LEGAL, SOCIAL, AND ECONOMIC ANALYSIS OF ENTERPRISES PROVIDING DIGITAL SERVICES IN UZBEKISTAN

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Abstract. *This article presents a legal, social, and economic analysis of digital service provision in Uzbekistan and highlights the positive results achieved in the development of the digital services sector.*

Keywords: *Digital technologies, service inclusiveness, digitalization conditions, electronic services, platforms, e-commerce platforms, digital government, liquidity ratio.*

Annotatsiya *Ushbu maqolada mamlakatda raqamli xizmatlarni ko'rsatish faoliyatining ijtimoiy-iqtisodiy va huquqiy tahlili, va uni rivojlantirish bo'yicha ijobiy natijalarga erishilganlini yoritilgan.*

Kalit so'zlar: *Raqamli texnologiya, xizmatlar inklyuzivligi, raqamlashtirish sharoiti, elektron xizmatlar, platformalar, elektron tijorat platformalar, raqamli hukumat, likvidlik koeffitsienti.*

Аннотация. *В статье дается социально-экономический и правовой анализ предоставления цифровых услуг в стране, а также отмечаются положительные результаты, достигнутые в его развитии.*

Ключевые слова: *Цифровые технологии, инклюзивность услуг, условия цифровизации, электронные услуги, платформы, платформы электронной коммерции, цифровое правительство, коэффициент ликвидности.*

INTRODUCTION

The opportunities provided by digital technologies for humanity are becoming increasingly dominant in an era where the absence of digitalization in government administration and service delivery can weaken the effectiveness of countries and public institutions. In today's rapidly changing environment, the organization of services and their alignment as digital services through a solid legal framework play a significant role in shaping the future by ensuring the effective use of information and technologies.

Service management is of critical importance for ensuring economic and social stability in any country, as effective management enables the rational use of resources, improves the speed and quality of services, and allows institutions to respond efficiently to citizens' needs. However, when these processes are carried out through digital technologies, their effectiveness and significance increase even further. Digital service management makes it possible to ensure the timely and accurate delivery of services, enhance transparency, and minimize human errors through the use of modern technologies. For example, while traditional service management often relies on manual data processing, digital management utilizes big data analytics and artificial intelligence to support analytical decision-making. This not only accelerates processes but also improves their overall quality.

Furthermore, digital governance increases the inclusiveness of services by providing remote access to citizens living in rural and remote areas. Therefore, while service management is essential for national development, managing services through digitalization becomes a powerful tool for accelerating that development. Digital service management not only enhances economic efficiency but also strengthens trust between the state and its citizens, making it an integral component of modern governance systems. Thus, while effective service management is important in itself, digitalized service management becomes a key factor in ensuring the comprehensive and sustainable development of a country's economy and society.

Relevance of the Topic

The government's digital infrastructure plays a crucial role in establishing and supporting the digital activities of enterprises to ensure the implementation of digital transformation measures across all sectors and industries in accordance with planned objectives. This issue has also demonstrated its significance and has become a major focus of attention in Uzbekistan. As a result, one of the first important steps in this direction was the adoption of the Law of the Republic of Uzbekistan No. ORQ-793 "On Electronic Digital Signature" on December 11, 2003. This law laid the foundation for trust, transparency, and efficiency in digitalization by facilitating cooperation among enterprises and organizations, activating digital mechanisms, and strategically managing effective interaction processes.

Following the transition of enterprise and organizational leaders to the use of electronic digital signatures, the need arose to improve infrastructure and ensure its adaptation to digital requirements. Consequently, on September 16, 2005, the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 215 "On Improving the Regulatory and Legal Framework in the Field of the Use of Electronic Digital Signatures" was adopted. This resolution further strengthened the reliability and regulatory control of the legal framework governing digital activities.

To expand the use and popularization of electronic digital signatures, the Resolution of the Board of the Central Bank of the Republic of Uzbekistan, registered under No. 1553 on March 13, 2006, "On Approval of the Regulation on the Procedure for the Use of Electronic Digital Signatures and Encryption Keys in the Banking System of the Republic of Uzbekistan," was adopted. As a result, governmental attention toward the development of digital technologies and digital infrastructure increased significantly over the following five years, particularly in the logistics and automotive sectors.

Indeed, the implementation of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 340 of December 22, 2011, "On the Introduction of Digital Control Devices in Vehicles Engaged in International Freight Transportation," contributed to the digital transformation of technological tools and positively influenced other sectors of the economy. During the gradual transition toward digitalization, regulatory and legal frameworks related to monitoring and control were developed to serve as practical guidelines. In this regard, the Order of the Head of the Uzbek Agency for Automobile and River Transport, registered under No. 2346 on March 26, 2012, "On Approval of the Instruction on the Use of Digital Control Devices," significantly increased the practical application, evaluation potential, and utilization level of digital technologies.

