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Digital Economy and ICY Development in Uzbekistan

Gulshat Karlibaeva, DSc, Associate professor
Tashkent State University of Economics (Uzbekistan)
E-mail: karlibaeva.gulya@gmail.com
Sayid Akhror Juraev, MSc student
Tashkent State University of Economics (Uzbekistan)
E-mail: sa1daxror@yandex.com

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Correspondence:
E-mail:
karlibaeva.gulya@gmail.com,
sa1daxror@yandex.com

ABSTRACT

The digital economy is becoming one of the most important drivers of modern economic development. Rapid digitalization affects almost all spheres of society, including government administration, business, education, healthcare, finance, and communication. Uzbekistan, as a developing country, has made significant progress in digital transformation in recent years. The government has adopted a number of strategic programs aimed at developing information and communication technologies (ICT), e-government, digital services, and innovative startups. This article analyzes the current state of the digital economy in Uzbekistan, examines the main trends in ICT development, and identifies key challenges and future prospects.

Special attention is paid to the "Digital Uzbekistan - 2030" strategy, the modernization of telecommunications infrastructure, the development of digital banking, and the expansion of e-commerce. The research also considers the impact of digital technologies on employment, education, productivity, and international competitiveness. The article concludes that although Uzbekistan is making noticeable progress in the field of digital transformation, there is still a need for further reforms, international cooperation and large investments in human capital

1. Introduction

In the 21st century, the digital economy has emerged as a cornerstone of sustainable economic growth. Countries that aggressively implement digital technology attain elevated levels of productivity, transparency, and innovation. The advancement of information and communication technology (ICT) enables governments to enhance services for residents and improves the efficiency of commercial operations. Consequently, the populace's standard of living enhances.

Uzbekistan has acknowledged the significance of digital transformation and has commenced extensive reforms in this area. In recent years, internet coverage has broadened, the quality of

mobile communication has enhanced, and online public services have become increasingly accessible. Digitalisation is currently regarded as a primary focus of the national development plan.

The advancement of ICT infrastructure, digital platforms, and online services significantly enhances national competitiveness and elevates socio-economic conditions. Governments around are incorporating digital technologies into governmental administration, financial systems, and education.

This article is to examine the impact of the digital economy and information and communication technology on the socio-economic development of Uzbekistan. The primary aims of the research are:

- ✔ to ascertain the present condition of ICT infrastructure,
- ✔ to evaluate governmental activities in digital transformation,
- ✔ to assess the influence of digital technology on the national economy.

2. Literature Review

A multitude of worldwide researchers have examined the influence of the digital economy on country growth. Reports from the World Bank[1] and the International Telecommunication Union (ITU) indicate that nations investing in ICT infrastructure get accelerated economic growth and enhanced social metrics.

Digital technologies diminish transaction costs, enhance information accessibility, and generate novel company strategies. Academics assert that digitalisation is pivotal in developing nations as it facilitates the surmounting of conventional obstacles like inadequate infrastructure and restricted market access. Tapscott[2] (1996) contends that the digital economy revolutionises conventional economic frameworks by incorporating information technologies into corporate operations and market engagements.

E-commerce platforms enable local producers to access worldwide buyers, while digital financial services facilitate individual savings and credit acquisition.

[1] World Bank. (2024). *The Promise of Services-Led Growth in Uzbekistan.* Washington, DC: World Bank.
[2] Tapscott, D. (1996). *The Digital Economy: Promise and Peril in the Age of Networked Intelligence.* New York: McGraw-Hill.

Numerous studies emphasise the necessity of modernising telecommunications infrastructure and enhancing digital literacy in Central Asia. Scholars contend that without adequate education and training, societies cannot properly capitalise on technological advancements. Bukht and Heeks[3] (2017) assert that the digital economy generates novel prospects for economic expansion, necessitating robust institutional backing, technological infrastructure, and the advancement of human capital.

Recent research on Uzbekistan's digital transformation highlights that governmental measures, particularly the “Digital Uzbekistan - 2030” policy, are pivotal in expediting digital advancement, enhancing public services, and fostering innovation within the national economy (UNDP, 2024). These changes seek to enhance ICT infrastructure, cultivate digital competencies, and bolster economic competitiveness. Consequently, investment in human capital is equally vital as investment in technology[4].

