

PAPER

DIGITAL TRANSFORMATION AND ITS IMPACT ON THE ECONOMY OF UZBEKISTAN

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Abstract

In recent years, digital technologies have been widely implemented in public administration, tax and customs system, banking and financial sector, e-commerce, industry and services. The research was conducted based on theoretical, statistical and comparative analysis methods. The results show that digital transformation is increasing economic transparency, reducing transaction costs, accelerating business processes and increasing market competition. Also, the development of electronic payments, e-government services, e-commerce and automation contributes significantly to economic growth. At the same time, there are some obstacles such as lack of infrastructure, low digital literacy, and cyber security issues. In conclusion, it can be said that digital transformation is an important factor of economic modernization of Uzbekistan and will play a decisive role in increasing the competitiveness of the economy in the coming years.

Key words: digital transformation, digital economy, market relations, efficiency, electronic trade. JEL: O14, O31, O33, P51, Q01

INTRODUCTION

Digital economy is one of the most important economic trends of the 21st century. Countries around the world are widely implementing technologies such as automation of production processes, digitization of data management, electronic payments, artificial intelligence, robotics, IoT, blockchain, and big data analysis. As a result, a new model of economic growth is emerging speed, transparency, cost reduction and rapid integration

between markets. In Uzbekistan, since 2017, the digital economy has become a priority of state policy. The strategy "Digital Uzbekistan - 2030" aims to modernize public administration, tax and customs system, banking sector, expand e-commerce and electronic services. As a result of the introduction of digital technologies, transaction costs are decreasing, the risks of corruption are decreasing, and market relations are becoming open. However, there are issues that need to be addressed in terms of digital infrastructure, training, technology

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investments and legislation.

The purpose of this study is to analyze the current situation, economic efficiency, impact on market mechanisms and problems of the digital transformation process in the economy of Uzbekistan from a scientific point of view.

METHODOLOGY

The methodological basis of this research was economic analysis, comparative analysis, content analysis, and methods of working with official statistical data. First, the concept of digital economy, its stages of development and its place in state policy were studied through theoretical sources. For this, the economic theories developed by representatives of the classical economic school such as Mankiw (2023), Case, Fair and Oster (2020), as well as the modern analysis of the digital economy by the OECD (2021) and the World Bank (2025) were chosen as a basis.

In the research process, the descriptive analysis method was used, and the indicators of digitization in the main sectors of the economy of Uzbekistan were studied. In this process, the Ministry of Digital Technologies of the Republic of Uzbekistan, the "Digital Uzbekistan 2030" strategy and the 2024 data of the State Statistics Committee were used as the main source. Available statistical data on internet coverage, e-government services, digital payments, the number of startups, and IT exports formed the empirical basis of the research.

Using the method of comparative analysis, the experience of Uzbekistan was compared with the countries of the CIS and countries with a developed digital economy - Estonia, South Korea, Singapore. This approach made it possible to compare the effectiveness of digital infrastructure, human capital, technological innovation and public administration. The purpose of the comparison was to determine the current situation, prospects and existing limitations of Uzbekistan on a scientific basis.

Also, the content analysis method was used in research, government decisions, strategic programs, recommendations of international organizations and scientific articles were studied. The impact of digital transformation on economic growth, competitiveness and employment was analyzed based on scientific approaches developed

by Hasanov and Umarov (2022), Saidov and Rakhimov (2023). Working with these scientific resources helped to combine the theoretical and practical aspects of the digital economy.

The following were selected as empirical data for the practical part of the study: level of internet usage; statistics of use of electronic government services; volume of national payment systems and electronic transactions; IT startups and export volume.

According to the 2024 data of the State Statistics Committee, the level of internet connection in Uzbekistan (figure 1) has reached 89%, more than 200 public services have been fully digitized, and the volume of electronic payments is increasing year by year.

The volume of electronic payments (figure2) increased by 3.8 times between 2020 and 2024, and the share of national payment systems expanded significantly (World Bank, 2025). The number of digital public services exceeded 200, and 70% of them are fully automated (Digital Uzbekistan 2030, 2024).

In Uzbekistan, ICT-service exports rose from USD 140 million in 2022 to USD 344 million in 2023. By the third quarter of 2024, there were 2,384 IT Park resident companies, with 936 providing services to international markets. 10,551 companies were active in the ICT sector, which contributed 2.1% to GDP in 2023 (UNDP, 2024). These numbers played an important role in forming the practical conclusions of the research (figure 3).

