# CHALLENGES FOR THE DEVELOPMENT OF DIGITAL TECHNOLOGIES IN UZBEKISTAN

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## ABSTRACT

The introduction of the digital economy into the real sector of the economy shows that its influence on economic processes is multifaceted, and this impact is sustainable and penetrates into all spheres of society, the state and the lives of the population. The digital economy, based on information technology platforms, is developing rapidly, which requires the creation of new models and technologies for such platforms.

These are conductor (complex) technologies of the digital economy:

- 1. Big data technologies;
- 2. Internet technologies (IoT Internet of Things);
- 3. Mobile technologies;
- 4. Cloud technologies (cloud computing);
- 5. Virtual and augmented technologies (VR virtual reality) (AR augmented reality);
- 6. Neurotechnology and artificial intelligence (AI);
- 7. Digital platforms;
- 8. Quantum technologies;
- 9. Robotics;
- 10. Blockchain and cryptocurrency technologies;
- 11. Crowdsourcing and crowdfunding.

#### DATA AND METHODS

In the process of research, theoretical methods of induction, deduction, generalization and comparison were used. The necessary materials are investigated on the basis of the methods of typological analysis, the synthesis of statistical data

# MAIN RESULTS

Currently in the Republic of Uzbekistan, one of the priority ways to introduce modern digital technologies into various spheres of social life is the gradual formation in the republic of a digital economy and a regulatory framework in the field of e-commerce. development of an electronic document management system, electronic payment to her [1]. As of 2021, the share of the digital economy in Uzbekistan's gross domestic product was 1.6 percent, in the USA - 9.3 percent, in China - 3.8 percent, in India - 8 percent.

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Digitalization of Uzbekistan began about 10 years ago. In 2012, the government of the republic approved the "Comprehensive Program for the Development of the National Information and Communication System." The implementation of the document was calculated for the period 2013–2020.

In July 2013, the country launched a Unified Portal of Interactive Government Services. In 2016, a unified OneID system became available to citizens of Uzbekistan on the my.gov.uz portal. It allows users to be identified, allowing access to a wide range of services from government agencies and commercial enterprises.

In 2017, the government of Uzbekistan approved an Action Strategy for five priority areas of development of the republic in 2017–2021. In 2020, the strategy "Digital Uzbekistan - 2030" was adopted, within the framework of which over 220 priority projects are planned, providing for the improvement of the e-government system, the further development of the domestic market for software products and information technologies, the organization of IT parks in all regions of the republic, providing this area with qualified personnel.

The effectiveness of Uzbekistan's latest digital reforms is reflected in the dynamics of international digitalization ratings:

• GovTech Quality Index, in the public services sector, Uzbekistan ranked 43rd in the world, rising 37 positions from 2020, and entered group "A", which includes countries such as Brazil, the Republic of Korea, and Saudi Arabia.

In 2022, Uzbekistan ranked 57th out of 193 countries in the OSI Online Services Index (Online Services Index) in the study on the development of e-government (UN E- Government Survey), conducted by the United Nations (UN) every two years

Uzbekistan has risen by 18 positions in the UN global e-government development ranking.

In the 2022 E- Government report Survey of the Republic ranks 69th among 193 countries in the world, next to Brunei, Colombia and Montenegro. In the previous version of the ranking, two years ago, the country ranked 87th, between Vietnam and Indonesia.

The review noted a significant improvement in online services in Uzbekistan. The country has moved closer to the group with a "very high" level of public service provision.

The Electronic Government Development Index (EGDI) of Uzbekistan has risen by 0.06 points over two years and is now 0.7265. This is noticeably higher than both the global average of 0.61 and the Asian average of 0.65.

For comparison, Denmark, which retained first place in the ranking, received 0.97 points, and the leader in the Asian region, South Korea, received 0.95. Kazakhstan remains the leader in e-government development in Central Asia with 0.86 points versus 0.83 two years earlier.

At the same time, the electronic participation index (EPI) in the new report fell to 0.61. If in 2020 Uzbekistan ranked 46th in this indicator, now it is only 55th.

UN experts noted "noticeable progress" in the provision of online services in almost all regions of the Earth. Their benefits for vulnerable groups of the population are emphasized - the poor, the elderly, people with disabilities, women, and youth.

However, digital development is only part of the overall system of sustainable development, the report's authors point out. According to them, one of the main lessons of the COVID-19 pandemic was the idea of a "hybrid future."

Digital solutions should not be an end goal, but a measure to support human development. The UN urged governments to remember that technological progress must serve the broader goal of human development and ensure that there are no left behind . no one behind).

