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Analysis of digitalization of the economy of the Republic of Uzbekistan

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Abstract: The rise of the digital economy is one of the characteristics of the 21st century. Digital technologies affect society and the economy in many ways, including through new means of communication and collaboration; new products with a strong service component; the role of information as a factor of economic growth; the automation of tasks using artificial intelligence (AI); and the emergence of new business models such as platforms. Therefore, digitization will fundamentally change the way we live and work together. This has consequences for the well-being and cohesion of society as a whole, as well as productivity, employment, skills, income distribution, trade, and environmental impacts for businesses in all sectors.

Keywords: E-commerce, digitalization, ICT, digital economy, AI

Introduction

Less is understood and said about how the traditional regulatory functions of government, including advanced regulatory practices, should evolve with these transformational changes. That's why it's so important to do this kind of work, especially since digital transformation is a constantly regulated process that creates regulatory needs. Industries such as retail, finance, communications, and entertainment have already been "digitized" in many countries.

The term "digital economy" was first coined in 1995 by Don Tapcott in The Digital Economy: Promise and Peril in the Age of Networked Intelligence. termed as This publication highlights fundamental innovations (semiconductors, processors), core technologies (computers), and connecting infrastructures (internet and telecommunications networks) among the key components of the digital economy. It is emphasized that it will bring about changes. For example, according to experts at the World Bank, a 10% increase in the number of high-speed Internet users allows for an increase in the gross domestic product of national economies of an average of 0.4–1.4% every year.

The rate of growth 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 of America exports more than $400 billion USD of digital services per year. More than 5% of the country's gross domestic product is directly related to the Internet and information and telecommunication technologies. By 2025, the US will get an additional $20 trillion from the digitization of the 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 automobile industry ($3.8 trillion), and logistics ($3.9 trillion).

According to the results of various studies, the weight of the digital economy in the world economy ranges from 4.5 percent to 15.5 percent. Almost 40 percent of the added value created in the global information and communication technology sector and 75 percent of the patents related to blockchain technologies are contributed by the United States of America and the People's Republic of China.

According to statistics provided by President SH. 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 indicator does not exceed 2 percent.

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Literature review

The digital economy was also described by Brynjolfsson and Kahin [2] as involving the digitization of information. They stressed the recent change of the economy to digitalization and the importance of information digitalization for further economic growth.

According to Lyotard [3], the advancement of IT technology and the widespread dissemination of knowledge enable the exchange of knowledge as a good in the market. The emergence of the digital economy is seen to be strongly influenced by the advancement of IT technologies. New media, such network-based databases, have emerged as a result of advanced IT technology, and the growth of computer networks and the Internet has made it simple to gather data and knowledge from all over the world. The amount of information or knowledge made possible by IT technology has raised their significance as economic production factors.

The knowledge-based society is thought to be one step closer thanks to the digital economy. By declaring that knowledge would serve as the foundation for making policy decisions and that knowledge workers who created and used information would gain in importance, Drucker [4] and Bell [5] provided a clear definition of the knowledge-based society. They insisted that in order to create and manage technology and policy systems that grew increasingly complicated and underwent significant change over time, theoretical understanding was important. Furthermore, they claimed that the expanding number of educated people will enhance the supply of knowledge workers. As knowledge industries grow, the entire society would transition from a market-based to a knowledge-based economy.

Results and discussions

Uzbekistan has experienced a revolution in the development of information technology over the past four years, which has helped to accelerate the process of digitalization in many sectors of the economy and increase the proportion of the economy that is referred to as "digital".

E-commerce, the Electronic Government system, the integration of smart technology into various service industries, the establishment of Smart Cities and Safe Cities systems, among other things, are frequently included in the list of the digital economy's constituent parts.