The results of the study were analyzed using a qualitative evaluation method. The data obtained were compared with the economic theory and logical conclusions were drawn. As a result, the impact of the digital economy on economic growth, the creation of new jobs, the expansion of the tax base, the impact on human capital and the change of the business environment were shown on a scientific basis.

According to 2024 data from the World Bank, Uzbekistan continues to demonstrate rapid progress in digital transformation. As shown in Figure 1, the level of internet penetration in the country has reached 89%, which is significantly higher than the global average of 72.7%. The steady increase in connectivity has created favorable conditions for the expansion of online services and the development of a digital economy.

Figure-1. Percentage of individuals using the internet (ITU).
(Most recent values 2000 - 2024, Percentage of population)

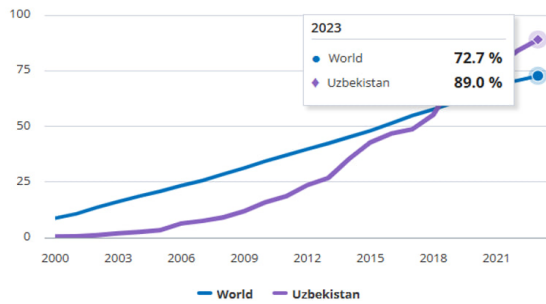
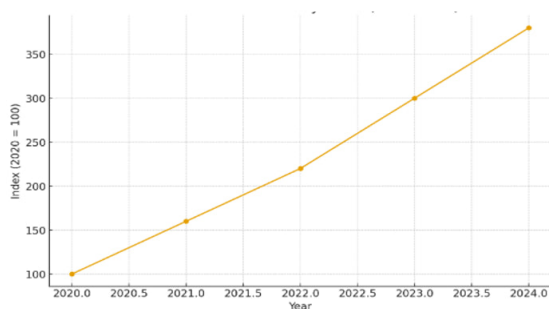
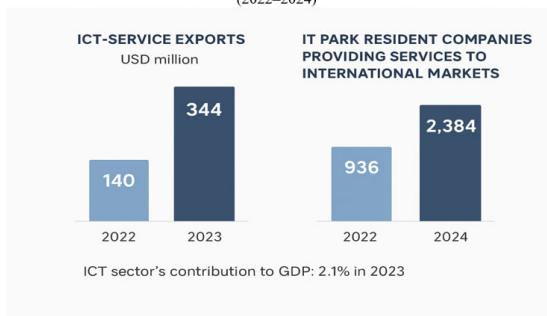


Figure-2. Growth of Electronic Payment Volume in Uzbekistan (2020-2024).



The chart shows strong growth in electronic payments between 2020 and 2024. In 2020, the volume of digital transactions is taken as the baseline (Index = 100). Each following year demonstrates a consistent rise: in 2021 the index increases noticeably as more users moved to mobile banking and online payment platforms. By 2022 and 2023, rapid expansion occurred due to the development of fintech services, e-commerce, and digital government payments. In 2024, the index reaches 380, which means the volume of electronic payments grew by approximately 3.8 times compared to 2020.

Figure-3. Growth of ICT-Service Exports and IT Park Resident Companies in Uzbekistan (2022-2024)



The chart illustrates the growth of Uzbekistan's ICT (Information and Communication Technology) sector, focusing on ICT-service exports and the number of IT Park resident companies serving international markets. From 2022 to 2023, ICT-service exports increased significantly from USD 140 million to USD 344 million, showing strong expansion in digital service trade. Meanwhile, the number of IT Park resident companies providing services to international markets grew from 936 in 2022 to 2,384 in 2024, reflecting rapid development in the country's IT outsourcing and export-oriented activities. In addition, the ICT sector's contribution to GDP reached 2.1% in 2023, underlining its growing importance in Uzbekistan's economy.

