



## Impact of the Development Digital Economy on the Socio-Economic Development of Uzbekistan

Shadmanov E. Sherkulovich<sup>1</sup>, Bakieva I. Abdushukrovna<sup>2</sup>, Shermukhamedov B. Usmonovich<sup>2</sup>,  
Allaberganov Z. Gayibovich<sup>2</sup>

<sup>1</sup>Public Security University of the Republic of Uzbekistan, Uzbekistan

<sup>2</sup>Tashkent institute of finance, Uzbekistan

Emails: [eshadmanov72@mail.ru](mailto:eshadmanov72@mail.ru); [BIroda201@gmail.com](mailto:BIroda201@gmail.com); [bshusmonovich@gmail.com](mailto:bshusmonovich@gmail.com); [zakir3432@mail.ru](mailto:zakir3432@mail.ru)

### Abstract

In the article contribution of practical program actions of higher management bodies aimed at creating a techno-digital platform of economic development to the transition to a new economy is studied. The essence of the digital economy is the revolutionary changes in digital technologies, the emergence of innovations such as the computerization of industrial design and the modeling of the design readiness of production, the creation of the project of products with a high level of complexity, for example, machine tools, cars, trains, airplanes, buildings, etc. based on the possibilities of facilitation. The emergence and implementation of new digital technologies in Uzbekistan, the formation of new markets for the national economy.

**Keywords:** digital economy; digital technology; e-government; power grid; innovative growth; population standard; industrial technology; logistics goods supply chain.

### 1. Introduction

Until now, the effectiveness of the globalization process has led to the fact that the country that first adopts a new technology gains an advantage in international markets. This in turn leads to "market segmentation". From the perspective of an individual country, this can actually be interpreted as economic growth driven by the introduction of new technology. But growth in the global economy is limited by the "additional" capitalization of introduced technology (excluding the capitalization of displaced technology).

Currently, many experts and economists are trying to describe and understand the current state of development of the new economy, including one of its manifestations - the digital economy. trying to understand and perceive this phenomenon from a general - objective and subjective point of view. Objectively, this is more related to the manifestation of new aspects, aspects, signs, trends and laws in the modern economy. It is of great interest to study and take into account new economic phenomena, in particular, to separate the digital economy as a relatively independent part of the new economy.

The techno-digital nature of economic relations is the main feature that distinguishes the digital economy from others. Thus, if the new economy is a legitimate form of the manifestation of the post-industrial economy, then the digital economy is one of the evolutionary forms of the manifestation of the new economy. Therefore, as a "form of form", the digital economy has not only a set of symptoms of the new economy, but also a number of distinguishing aspects that characterize the qualitative precision of the digital economy. "Industrial" focuses on the new content of traditional economic rules that manifest themselves in harmony with digital technologies, as well as the emergence of new laws and trends that have no place in the economy.

Under the influence of scientific and technical progress and economic development, serious changes are taking place in the market economy, in the new manifestation of traditional economic rules and laws. For example, the emergence and development of electronic networks, computers and software products, digital technologies, electronic products and services fundamentally change the content, ratio and importance of the following concepts in the new economy: material (in the form of goods) and immaterial (not in the form of goods ), geographical distance, time and space, consumption value (utility) value, quality and quantity, competition and consumer preference (advantage), intermediation and logistics, human capital and business ethics, transactions and efficiency evaluation, behavior of buyers and sellers, new relations of consumers and producers, marketing technologies and

sales. With the rapid development of Internet companies and Internet companies in the USA, a new market of Internet services, products, services, provider services, etc., will be formed, which will penetrate into all areas of the economy and change the appearance of the entire economy.