Table-1
"Information and Communication" in the GVA in 2016-2020 (trillion soums)

	2016	**2017**	**2018**	**2019**	**2020**
GDP	242.5	302.5	406.6	510.1	580.2
Gross value added	220.1	267.7	361.1	464.9	535.8
Information and Communication	**4.4**	**5.7**	**7.0**	**7.4**	**8.8**

Source: State Statistics Committee

Various metrics are typically used to measure the growth of the digital economy in a nation, which is closely tied to the ICT (information and communication technologies) level of development. The size of investments made in the ICT sector, the speed of the Internet, its coverage of the nation's territory and accessibility for use by the population are some examples of these indicators. Others include the degree to which e-commerce has developed, the proportion of public services included in the e-government system, the availability of organizations with ICT experts, and others. Indicators that measure the advancement of information technologies are also crucial.

Table-2
"Information and Communication" in 2016-2020 (trillion soums)

	2016	**2017**	**2018**	**2019**	**2020**
Total services	97.1	118.8	150.9	193.7	218.9
Growth rate in %	*114.7*	*110.7*	*108.9*	*113.2*	*102.3*

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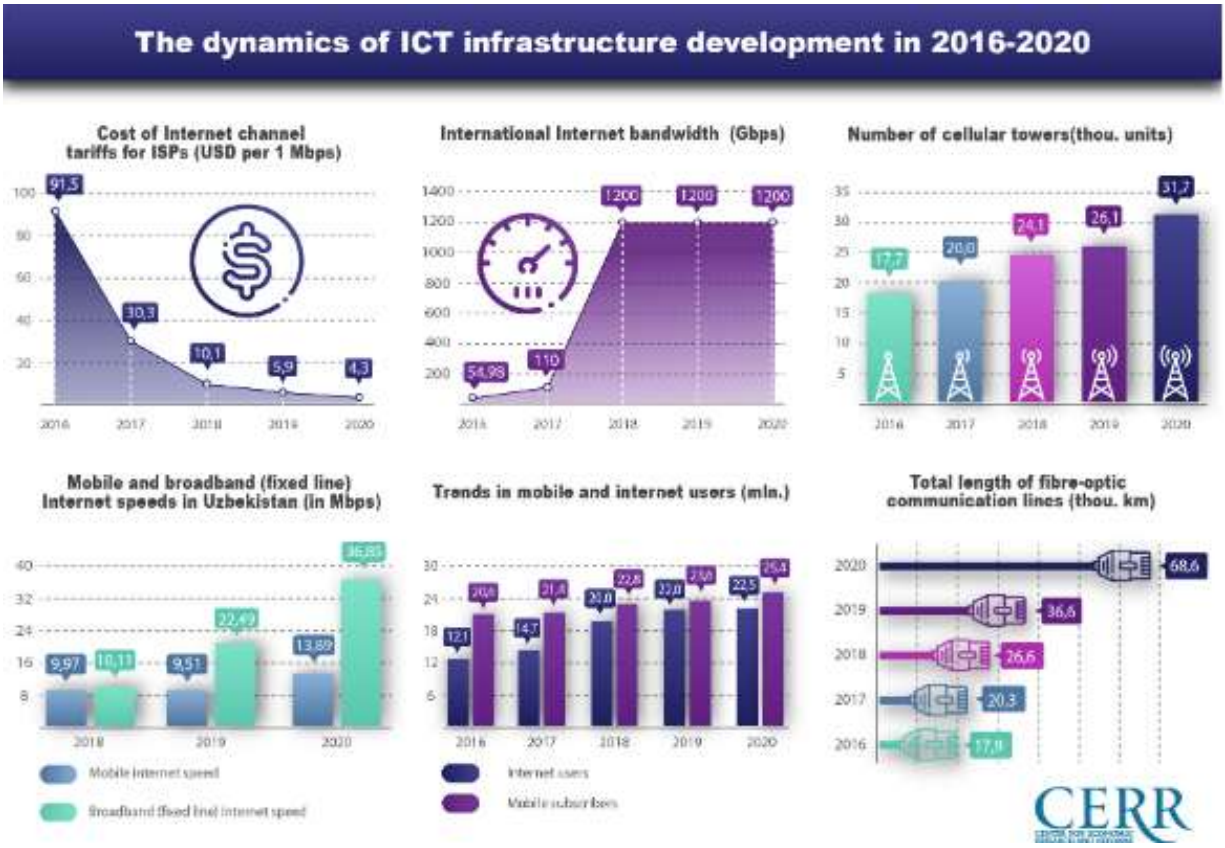
"Informatization and Communication"	**6.3**	**8.2**	**10.3**	**10.9**	**12.9**
Growth rate in %	*114.6*	*121.3*	*115.9*	*108.3*	*115.3*

