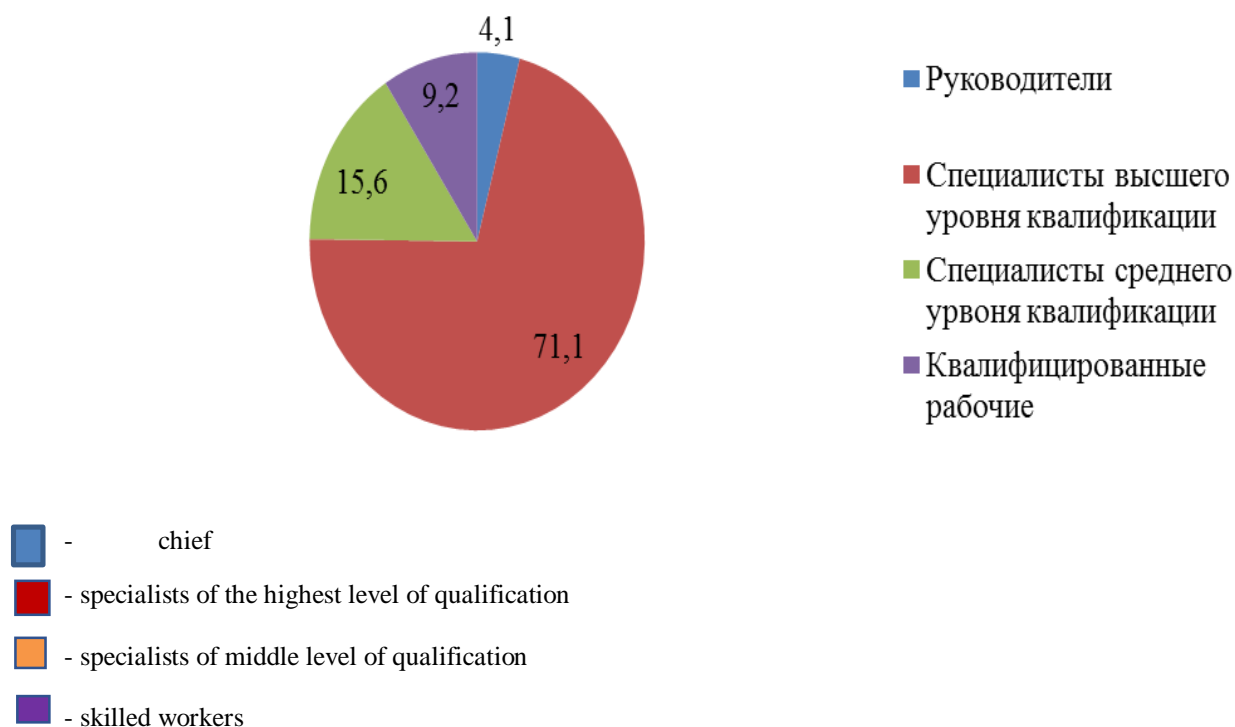
In Russia, the Digital economy of the Russian Federation program operates until 2030, according to which it is possible to identify the levels of interaction of its components (picture).



**Picture 2.** Levels of the digital economy (made up by the author)

For the further development of the digital economy it is necessary to develop positive trends in the following areas:

Thus, in 2018, the largest share in the structure of ICT specialists was made up of specialists with a higher level of education. The transformation of the labor market based on remote interaction with the state involves the effective use of modern information and communication technologies related to the introduction of artificial intelligence and robotics, based on the formation of new thinking and working style of specialists and public servants, taking into account the requirements of the digital economy.



**Picture 3.** The structure of ICT specialists by skill level, % [4].

The development of communication networks, the development of the system of Russian data processing centers, the introduction of digital platforms for working with data to meet the needs of citizens, businesses and authorities



**Picture 4.** The growth rate of communication services by type, % [4].

These data show an increase in the use of the Internet by the population, both mobile and fixed, as well as a slight increase in mobile network subscribers. There is a significant decrease in the use of outgoing local telephone connections of fixed-line networks.

Achieving a state of protection of the individual, society and the state from internal and external information threats, which ensures the implementation of constitutional rights and freedoms of man and citizen, decent quality and standard of living of citizens, sovereignty and sustainable socio-economic development of the Russian Federation.

In 2018, 27.9% of the population faced any type of threats arising from using the Internet, while in 2015 this figure was 34.2%.

In the earlier study [6], the author identified the main negative aspects and problems that Network users face:

1. The emergence of Internet addiction.
2. The prevalence of flame (profanity) and the more primitive of the language, introducing anti-grammar into it.
3. Availability of prohibited and obscene information.
4. Illegal activities in the sphere of distribution, the so-called "computer piracy" violates copyright law.
5. Unauthorized access to a computer system for the purpose of damaging or destroying information (including the distribution of software "viruses").
6. Unauthorized access to confidential (state, corporate or private) information that opens the possibility of its use - from changing school grades to illegal access to bank deposits (the so - called "hacking" or, recently, when the term "hacker" has gained a positive semantics of computer advancement, "hacking" - from the English. cracker-cracker).
7. Using a computer to commit illegal actions through the dissemination of information (distribution of porn ads by underground companies, disinformation for profit, collection of funds for the implementation of non-existent social projects, etc.)