## **2. Related Work**

Social relations and structures based on modern digital technologies occupy a special place in the research of A.A.Urasova, a foreign economist. In the process of research, the relevance of the formation and development of the digital economy is justified by the relations associated with the production, processing, storage, transmission and use of increasing information[5]. According to the results of "Digital IQ" 2017 through the research of TL Mesenbourg, the consulting agency PwC identified eight main technologies of the digital economy, the Internet of Things and artificial intelligence are the basis for the new generation of digital resources[6]. Based on M.Rudina's research, blockchain technology will significantly change the principles of the financial sector in the near future, By 2022, the costs of financial institutions will decrease by 15-20 billion dollars, and it is concluded that the share of global production occupied by blockchain will be 10 percent of the total GDP by 2027[7]. S.Sharoyan's research results also express these conclusions [8]. E. Mesropyan researches the tourism industry: "Civic" and "Loyal" development of a simplified and secure procedure for passenger identification, passenger tracking, "friendly" cooperation programs and the most effective between travel agencies and airlines. focuses on the process of forming a simplified payment implementation mechanism[9]. A.S.Sagynbekova, B. Tursunov's research studies the processes related to the role of the information communication system in the development of the country's export potential[11]. Research methods such as analysis and synthesis, induction and deduction, statistics and comparison were used in conducting the research.

## **3. Analysis and Results**

The digital economy is said to bring unprecedented change to more than half of the industries that exist today. For example, according to experts of the World Bank, a 10% increase in the number of high-speed Internet users allows to increase the gross volume of national economies by an average of 0.4-1.4% every year. The growth rate of the digital economy in the world is almost 20 percent per year. In developed countries, the share of the digital economy in the gross domestic product has reached 7%. They are already benefiting greatly from the introduction of the digital economy. In particular, the United States exports more than 400 billion USD of digital services per year. More than 5 percent of the country's gross domestic product is directly related to the Internet and information and telecommunication technologies. By 2025, the US will save an additional 20 trillion from the digitization of industry. dollar income is expected. It is noted that such economic efficiency is especially high in the production of consumer goods (\$10.3 trillion), the automotive industry (\$3.8 trillion), and logistics (\$3.9 trillion).[15] . According to the results of various studies, the weight of the digital economy in the world economy ranges from 4.5 to 15.5 percent. The United States and the People's Republic of China account for almost 40 percent of the value added in the global information and communication technology sector and 75 percent of the patents related to blockchain technologies. According to the statistics provided by the President of our country Sh. M.Mirziyoyev at the event dedicated to the development of information technologies on February 13, 2020, the share of the digital economy in the gross domestic product in the United States is 10.9 percent, in China it is 10 percent, and in India it is 5.5 percent. In Uzbekistan, this figure does not exceed 2 percent[1].

In the Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis dated January 24, 2020, in order to further develop science in our country, to educate our youth as possessors of deep knowledge, high spirituality and culture, and to rapidly continue the work we have started on the formation of a competitive economy, 2020 the proposal to name the year as "Year of Development of Science, Enlightenment and Digital Economy" literally confirmed the beginning of a historical turning point in the life of Uzbekistan in line with global development. In the conditions of globalization of the world economy and technological development, it is difficult to imagine the economic development of Uzbekistan without the digital economy. However, the fact that Uzbekistan occupies the 103rd place among more than 170 countries according to the international index of development of information and communication technologies indicates that there are still many issues that need to be solved in this field in our country. will give. The head of our state stated that "... our country has risen by 8 points in the international information and communication technology development index in 2019, but it is still very far behind. It is also true that most ministries, agencies, and enterprises are far from digital technologies. Of course, we know very well that building a digital economy requires the necessary infrastructure, a lot of money and labor resources. However, no matter how difficult it is, if we don't start it today, when will we start it?! Tomorrow will be too late. Therefore, active transition to the digital economy will be one of our top priorities in the next 5 years." It should be noted that some elements of the digital economy are already successfully operating in the life of our country. In particular, taking into account the mass transfer of documents and communications to digital means, authorization of electronic signatures, communication with the state is also being transferred to electronic platforms. some elements of the digital economy are already successfully operating in the life of our country. In particular, taking into account the mass transfer of documents and communications to digital means, authorization of electronic signatures, communication with the state is also being transferred to electronic platforms. some elements of the digital economy are already successfully operating in the life of our country. In

particular, taking into account the mass transfer of documents and communications to digital means, authorization of electronic signatures, communication with the state is also being transferred to electronic platforms.