The Concept of the Digital Economy. The digital economy encompasses economic activity grounded in digital technologies, including: the World Wide Web, massive data sets, artificial intelligence, cloud computing, blockchain technologies.

In a digital economy, data emerges as one of the most valuable assets. Organisations utilise digital platforms to engage with clients, assess consumer behaviour, and enhance manufacturing processes.

A primary characteristic of the digital economy is the swift dissemination of information, which expedites decision-making processes and enhances market dynamism. New professions, such data analysts, software developers, and digital marketers, have developed, while conventional occupations are seeing transition.

A significant aspect is the increasing importance of innovation. Startups and technology firms are essential in developing innovative products and services. The labour market structure is evolving, leading to the emergence of new professional skill and knowledge requirements.

3. Methodology

This study employs a qualitative analytical methodology alongside descriptive statistical analysis to investigate the evolution of the digital economy and information and communication technology (ICT) in Uzbekistan. The study examines critical trends, governmental policies, and

[3] Bukht, R., & Heeks, R. (2017). *Defining, conceptualising and measuring the digital economy.* Development Informatics Working Paper No. 68, University of Manchester.

[4] United Nations Development Programme. (2024). *Digital Economy Study of Uzbekistan.* New York: UNDP.

socio-economic effects of digital transformation from 2015 to 2024.

The analysis utilises secondary data sourced from official national and international entities, including the State Committee of the Republic of Uzbekistan on Statistics, the Ministry of Digital Technologies, the "Digital Uzbekistan - 2030" strategy, the World Bank, and the International Telecommunication Union (ITU).

The primary research methodologies encompass literature review, policy analysis, and comparative analysis. Descriptive statistical techniques were employed to examine essential metrics including Internet penetration, mobile communication utilisation, ICT sector contribution to GDP, and the advancement of digital government services. The findings are displayed in tables and graphs to depict the processes of digital transformation in Uzbekistan.

4. Results

Information and Communication Technology Development in Uzbekistan. The analysis indicates substantial advancement in the evolution of information and communication technologies (ICT) in Uzbekistan during the past decade. Internet penetration has surged, and mobile broadband services are now accessible in the majority of the country, including rural parts. Government investments in digital infrastructure have facilitated the growth of fiber-optic communication networks, the development of contemporary data centers, and the implementation of advanced mobile communication technologies, including 4G and 5G.

Consequently, the quantity of Internet users and digital service subscribers has consistently increased from 2015 to 2024. The enhancement of broadband infrastructure has facilitated increased access to digital platforms and online services for both enterprises and households[5].

Alongside infrastructure development, Uzbekistan has established multiple IT parks and innovation centers in key cities. These entities furnish assistance to startups, extend tax incentives, and establish conducive environments for technological entrepreneurship. As a result, the quantity of IT firms, digital startups, and freelancing professionals has risen in recent years.

The cultivation of digital competencies has emerged as a significant goal. Numerous universities and educational institutions have implemented academic programs in computer science, programming, and cybersecurity, thereby facilitating the development of qualified professionals

[5] Ministry of Digital Technologies of the Republic of Uzbekistan. (2024). *Digital Uzbekistan - 2030 Strategy.*

for the digital economy.

Government Initiative "Digital Uzbekistan – 2030"[6]. A primary catalyst for digital change in Uzbekistan is the national strategy "Digital Uzbekistan - 2030." The main goal of this program is to expedite the adoption of digital technology in public administration and economic sectors.

The approach emphasises multiple critical domains of digital advancement, encompassing:

- advancement of electronic government systems,
- digital transformation of healthcare services
- execution of intelligent urban technology,
- augmentation of digital learning platforms.

This program has resulted in the substantial transition of public services to digital platforms. Citizens can now conduct numerous administrative activities online, including applying for official documents, remitting taxes, registering enterprises, and acquiring certificates electronically.

The digitalisation of public services has enhanced openness, diminished administrative obstacles, and optimised efficiency in governmental operations. The approach also fosters the enhancement of digital skills via training programs and online educational courses designed to improve computer literacy and professional competences within the population.