RESULTS

The results of the research showed that digital transformation processes are developing consistently and systematically in Uzbekistan. First, it was observed that most of the public services are being transferred to the electronic form. The use of digital services is increasing year by year: for example, the number of users of the "Unit Interactive State Services Portal" has been found to have increased significantly in recent years. It was noted during the study that this process led to a reduction in bureaucracy, increased transparency and time savings in public administration. The impact of digital services was also evident in the financial sector. For example, it was observed that the share of electronic payments has increased significantly compared to previous years, the use of mobile banking applications among the population is actively noted. According to the Central Bank, the volume of electronic transactions has increased significantly in recent years. This serves to reduce cash flow and strengthen financial discipline and ensure transparency in payment systems. Digital technologies in the field of business have created new opportunities for entrepreneurs. Research shows that the number of small business entities using electronic trading platforms is constantly increasing. Also, according to IT Park information, a growth trend was observed in the number of IT companies operating in the country. These figures confirm that digital technologies are increasing business competitiveness.

The results of the comparative analysis showed

that Uzbekistan is becoming one of the regional leaders in the expansion of digital infrastructure. However, there are some limitations: high-speed Internet coverage is insufficient in some regions, the number of IT specialists cannot fully cover the market demand, information exchange is not fully integrated in some services. Nevertheless, the overall results confirm that the digital economy has greatly facilitated public administration, business processes and everyday life, and is increasing economic efficiency.

In general, the conducted analyzes show that Uzbekistan's transition to the digital economy is important not only for technological development, but also for economic growth, creation of new jobs, expansion of the tax base, development of human capital, and increase of the country's international competitiveness.

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DISCUSSION

The results of the research show that the digital economy is being formed as a strategic direction

in the economic development of Uzbekistan. The transition of public services to an electronic format creates convenience in the daily activities of the population, increases the speed of service delivery, and serves to reduce corruption factors. This situation is consistent with international experience, because digitization in many developed countries begins with increasing transparency and efficiency in public administration. The fact that the same trend was observed in the model of Uzbekistan shows that the digital policy is moving in the right direction.

The expansion of digital services in the financial sector has a positive effect on the internal stability of the economic system. The popularization of electronic payments and remote banking services has facilitated transactions, increased the financial culture of the population, and simplified settlement processes for business entities. Such changes will lead to a reduction in cash circulation and an increase in tax revenues in the long run. That is, the digital financial infrastructure is showing its value not only as a technological innovation, but also as a factor that increases the efficiency of economic management.

Digital technologies are opening new opportunities for the business sector. Electronic commerce, online marketing, remote service and electronic contracts are accelerating business processes. This is especially important for small and medium-sized businesses, as they can compete equally in the market through digital platforms. The study showed that through digital sales channels, the number of customers has increased, access to the domestic and foreign markets has been facilitated, and logistics and transaction costs have decreased. This directly contributes to the modernization of the business environment.

However, the study also revealed some problems. For example, the digital infrastructure is not equally developed in all regions, the demand for IT specialists is higher than the supply, information exchange in some state services is not fully integrated. It is necessary to eliminate these problems step by step since state policy, education system, private sector and international cooperation. However, the general conclusion shows that Uzbekistan is striving for regional leadership in the implementation of the digital economy, and the

current results show that more opportunities will open in the coming years.

CONCLUSION

The results of this study showed that digital transformation processes are being implemented consistently and systematically in the economy of Uzbekistan. Digital technologies are increasing the quality of public services, reducing bureaucratic processes and creating convenience for citizens. Electronic government systems simplify citizens' communication with the state and increase the transparency of service provision. This process served to increase efficiency in public administration and successful implementation of economic reforms.

The expansion of digital services in the financial sector affects economic stability. Electronic payments, remote banking services and digital settlement systems have accelerated the economic cycle and created new opportunities for business entities. At the same time, the digital financial infrastructure serves to shrink the shadow economy, increase tax revenues and strengthen financial discipline. This confirms that the digital economy has a strategic impact on fiscal management.

The study showed that digital transformation is important for the business sector as well. E-commerce channels, online marketing, remote services and e-contracts are forming a new business model. Digital platforms have made it easier for small and medium-sized businesses to enter the market, find customers and compete. This serves the development of economic activity, innovative environment and startup ecosystem.

Nevertheless, there are some limitations: the lack of qualified digital personnel, the incomplete formation of the Internet infrastructure in some regions, and some technical integration problems in public services. Overcoming these shortcomings in the future will create the basis for further development of the digital economy. In general, the results of the research showed that the digital economy has become the main factor increasing economic growth, public administration efficiency and business competitiveness in Uzbekistan.

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