To appreciate the growing importance and influence of digitization, it is enough to look at the share of the global market capitalization of several large technology companies and digital platforms in the last decade. In particular, according to the data of the UN Conference on Trade and Development, this figure was 16 percent in 2009, and reached 56 percent by the end of 2018. In the course of such rapid changes and intensifying competition in the world community, it is a fact that we will not be able to sustainably develop our country's economy and ensure its competitiveness in the near and far future without the widespread introduction of innovations and digital technologies. In turn, it requires strengthening scientific and practical efforts. In this regard, in recent years, a number of measures have been taken to introduce digital technologies into the socio-economic life and public administration system of our country as part of comprehensive reforms for the fundamental modernization of our national economy. In particular, the adoption of the decision of the President of the Republic of Uzbekistan "On measures to develop the digital economy in the Republic of Uzbekistan" dated July 3, 2018 No PD-3832 the most important development tasks were determined. For example, the introduction of the "Electronic Government" system in our country is an integral part of the development of the digital economy. In our country, consistent measures are being taken to modernize and develop the electronic government, including the system of providing public services, aimed at simplifying the transition from administrative procedures, improving the quality of life of the population, and improving the investment and business environment. On November 21, 2018, the Decision of the President of the Republic of Uzbekistan No. PD-4022 "On measures to further modernize the digital infrastructure in order to develop the digital economy" was adopted. In the decision, the creation of conditions for the rapid development of the digital economy, further improvement of the state management system, On December 18, 2018, the Decree of the President of the Republic of Uzbekistan No. PD-5598 "On additional measures to introduce digital economy, electronic government and information systems to the public administration of the Republic of Uzbekistan" was announced. In order to develop the digital economy, to ensure the introduction of the "Electronic Government" system, to create additional conditions for effective interaction between the population, business and the state, and also in 2017-2021 In accordance with the Strategy of Actions on the five priority directions of the development of the Republic of Uzbekistan, the Decree provides for the effective cooperation of the state, population and business of e-government, as well as it is intended to determine its target importance as a single national system for ensuring integration into the digital space of the world. By establishing a single national distributor for projects, a unified process (development, design, agreement, purchase of goods, works, services, as well as a single system of their commissioning) will be established. As a result, the state service delivery system in our country is constantly improving, the investment climate and the working environment are improving. On May 18, 2019, the Decision of the President of the Republic of Uzbekistan No. PD-4321 on "Measures to further improve the infrastructure of the digital economy and the "Electronic Government" system was announced.

Ensuring the implementation of the Strategy of Actions on the five priority directions of the development of the Republic of Uzbekistan in 2017-2021, as well as the Address of the President of the Republic of Uzbekistan to the Oliy Majlis on January 24, 2020, at the joint meeting of the parliamentary chambers and organizational meetings It was planned to implement various measures in order to effectively and timely implement the specified tasks [1]. There are innovative ways to combine and coordinate economic agents to cooperate and address specific goals. It should be noted that the impact of digital technologies on changing the composition of socio-economic systems at all levels is clear, but many aspects are not sufficiently studied. The following key issues are ignored:

- develop digital capacity to drive innovative growth at all levels of governance;
- institutionalization of the digital economy;
- directions, prospects and obstacles of business development in the digital economy;
- determining the place of the digital economy in the system of modern economic relations.

Development of the digital economy in the Republic of Uzbekistan is one of the priority tasks. In order to strengthen this process, the decision of the President of the Republic of Uzbekistan dated July 3, 2018 No. PD-3832 "On measures to develop the digital economy in the Republic of Uzbekistan" was signed, and relevant work is being carried out based on this decision. It envisages the creation of communication networks, "Blockchain" technologies, digital platforms working with various data, as well as an educational and research base in the country.

