

THE EFFECTIVENESS OF DIGITALIZATION IN VARIOUS SECTORS IN NEW
UZBEKISTAN

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Introduction

The implementation of an e-government system and the development of a digital economy hold a strategic place in Uzbekistan's near-future development agenda. This primarily focuses on expanding the volume of electronic document exchange and gradually transitioning certain government services into digital formats via Public Service Centers. In this process, telecommunications infrastructure serves as a fundamental pillar, and its development plays a crucial role in the effective deployment of digital technologies. Today, we can observe that the economic, cultural, and other sectors of rapidly developing countries are increasingly based on digitalization. It is appropriate to regard this process as a defining feature of the 21st century. Therefore, comprehensive and practical efforts are being carried out in our country to advance and refine digitalization.

On December 20, under the leadership of President Shavkat Mirziyoyev, a video conference was held to address the priority tasks related to the development of information technologies and the digitalization of public administration across various sectors and regions.

Given the demands of the time, significant attention is being paid to improving the telecommunications infrastructure and digitalizing industries and sectors. This year alone, as part of the digital transformation in areas such as education, banking, finance, customs, agriculture, geology, and cadastre, **100 software projects** have been developed. Additionally, **over 500 new IT companies** have been established, and the sector has attracted **\$475 million** in direct foreign investment.

During the meeting, the President emphasized that digitalization must begin at the grassroots — the mahalla level. Consequently, responsible officials were instructed to launch a unified “Digital Mahalla” platform and train local leaders known as the “mahalla seven” in using digital systems. The current state of digitalization in ministries and sectors was also analyzed during the meeting. It was noted that **reducing production costs across economic sectors can only be achieved through digitalization.**

As we all know, on **September 11, 2023**, the Honorable President approved the “Uzbekistan – 2030” Strategy by decree. This strategy outlines the following key objectives:

- Joining the ranks of upper-middle-income countries through sustainable economic growth;
- Establishing education, healthcare, and social protection systems that fully meet public needs and international standards;
- Creating a favorable ecological environment for the population;
- Building a modern and just state that serves the people;
- Ensuring the nation’s sovereignty and security in a guaranteed manner [1].

The implementation and widespread promotion of the digital economy, alongside ongoing economic reforms, play a pivotal role in the sustainable development of New Uzbekistan’s economy. This process not only contributes to increasing production efficiency, improving the entrepreneurial climate, and expanding the use of innovative technologies to strengthen the

country's economic potential, but it also directly affects the quality of education and the state's future supply of qualified professionals.

As a result, the structure and role of higher education institutions in society and the economy are undergoing dynamic change. In today's globalized world, universities are engaged in intense competition to attract talented students, retain highly qualified faculty, and secure stable financial resources. In this competitive landscape, higher education institutions that actively adopt modern technologies, apply innovative approaches, and make efficient use of digital capabilities are gaining a significant advantage. This not only enhances their global reputation but also elevates the quality of education to a new level.

Therefore, it is crucial to pay special attention to these issues and resolve them systematically. The rapidly growing digital economy today is intrinsically linked to the level of internal economic development of nations and their integration into the global economy. Its proper organization is a vital factor in enhancing international competitiveness.

On **January 25, 2020**, President Shavkat Mirziyoyev, in his Address to the Oliy Majlis (Parliament) outlining the top priorities for that year, stated:

“In order to further develop science in our country, nurture our youth into well-educated individuals with high spiritual and cultural values, and build a competitive economy, I propose designating 2020 as the *Year of Science, Enlightenment, and Digital Economy Development*” [1]. New digital technologies are recognized as the foundation of the information society. An information society is defined as one in which the majority of its members are engaged in the production, storage, and processing of information [2].