Information and Communication Technology development in Uzbekistan. In the past decade, Uzbekistan has significantly enhanced its ICT infrastructure. The quantity of internet users has risen markedly, and mobile broadband services are now accessible even in isolated regions. The government has allocated resources to fiber-optic networks, data centers, and mobile communication technologies including 4G and 5G.

Uzbekistan has created information technology parks and innovation centers in prominent cities. These facilities offer assistance to startups, provide tax incentives, and foster a conducive environment for emerging entrepreneurs and innovators. Consequently, the quantity of local IT firms and freelancers is increasing annually.

Furthermore, numerous educational institutions have commenced providing programs in

[6] Government of Uzbekistan. (2020). *Strategy for the Development of the Digital Economy and E-Government ("Digital Uzbekistan - 2030")*

computer science, programming, and cybersecurity. This fosters the emergence of a new cohort of highly skilled digital professionals capable of competing in the global marketplace.

Effects on commerce, finance, and academia. Digital revolution has profoundly impacted the corporate sector in Uzbekistan. A multitude of organisations have been utilising internet platforms for the sale of products and services. E-commerce is advancing swiftly, with an increasing number of people favouring online purchasing over conventional markets.

The banking sector has experienced significant transformations. Mobile banking applications, online payment systems, and digital wallets are extensively utilised. This enhances the accessibility of financial services, particularly for individuals residing in remote regions. Fintech firms are assuming a progressively significant position in the national economy.

In education, digital technologies enable students to engage in remote learning and access global educational resources. Online classes, webinars, and virtual classrooms have become prevalent. This enhances educational opportunities and elevates the quality of education in the nation.

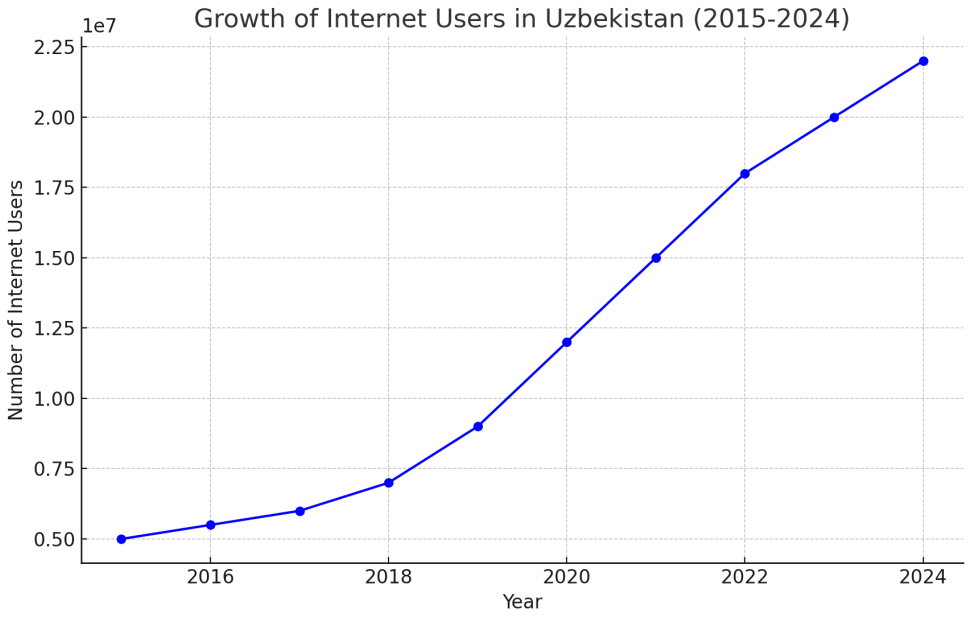
Obstacles and current issues. Notwithstanding considerable advancements, Uzbekistan continues to encounter some obstacles in the evolution of its digital economy. A primary issue is the disproportionate allocation of digital infrastructure between urban and rural regions. In certain isolated areas, internet speed and quality continue to be subpar.

A significant concern is the deficiency of highly skilled professionals in specific fields, including artificial intelligence, cybersecurity, and data analysis. Despite advancements in the school system, it requires additional modernisation to align with worldwide standards.