In our opinion, there are main factors that hinder structural changes at the regional level, taking into account the requirements of the digital economy, they are: appropriate infrastructure; information and communication technologies; insufficient level of digital literacy of a significant part of the population. In the conditions of digitization, the priority directions of targeted structural change of the regional economy are technological-modernization, cluster, market-competition, infrastructure, as well as social changes (Fig. I).

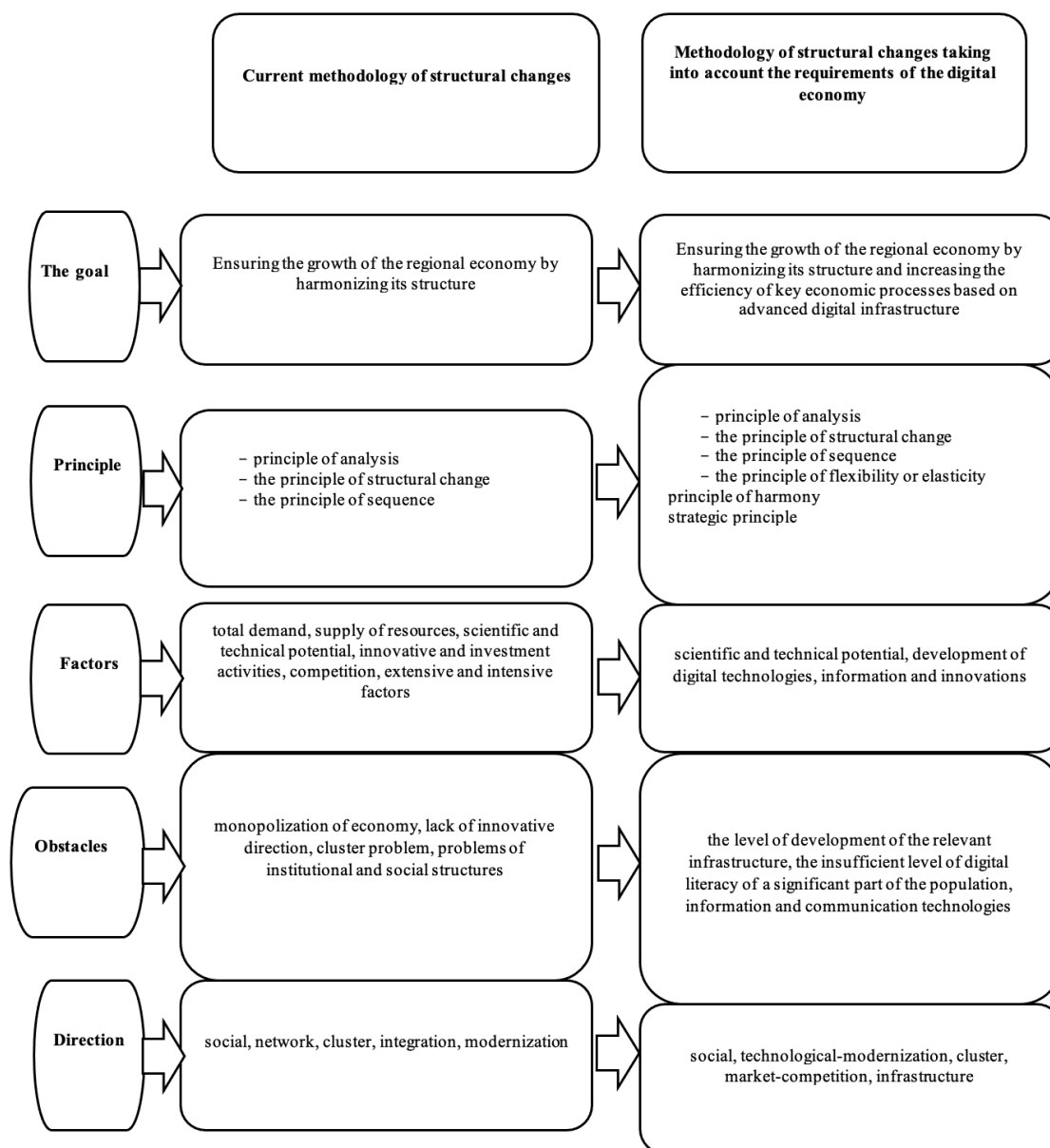


Figure 1: Change the content of structural changes taking into account digitization\*

\*Developed by authors based on research results.