Let us now examine data on enterprises and organizations based on types of economic activity:

Data on Enterprises and Organizations Operating in the Field of Information and Communication (by Type of Economic Activity, Annual)

Classifier	2019	2020	2021	2022	2023	2024
Web portals	49	70	97	109	128	137
Production stage of films, videos, and TV programs	44	42	53	59	63	44
Provision of wireless communication services	1065	1127	1382	1457	1588	1223
Other telecommunication services	606	805	1017	1255	1253	992
Software development	561	710	896	1121	1618	1602
Consulting services in computer technologies	272	309	387	461	536	583
Management of computer equipment	122	149	198	243	290	269
Other activities in IT and computer systems	1051	1217	1433	1596	1993	1694
Total in ICT sector	6975	7901	9517	10587	12204	10551

Number of Internet Subscribers (Individuals), by Region

Classifier	2019	2020	2021	2022	2023
Republic of Uzbekistan	15,750.8	19,241.3	22,112.1	25,167.9	28,166.7
Republic of Karakalpakstan	890.8	1032.8	1184.9	1386.5	1438.3
Andijan region	1206.8	1451.6	1752.6	1918.9	2228.4
Bukhara region	812.1	962.5	1147.6	1393.3	1449.2
Jizzakh region	542.4	636.9	756.7	1620.0	955.5
Kashkadarya region	1125.6	1400.8	1646.8	1650.6	2068.2
Navoi region	517.3	608.6	714.9	996.0	892.9
Namangan region	1164.9	1342.3	1585.5	1745.5	1962.1
Samarkand region	1468.4	1745.5	2069.8	2088.0	2624.7
Surkhandarya region	933.6	1123.7	1287.7	1312.3	1644.0
Syrdarya region	426.4	488.5	570.0	791.4	710.5
Tashkent region	957.0	1198.1	1418.7	1811.5	1906.3
Fergana region	1502.9	1882.4	2809.6	3184.6	3669.4
Khorezm region	848.1	985.5	1149.3	1435.4	1423.9
Tashkent city	3354.4	4382.1	4018.0	3834.1	5193.2

The Role of Digitalization in Education

Digitalization enables a more efficient and engaging learning process. In particular, the use of multimedia textbooks, interactive exercises, and virtual laboratories enriches learning materials both visually and practically. These innovative approaches help students gain a deeper understanding of topics and make it easier to consolidate their knowledge. Moreover, digital technologies make it possible to apply personalized teaching methods tailored to each student's learning pace and individual needs. This leads to more inclusive, adaptive, and effective education, contributing to higher learning outcomes and better student satisfaction. As a result, the quality of education increases, and the process of training specialists who are creative, capable of critical thinking, and responsive to the demands of modern society accelerates. The importance and necessity of digitalization in higher education institutions are growing day by day. This process is not only a means of enhancing educational quality but also a crucial factor in preparing globally competitive professionals. The integration of digital technologies makes the learning process more interactive, convenient, and efficient.

At the same time, the broad implementation of digitalization in higher education requires addressing several important organizational and technical issues. These include improving educators' skills and knowledge in effectively using digital technologies, adapting the educational process to new technological frameworks, and incorporating advanced innovative methods. Furthermore, the formation of modern digital infrastructure within universities, providing high-speed internet and advanced software solutions, and creating various digital learning resources and platforms for students are among the most urgent priorities.

Ultimately, digitalization not only modernizes and enhances the effectiveness of the higher education system but also enriches the learning process with innovative technologies, thereby contributing significantly to the students' professional development.

Conclusion

A working group from the Ministry of Higher Education, Science and Innovation reviewed the ongoing initiatives at Karshi State University.

Alongside broad positive changes within the enterprise systems across the Republic, Karshi State University has also been equipped with the latest technologies in both teaching and learning processes. The Information Resource Center now features modern computers, electronic resources with QR-coded literature, and updated technological infrastructure — creating expansive opportunities for students to access quality education.

Specifically, digitalization of the educational process has contributed to improving educational quality, increasing the effectiveness of scientific research, expanding the integration of science, education, and industry, fostering a healthy socio-spiritual environment, organizing students' free time meaningfully, strengthening the material-technical base, equipping academic laboratories with modern tools, and developing cooperative relationships with foreign educational and research institutions.

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