Cybersecurity is increasingly emerging as a critical issue. With the proliferation of digital services, the threat of cyber-attacks and data breaches escalates. Consequently, it is imperative to enhance legislative frameworks and augment information security systems.

Figure 1. Growth of Internet Users in Uzbekistan (2015-2024)[7]

[7] National Statistics Committee of the Republic of Uzbekistan. (2024). *Digital Economy and ICT Development Statistics.* Tashkent.



The figure 1 depicts the consistent increase of Internet users in Uzbekistan from 2015 to 2024. The user base grew from over 5 million in 2015 to over 22 million in 2024, indicating the swift development of digital infrastructure and enhanced access to broadband Internet services. This rise is mostly due to governmental expenditures in fiber-optic networks, the proliferation of mobile broadband technologies, and the execution of national digitalisation initiatives. The notable rise following 2019–2020 signifies expedited digital adoption, partially propelled by the advancement of e-government platforms, online education, and digital business services.

Figure 2. Growth of Mobile Banking Users in Uzbekistan (2015-2024)[8]

[8] National Statistics Committee of the Republic of Uzbekistan. (2024). *Digital Economy and ICT Development Statistics.* Tashkent.

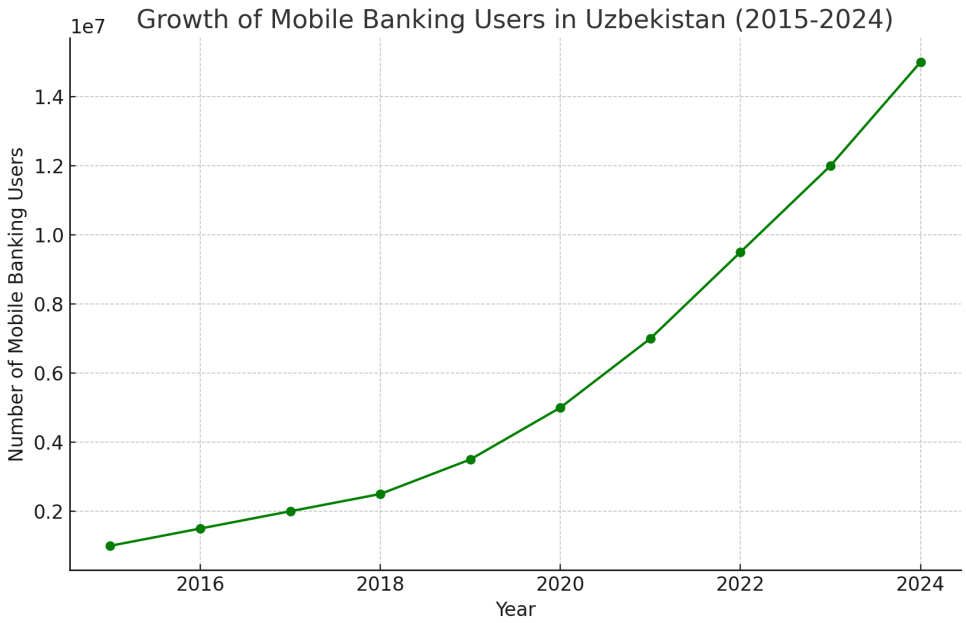


Figure 2 illustrates the swift proliferation of mobile banking services in Uzbekistan throughout the examined timeframe. The quantity of mobile banking customers surged markedly, especially post-2020, as digital financial services gained broader acceptance. This expansion shows the extensive digital revolution within the financial sector, encompassing the emergence of mobile payment systems, digital wallets, and online banking services. The rising adoption of mobile banking has enhanced access to financial services, particularly for those in remote regions, and has fostered the growth of the fintech ecosystem in Uzbekistan.

5. Discussion

This research results indicate that Uzbekistan has made substantial advancements in digital infrastructure and ICT during the past decade. The swift increase in Internet access, the proliferation of mobile connection, and the rising impact of the ICT sector on GDP signify that digital transformation is emerging as a crucial catalyst for economic modernisation. The rise in Internet customers from 8.34 million in 2015 to over 32 million in 2024 indicates a significant enhancement in digital accessibility and connectivity nationwide.