Over the past four years, Uzbekistan has taken a big step in the development of information technologies, which helped to expand digitization processes in many sectors of the economy and increase its so-called digital share. The components of the digital economy include e-commerce, the "Electronic Government" system, the introduction of "smart" (smart) technologies in various sectors of the economy, service sectors, the creation of "Smart City", "Safe City", as well as the "Internet of Things" including wide usage and others.

While the level of development of the digital economy is directly related to the level of development of information and communication technologies (ICT), it is usually evaluated by different indicators. These indicators include: the share of the digital economy in the GDP, the volume of investments in the ICT industry, the speed of the Internet, its coverage of the territory of the country and its ease of use for the population, the level of development of e-commerce, the share of public services in the "Electronic Government" system, with experts in the field of

ICT provision of organizations and others. In addition, indicators of international ratings that evaluate the level of development of information technologies in the country are important.

Uzbekistan has made significant progress in most of these indicators since 2016. Thus, the gross added value created in the service sector in the "information and communication" sector has doubled since 2016, from 4.4 to 8.8 trillion soums, and the volume of services provided by the type of economic activity "information-communication" increased by 2 times, from 6.3 to 12.9 trillion soums.

A 4-fold increase in the volume of investments in fixed capital in the "information-communication" activity type during 2016-2020 (from 1.2 trillion soums to 4.8 trillion soums), including foreign investments and loans the 2.5 times increase in size (from 0.8 trillion soums to 2.0 trillion soums) created great opportunities for the development of the ICT sector.

Table 1: Growth dynamics of the volume of services in the field of "information and communication" in terms of gross added value in Uzbekistan in 2016-2020 (trln. soums)[15].

Indicators	2016	2017	2018	2019	2020
<b>GDP</b>	242.5	302.5	406.6	510.1	580.2
<b>Gross value added of industry</b>	220.1	267.7	361.1	464.9	535.8
<b>"Information-communication" fields</b>	<b>4.4</b>	<b>5.7</b>	<b>7.0</b>	<b>7.4</b>	<b>8.8</b>

It is worth noting that the indicators of Uzbekistan have improved in the international ratings for evaluating the development of information technologies in the country. Along with the place occupied in these ratings, an index is shown that takes into account several parameters at the same time, reflecting the state of development of this industry.

Table 2: Growth dynamics of the volume of services provided by the type of economic activity "information-communication" in 2016-2020(trln. soum)[15].

	2016	2017	2018	2019	2020
<b>services-total,</b>	97.1	118.8	150.9	193.7	218.9
<b>growth rate (%)</b>	114.7	110.7	108.9	113.2	102.3
<b>"information and communication" field</b>	<b>6.3</b>	<b>8.2</b>	<b>10.3</b>	<b>10.9</b>	<b>12.9</b>
<b>growth rate (%)</b>	114.6	121.3	115.9	108.3	115.3

One such index is the Telecommunication Infrastructure Index (TII), which is formed based on the following indicators per 100 inhabitants of the country: the number of Internet users and fixed telephone lines, as well as mobile subscribers, wireless broadband and fixed broadband networks. Since 2016, Uzbekistan has improved its index from 0.246 to 0.472.

At the end of 2017, the International Telecommunication Organization compiled the ICT Development Index (IDI) among 176 countries of the world. The IDI index consists of 11 statistical indicators reflecting the possibility of using ICT, the level of their use and the practical skills of using ICT by the population. Currently, a new methodology for compiling the IDI index is being developed. In the latest rating of the IDI index, Uzbekistan rose by 8 places compared to 2016 and took the 95th place among 176 countries of the world (index indicator - 4.9). In our opinion, it will be possible to achieve the following positive results by implementing structural changes of the regional economy, taking into account the requirements of the digital economy:

- 1) development of labor potential of personality, organization and society and growth of human capital;
- 2) creation of conditions for increasing labor mobility and business activity of the population based on non-standard forms of employment (freelance, temporary, remote, self-employment, etc.);
- 3) formation of digital infrastructure as a catalyst for investment activity in the region;
- 4) raising the standard of living of the population and improving the working conditions of individuals.