The authors of the above statistics collection [4] as the major negative impacts noted (in descending order): distribution (spam); viruses that led to the loss of information; unauthorized access to a computer; use email by unknown persons; children visiting unwanted sites, chat with potentially dangerous people through the Internet; the use of mobile phone by unknown persons; theft of money, personal data.

The creation of a system to support search and applied researches in the field of digital economy (research infrastructure of digital platforms), ensuring technological independence in each of the areas of end-to-end digital technologies that are globally competitive, and national security.

**Table 1** – Forecast development of the global digital technology

Digital technologies, billion dollars	Год	
	2018	2025
Quantum technology	0,8	5,85
Robotics and sensor components	48	147
Neurotechnology and artificial intelligence	21	191
New production technology	1,98	2,79
Industrial Internet	168	934
Distributed registry systems (blockchain)	0,6	28,3
Wireless communication technolog	800	900
Virtual and augmented reality technologies	27	815

It is characteristic that wireless communication technologies are moving away from 2G and 3G networks over time, with a gradual increase in the share of 4G and the appearance of 5G by 2024.

**NORMATIVE REGULATION.** Analysis of the state of the legal framework has shown that there is no appropriate framework that provides a favorable legal regime for the emergence and development of modern technologies, as well as for the implementation of economic activities related to their use, which is undoubtedly a brake on its

development. The "Digital economy of the Russian Federation" program, which runs until 2030 in Russia, is aimed at creating conditions for the development of a knowledge society in the Russian Federation, improving the welfare and quality of life of our citizens by increasing the availability and quality of goods and services produced in the digital economy using modern digital technologies, increasing awareness and digital literacy, improving the availability and quality of public services for citizens, as well as security both inside and outside the country [7].

The Russian government has approved a roadmap for regulatory regulation of the digital economy which includes the following elements:

1. Create a competence center that monitors and improves the legal regulation of the digital economy, develops new ideas in the field of regulation of the digital economy, and acts as a methodological center for training personnel on issues related to the regulation of the digital economy;
2. Develop a concept of priority measures to improve legal regulation in order to develop the digital economy and a plan for its implementation;
3. Develop a concept of medium-term measures to improve legal regulation in order to develop the digital economy;
4. Develop a concept of comprehensive legal regulation of relations arising in connection with the development of the digital economy;
5. Adopt regulatory legal acts that eliminate key legal restrictions in certain areas of legislation that hinder the development of the digital economy;
6. Identify priority basic legal concepts and institutions necessary for the development of the digital economy;
7. Create legal conditions for creating a unified digital environment of trust;
8. Provide favorable legal conditions for data collection, storage and processing, including the use of new technologies, while protecting the rights and legitimate interests of data subjects and owners;
9. Create legal conditions for the most effective use of intellectual property results in the digital economy;
10. Adapt antitrust legislation to the needs of the digital economy;
11. Provide legal conditions for the introduction and use of innovative technologies in the financial market;
12. Provide legal conditions for the introduction and use of technologies for decentralized registry management and certification of rights;
13. Create legal conditions for the introduction of new rules for collecting reports, including statistical information, which exclude duplication of collected information, provide for ways to obtain it remotely and are aimed at providing the needs of society and the state with the necessary data in real time;
14. To form the legal framework for consumer protection in the digital environment;
15. Provide comprehensive legal regulation of relations arising in connection with the development of the digital economy;
16. Adopt regulations to encourage the development of the digital economy;
17. Create legal conditions for the functioning of special legal regimes that create conditions for the most comfortable development of organizations that provide activities in the priority activities of the digital economy, including economic activities for the collection and use of data;
18. Implement a set of measures to improve standardization mechanisms aimed at ensuring compliance of the system of technical regulation and measurement uniformity with the goals of digital economy development,

including as a "driver" of such development, including the formation of an appropriate regulatory framework, as well as a library of existing national standards in priority areas in machine-readable format;

19. Conclude international treaties (agreements), adopt regulatory legal acts and other regulatory and technical documents that contribute to the development of the digital economy and the harmonization of approaches in this area in the EEU;

20. Adopt methodological documents for the development of lawyers' competencies in the digital economy;

21. Adopt methodological documents for the development of the competencies of civil servants and other persons involved in the preparation, adoption and application of regulatory legal acts in the field of the digital economy.

To date, in accordance with these directions, in December 2018, the Supervisory Board of the ANO "Digital economy" named bills that require priority approval by the state Duma a package of bills that is aimed at updating the Civil and Labor codes, as well as current legislation on information and data protection, electronic signatures, electronic notaries, and a number of other measures that contribute to the development of the digital economy [3].

Introduction of digital technologies and platform solutions in the areas of public administration and public services, including in the interests of the population and small and medium-sized businesses, including individual entrepreneurs

The concept of the digital economy has many interpretations and interpretations. Some scientists position it as the only course in development, others believe that the traditional economy will not change dramatically, adding to its structure only some aspects due to digitalization. Despite the many nuances that surround this term, it is obvious that the transformation is in full swing and we should not ignore the new stage of economic development based on the technological revolution.

In order to further develop the digital economy, public authorities, in close cooperation with business representatives, need to develop the national ICT sector and encourage the development, implementation and development of innovative technologies in all production, economic and social sectors of the country.

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