The findings align with the theoretical assertions of Tapscott[9] (1996) and Bukht and Heeks[10] (2017), who assert that digital technologies fundamentally alter economic frameworks by enhancing information accessibility, diminishing transaction costs, and facilitating novel business models. Comparable tendencies have been noted in other developing economies, where the enhancement of ICT infrastructure has facilitated productivity growth and innovation.

The findings underscore the significance of governmental policy in expediting digital transformation. The execution of the national policy "Digital Uzbekistan - 2030" has been instrumental in enhancing e-government services, fostering digital entrepreneurship, and advancing ICT infrastructure development. The results indicate that the rising proportion of Internet services in communication revenues and the expansion of the information economy illustrate that digital technologies are becoming essential to the national economic framework.

The findings indicate that advancements in the digital economy will rely on the enhancement of human capital, digital competencies, and technology innovation. International studies, including those from the World Bank and UNDP, indicate that investments in education, digital literacy, and research are crucial for achieving sustainable and inclusive economic growth through digital transformation.

The analysis indicates that Uzbekistan is progressing from the preliminary phase of digital infrastructure development to a more advanced stage marked by the proliferation of digital services, e-commerce, and innovation ecosystems. Nevertheless, sustained policy support and investment in technology capabilities will be essential to fully actualise the potential of the digital economy.

6. Conclusion

This paper's findings indicate that the advancement of the digital economy and ICT is pivotal to the socio-economic modernisation of Uzbekistan. In the last ten years, the nation has achieved considerable advancements in enhancing digital infrastructure, augmenting Internet accessibility, and fostering the adoption of digital services across multiple economic sectors.

The findings demonstrate that governmental actions, especially the execution of the national policy "Digital Uzbekistan - 2030," have facilitated the swift advancement of ICT infrastructure, the proliferation of e-government services, and the enhancement of digital entrepreneurship.

[9] Tapscott, D. (1996). *The Digital Economy: Promise and Peril in the Age of Networked Intelligence.* New York: McGraw-Hill.

[10] Bukht, R., & Heeks, R. (2017). *Defining, conceptualising and measuring the digital economy.* Development Informatics Working Paper No. 68, University of Manchester.

These modifications have enhanced the efficacy of governmental administration, augmented access to financial and educational services, and facilitated the advancement of innovative company models.

The study concurrently emphasises various challenges that could impact the future evolution of the digital economy. This encompasses the necessity for enhanced digital infrastructure in remote areas, fortifying cybersecurity frameworks, and cultivating advanced digital competencies within the workforce.

The ongoing advancement of Uzbekistan's digital economy will rely on persistent investment in technology, education, and innovation, alongside efficient collaboration among the government, business sector, and international stakeholders. Fortifying these sectors will allow Uzbekistan to augment its competitiveness and deepen its integration into the global digital economy.

7. References

1. Tapscott, D. (1996). *The Digital Economy: Promise and Peril in the Age of Networked Intelligence.* New York: McGraw-Hill.
2. Bukht, R., & Heeks, R. (2017). *Defining, conceptualising and measuring the digital economy.* Development Informatics Working Paper No. 68, University of Manchester.
3. World Bank. (2024). *The Promise of Services-Led Growth in Uzbekistan.* Washington, DC: World Bank.
4. International Telecommunication Union. (2023). *Measuring Digital Development: ICT Development Indicators.* Geneva: ITU.
5. United Nations Development Programme. (2024). *Digital Economy Study of Uzbekistan.* New York: UNDP.
6. National Statistics Committee of the Republic of Uzbekistan. (2024). *Digital Economy and ICT Development Statistics.* Tashkent.
7. DataReportal. (2025). *Digital 2025: Uzbekistan.* Available at DataReportal digital reports.
8. Ministry of Digital Technologies of the Republic of Uzbekistan. (2024). *Digital Uzbekistan – 2030 Strategy.*
9. Makhmudov, N. (2025). Digital transformation of the banking sector in Uzbekistan. *Scientia Journal of Economics and Finance.*

10. Government of Uzbekistan. (2020). *Strategy for the Development of the Digital Economy and E-Government ("Digital Uzbekistan – 2030").*