Thus, the requirements of the digital economy imply changing the content and essence of structural changes in the economy at the regional level, which consists in clarifying the goal, filling in the principles, expanding the composition of factors, and changing directions.

Summarizing the above, it is necessary to note the complexity and versatility of the regional economic system as an object of systematic change, which, in the conditions of adaptation to the requirements of digitalization, regional authorities, business and its representatives, scientific institutes, educational institutions, trade associations and residents to interact based on consensus and partnership. At the same time, today it is the priority task of regional authorities to eliminate the chaotic structural changes in the economy and to create a basis for market and administrative changes within the framework of the development of strategic and programmatic documents, which will improve society and the economy, including globalization, digitization, humanism and other development trends.

#### 4. Conclusion and suggestions

Digitization affects different countries differently, and individual governments require political space to regulate the digital economy to meet different legitimate public policy objectives. The handling and regulation of digital data is complex as it relates to human rights, commerce, the creation and capture of economic value, law enforcement, and national security. Formulating policies that take these different dimensions into account is difficult, but nonetheless necessary.

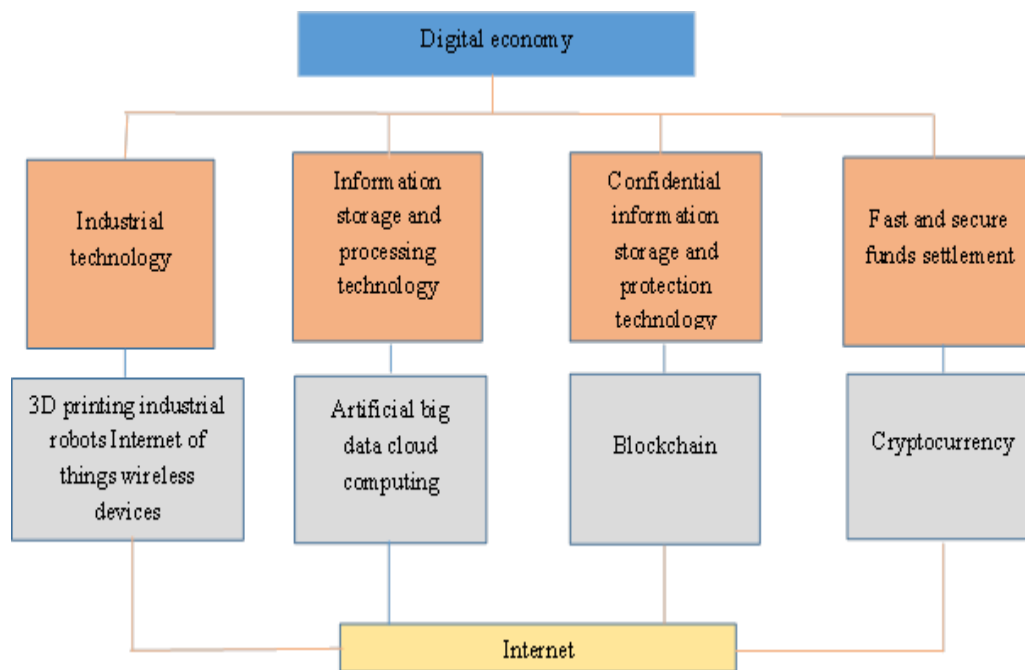


Figure 2: Technological composition of the digital economy\*.

\*Developed by authors based on research results.