Table 1. Countries of the former USSR in the e-government development ranking [2].

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A country	Position (2022)	Ball (2022)	Position (2020)	Ball (2020)
Kazakhstan	28	0.8628	29	0.8375
Russia	42	0.8162	36	0.8244
Ukraine	46	0.8029	69	0.7119
Belarus	58	0.7580	40	0.8084
Georgia	60	0.7501	65	0.7174
Armenia	64	0.7364	68	0.7136
Uzbekistan	69	0.7265	87	0.6665
Moldova	72	0.7251	79	0.6881
Kyrgyzstan	81	0.6977	83	0.6749
Azerbaijan	83	0.6937	70	0.7100
Tajikistan	129	0.5039	133	0.4649
Turkmenistan	137	0.4808	158	0.4034

According to the statistics agency, over the past five years the number of telecommunications and IT companies has increased by 1.8 times. At the beginning of 2023, more than 12 thousand ICT enterprises operate in the republic. The industry employs over 100 thousand people. At the end of 2022, the volume of ICT services increased by 125.5% and amounted to 22.9 trillion soums, of which 4.2 trillion soums were programming services provided by companies and specialists. The total revenue of the IT sector of Uzbekistan increased fourfold over the year. Exports of digital services increased to \$57.2 million. According to IT Park, net income amounted to more than 90% of revenue or 2.158 trillion soums.

By 2025, the global digital economy will reach \$23 trillion, its share in global GDP will increase from the current 17.1% to 24.3%. 100 billion connections will be installed worldwide to digitally transform utilities, industry and agriculture, transport, finance and more. The number of enterprises using cloud technologies is 85%, artificial intelligence - 86%, digital big data - 80% [2].

In the next two years, it is planned to attract about \$2.5 billion for the development of digital infrastructure. It is planned to launch three new large data centers in the cities of Tashkent, as well as further expand the fixed-line network and modernize the mobile network. As a result, households will receive Internet access at a speed of at least 10 Mbit/s in every locality.

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For the digitalization of agriculture, more than \$600 million will be raised to introduce modern agricultural technologies and innovative solutions.

The most important tasks of digitalization of economic processes in Uzbekistan in the coming years implementation and development of "blockchain" technology to diversify various forms of investment and economic activity, ensuring close interaction between government agencies and business entities in the implementation of innovative ideas, technologies and developments for the further development of the digital economy [3]. The state can stimulate the digitalization of economic processes by the following actions:

- act as an organizer of common technological platforms that unite various organizations, or as a regulator that prescriptively sets requirements for the use of certain technological solutions, since without synchronizing the processes of introducing standard technological solutions in entire segments of the economy, their widespread distribution is impossible;
- constantly improve the current regulatory framework governing the development of the digital economy, and do this through dialogue and taking into account the opinions of users, developers and service providers who, in practice, will encounter new types of objects and subjects of information law. relations requiring legal registration;
- become a participant in the general process of digitalization of relations, including through the development of an e-government system and a list of government services provided in electronic format;
- stimulate and encourage the implementation of information systems, electronic services in organizations and introduce tax incentives for the development of digital technologies, as well as cross-border online trade;
- train in the required quantities both IT specialists and programmers themselves, as well as qualified users capable of using constantly updated digital technologies;
- ensure security from cyber threats, as well as the confidence of all entities involved in the digital economy, to one degree or another, that the data they collect, store and use is protected from possible criminal activities;
- expand international cooperation and create attractive conditions for the influx and implementation of advanced information technologies in all areas of economic activity.

At the moment, large-scale reform in 2017, Uzbekistan achieved significant progress and changes in its economy and digitization, which led to the acceleration of the economic path. Information and communication technologies (ICT) and the Internet play a key role in the transformation of the economic system and society, the ability to increase labor productivity and increase economic efficiency.

### CONCLUSION

Today, Uzbekistan demonstrates the stable temperature of the digital system, as shown in the following:

- Active support and interest in the state and digital transformation through reforms, programs and initiatives.
- Developing digital infrastructure with positive dynamic indicators in the last few years.

• The right number of people who use digital technology and the Internet, with a high level of availability of the Internet and mobile communication throughout the country.

There are also factors that hinder the mass digitalization of enterprises in Uzbekistan:

- Qualified specialists of the area are needed: the implementation of digital instruments requires specialists of the area who have knowledge in the subject area, as well as skills in the information technology area.
- The pace of technological development and the creation of a normative base: the development of digital technology often involves the development and implementation of corresponding normative laws, which complicates implementation and business processes.

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