Source: State Statistics Committee

The amount of fixed asset investments made by the category of activity "information and communication" helped the development of the ICT industry. It climbed four times, from 1.2 to 4.8 trillion soums, between 2016 and 2020, and the amount of loans and investments from outside increased 2.5 times, from 0.8 to 2.0 trillion soums



For evaluating the advancement of information technology in the nation, it is important to take note of Uzbekistan's triumphs in worldwide rankings. These ratings take into account multiple characteristics at once in addition to the location occupied.

One of these indices is the Telecommunication Infrastructure Index (TII), which is calculated based on the number of fixed telephone lines, Internet users, mobile subscribers, wireless broadband networks, and fixed broadband networks per 100 population of the nation. Uzbekistan's ranking on this indicator has increased from 0.246 to 0.472 since 2016.

The International Telecommunication Union compiled the ICT Development Index (IDI) towards the end of 2017 and looked at 176 nations. The IDI index comprises of 11 statistical measures that represent the population's access to ICTs, their level of use, and their practical proficiency with them. The IDI is currently being compiled using a new approach that is being created. Uzbekistan moved up 8 spots in the most recent IDI index rankings compared to 2016 to take 95th place (index - 4.9) out of 176 nations in the world.

The International Telecommunication Union also compiles the Global Cybersecurity Index, which evaluates the amount of pledges made by governments in five areas: capacity development, organizational measures, technological measures, legislative measures, and technical measures

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Table-3
Mobile Connectivity Index of Uzbekistan

2016	2017	2018	2019	2020
Mobile index	36,9	40,7	44,5	46,8
Place in the ranking (out of 170 countries)	134	132	127	124

Source: GSMA Mobile Connectivity Index

The global Association of Mobile Operators (commonly known as "Association GSMA"), which also includes all mobile operators in Uzbekistan, creates the mobile communications index. The index displays the maturity and adoption of the mobile Internet. The index evaluates how well 170 nations do in relation to the major factors influencing the uptake of mobile internet use, including infrastructure, consumer readiness, accessibility, content, and services.

Conclusion: suggestions and recommendations

In conclusion, it should be said that the qualitative development of economic sectors, the social sphere, and the state management system in the current period of human development and in the near future is directly related to the widespread introduction of digital technologies. The prospect of our country's development also depends on the development of the digital economy and the level of coverage of digital technologies. To achieve this, it is appropriate to list the following basic conditions and priorities for the development of the digital economy:

- the creation of an institutional environment and digital infrastructure for the stable operation of digital technologies, the provision of public services, the wide introduction of digital technologies in the real sector of the economy, healthcare, state cadastre, and other areas, as well as the territory of the Republic of Uzbekistan step by step to ensure as full coverage as possible with the possibilities of connecting to the global Internet network at the level of developed countries;
- to expand the scope of personnel training and to train qualified programmers, engineers, and technicians with deep knowledge in these areas, to teach modern information technologies that fully meet international standards at all stages of the educational system;
- including successful implementation of the "1 million programmers" project together with our foreign partners;
- bolstering the scientific-theoretical foundation in the field of digital economy and supporting scientific activities in this field through the strategic use of funds from the "Digital Trust" fund;
- holding seminars, courses, and other events in educational institutions in order to promote and expand "digital literacy" among broad sections of the population and involve them in mastering information technologies;

It is expected to strengthen the legal framework and improve the legal documents in the field of digital economy, as well as create the legal basis for the concept of "startup," its activities, and their financing through venture funds.

International experience shows that digital technologies are rapidly developing today, mainly in the scientific community and the private sector. Therefore, the state should create a favorable ecosystem by supporting innovative projects and IT companies in these areas. Also, the state should support modern methods of digital education in the field of supporting the innovative and digital ecosystem, develop norms for effective regulation of innovative services, help in the development of new markets, and reduce risks arising from the deepening of technological processes. It is appropriate to take measures.

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