By 2023, the share of the digital economy in the country's gross domestic product will be doubled by 2023, based on the Decision of the President of the Republic of Uzbekistan "On measures for the widespread introduction of the digital economy and electronic government" dated April 28, 2020, No. PD-4699 increase is provided. The economic development strategy is based on factors such as development of industry, internet trade, service sector and agriculture, strengthening of entrepreneurial initiative, provision of financial resources. The digital economy revolution is strongly felt in Internet trade, digital agriculture, "smart" electrical grid systems, unmanned transport, and personalized healthcare. Therefore, it is stated in the decision of the President of the Republic of Uzbekistan adopted on November 22, 2018:

In our opinion, in Uzbekistan It is desirable to ensure the practical implementation of the following tasks in the effective organization of the development factors of the digital economy:

- explore more comprehensive ways of supporting countries that are advancing in the digital economy;
- creation of regulatory and legal bases of digital economy in our country;
- creating the necessary infrastructure for the digital economy, first connecting areas with limited or no Internet access to the system;
- improving the activity of the system of training specialists-personnel necessary for the digital economy;
- governments, civil society, academia, the scientific community and the technology sector to develop joint research efforts to find new solutions;
- Smart use of new technologies, strengthening partnerships and strengthening intellectual leadership are needed to redefine the future contours of digital development strategies and globalization.

According to company executives interviewed by PwC, the biggest changes will come from technologies such as the Internet of Things and artificial intelligence. By 2020, significant growth is expected in the use of a number of other technologies among traditional enterprises and startups. In the near future, the biggest growth is expected in the segments of robotics and augmented reality technologies.

The amount of investments in different technologies varies significantly depending on the sectors and business models, taking into account the needs of individual industries, strategic goals and the desired results of individual companies. Most of the costs are spent on technologies that are considered "breakthroughs" and

technologies that reduce costs. For example, manufacturing companies are increasingly interested in robotics and 3D printers, while organizations in the financial services sector are looking at blockchain opportunities[12].

In the stock market, blockchain technologies are now mainly used in stock trading. NASDAQ, high-tech companies, the London Stock Exchange LSE, and JEG, which unites Japanese stock exchanges, are experimenting with blockchain. According to Goldman Sachs analysts, the use of blockchain in stock trading could save the industry \$6 billion annually[13].

Other non-financial market participants have also turned their attention to the technology and are looking for ways to take advantage of the opportunities it presents.

- Commodity and Commodity Transactions: The Real Asset Company works with clients and enables them to purchase bullion gold and silver;
- intellectual property: "Ascribe" service uses blockchain to create "electronic chips" used in unique identifiers and digital certificates;
- labor exchanges: the Verbatm protocol allows users to confirm the qualification of documents without the participation of third parties;
- power grids: a joint project between the European power grid operator TenneT and the German manufacturer Sonnen, which wants to redistribute excess energy produced by wind turbines and solar panels using jointly developed home energy storage systems;
- logistics supply chain: the use of blockchain allows to convert all data into a digital format, which significantly reduces costs and lowers the final price of the product, as well as real-time tracking of shipments, reducing the number of errors and fraud cases.

The transparency of blockchain technology, according to scientists and experts, will raise trust in a wide range of public services to a new level. In some countries, the processes of paying taxes, paying pensions, issuing passports, making entries in the land cadastre, improving the guarantees of goods delivery channels, health care, registration processes are already being implemented with the help of new technologies.

Depending on the needs of users, there are several models of their services: infrastructure as a service (Infrastructure as a Service), platform as a service (Platform as a Service), software as a service (Software as a Service), hardware as a service (Hardware as a Service), Workplace as a Service, Data as a Service, Security as a Service, Everything as a Service.

According to Gartner's forecast, in 2018 the global market of global cloud services grew by 21.4% and amounted to 186.4 billion dollars, compared to 153.5 billion dollars in 2017.

Table 3: Global market performance for public cloud services (billion USD)[14]

Types of cloud services	2017	2018	2019	2020	2021
<b>Cloud service in business processes (BPaaS)</b>	42.6	46.4	50.1	54.1	<b>58.4</b>
<b>Cloud Application as a Service (PaaS) in Infrastructure</b>	11.9	15.0	18.6	22.7	<b>27.3</b>
<b>Applied Cloud Services-Cloud Applications (SaaS)</b>	60.2	73.6	87.2	101.9	<b>117.1</b>
<b>Cloud management services and security</b>	8.7	10.5	12.3	14.1	<b>16.1</b>
<b>Cloud Infrastructure as a Service (IaaS)</b>	<b>30.0</b>	<b>40.8</b>	<b>52.9</b>	<b>67.4</b>	<b>83.5</b>

SaaS remains the largest segment of the cloud market: by 2021, SaaS is expected to account for 45% of all software spending. Within the PaaS group, dbPaaS is the fastest-growing segment - by 2021, this sub-segment is estimated to be worth nearly \$10 billion.

Currently, the number of objects that can be included in the IoT has exceeded the number of people. According to Cisco, the number of devices connected to the Internet increased from 1 million in 1992 to 28.4 billion in early 2018.

## References

- [1]. The state program of the President of the Republic of Uzbekistan on March 2, 2020 "Strategy of actions on five priority areas of development of the Republic of Uzbekistan in 2017-2021 in the year of development of science, enlightenment and digital economy" Decree No. PD-5953
- [2]. Decision No. PD-4022 of the President of the Republic of Uzbekistan of November 21, 2018 "On measures to further modernize the digital infrastructure for the purpose of developing the digital economy"
- [3]. Decision No. PD-4321 of the President of the Republic of Uzbekistan dated May 18, 2019 "On measures to further improve the infrastructure of the digital economy and the "Electronic Government" system"
- [4]. Address of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the Oliy Majlis of January 24, 2020

- [5]. Urasova A.A. Regional industrial complex in the digital era: information and communication dimension // Economics of the region. 2019. Vol. 15, no. 3. S. 684-694
- [6]. Mesenbourg, TL (2001) Measuring the Digital Economy / TL Mesenbourg // US Bureau of the Census [Electronic resource]. – Mode of Access: <https://www.census.gov/content/dam/Census/library/working-papers/2001/econ/digitalecon.pdf>. - Date of access: 22.10.2018.
- [7]. Rudina, M. Results of Blockchain & Bitcoin Conference Russia 2016 / M. Rudina // Proceedings of the Blockchain & Bitcoin Conference Russia, 2016 [Electronic resource]. – Access mode: <https://moscow.blockchainconf.world/en>. – Date of access: 10/12/2018.
- [8]. Sharoyan, S. The present future: why do banks and governments need bitcoin technology / S. Sharoyan // RBC [Electronic resource]. – Access mode: <http://www.rbc.ru/ins/finances/22/12/2015/5672d0e19a79476dabf5f683>. – Date of access: 10/12/2018.
- [9]. Mesropyan, E. 21 Areas of Blockchain Application Beyond Financial Services / E. Mesropyan // LTP [Electronic resource]. – Mode of Access: <https://letstalkpayments.com/21-areas-of-blockchain-application-beyond-financial-services/>. - Date of access: 8.10.2018.
- [10]. Sagynbekova A.S. Digital economy: concept, prospects, development trends in Russia - <http://www.tpinauka.ru/2018/04/Sagynbekova.pdf>
- [11].Tursunov, B. (2020) "EXPORT COMPETITIVENESS: THEORY AND PRACTICE," International Finance and Accounting: Vol. 2020: Iss. 3, Article 27.<https://uzjournals.edu.uz/interfinance/vol2020/iss3/27>.
- [12]. 2017 Digital IQ Worldwide Survey. Digital decade. Keeping up with the times // PwC [Electronic resource]. – Access mode: <https://www.pwc.ru/publications/global-digital-iq-survey-rus.pdf>. – Access date: 10/18/2018.
- [13]. Australian Stock Exchange moves to blockchain // High-tech [Electronic resource]. – Access mode: <https://hightech.fm/2017/12/07/blockchain-based-stock-exchange>. – Access date: 10/13/2018. [14]. Mode of Access: <https://letstalkpayments.com/21-areas-of-blockchain-application-beyond-financial-services>.
- [15].[www.worldbank.org](http://www.worldbank.org)