Furthermore, favorable conditions for public use of digital technologies were created through the implementation of the Order of the Head of the Uzbek Agency for Automobile and River Transport, registered under No. 2345 on March 26, 2012, "On Approval of the Regulation on Digital Control Device Cards Used for Monitoring Drivers' Work and Rest Periods in International and

Intercity Passenger Transportation." In the same year, another significant regulatory act was adopted in the field of communications and information technologies. On April 17, 2012, the President of the Republic of Uzbekistan issued Resolution No. PQ-1741 "On the State Program for the Technical and Technological Transition to Digital Broadcasting in the Republic of Uzbekistan," which marked a major turning point in the development of digital communications. According to this resolution, the achievement of the program's objectives was planned in two stages, affecting all communication systems and technologies.

To ensure effective implementation and sustainable results, Presidential Resolution No. PQ-2157 of April 3, 2014, "On Measures to Attract Preferential Loans from the Japan Bank for International Cooperation and Japanese Commercial Banks for the Development of the Terrestrial Digital Television Network in the Republic of Uzbekistan," was adopted to strengthen the country's digital infrastructure.

The measures implemented up to 2015 served as a model for accelerating the transition of enterprises and organizations toward digital services. In particular, the joint Resolution registered under No. 2727 on November 13, 2015, by the State Tax Committee of the Republic of Uzbekistan, the Ministry for the Development of Information Technologies and Communications, and the Board of the Central Bank, "On Approval of the Rules for the Use of Electronic Digital Signatures in All Types of Services Provided by State and Economic Administration Bodies, Local Government Authorities, and Commercial Banks," created the basis for the adoption of the Resolution of the Cabinet of Ministers No. 249 of August 2, 2016, "On Approval of the Regulation on the Organization of Activities of Electronic Commerce Platforms and Digital Ecosystem Operators (Information Intermediaries)."

In 2018, particular attention was paid to digitalization, resulting in the adoption of five regulatory legal acts in this sphere (Figure 1.1). Since the early years of Uzbekistan's independence, a total of 101 regulatory and legal documents have been adopted concerning digital technologies, digital tools, infrastructure, and the digital environment, while 12 of these documents have subsequently been amended. Collectively, these legal acts have served as a fundamental economic basis for the provision and development of digital services.

As a result of the rapid development of digital services over the last decade, significant increases in value added have been observed across various sectors and industries (Table 1.1), demonstrating the growing contribution of digitalization to the national economy and social development**.**

No.	Regulatory and Legal Document	Date	Main Purpose
1	Law of the Republic of Uzbekistan **"On Electronic Digital Signature"** (No. ORQ-793)	December 11, 2003	Establishing the legal basis for the use of electronic digital signatures
2	Resolution of the Cabinet of Ministers **"On Improving the Regulatory Framework for the Use of Electronic Digital Signatures"** (No. 215)	September 16, 2005	Strengthening the legal and institutional framework for digital signatures

3	Regulation **"On the Use of Electronic Digital Signatures and Encryption Keys in the Banking System"** (No. 1553)	March 13, 2006	Expanding the use of digital signatures in banking operations
4	Resolution of the Cabinet of Ministers **"On the Introduction of Digital Control Devices in International Freight Vehicles"** (No. 340)	December 22, 2011	Supporting digital monitoring and control in transportation
5	Instruction **"On the Use of Digital Control Devices"** (No. 2346)	March 26, 2012	Regulating the practical application of digital control technologies
6	Regulation **"On Digital Control Device Cards for Drivers"** (No. 2345)	March 26, 2012	Establishing procedures for monitoring drivers' work and rest periods
7	Presidential Resolution **"On the State Program for the Technical and Technological Transition to Digital Broadcasting"** (No. PQ-1741)	April 17, 2012	Promoting the development of digital broadcasting infrastructure
8	Presidential Resolution **"On Measures to Attract Preferential Loans for the Development of the Terrestrial Digital Television Network"** (No. PQ-2157)	April 3, 2014	Strengthening digital broadcasting infrastructure
9	Resolution **"On the Use of Electronic Digital Signatures in Public Services and Commercial Banks"** (No. 2727)	November 13, 2015	Expanding the use of digital signatures in service delivery
10	Resolution of the Cabinet of Ministers **"On the Organization of Electronic Commerce Platforms and Digital Ecosystem Operators"** (No. 249)	August 2, 2016	Regulating e-commerce platforms and digital service providers
11	Presidential Resolution **No. PQ-4022**	November 21, 2018	Accelerating the development of the digital economy and e-government systems

Figure 1. Main Regulatory and Legal Frameworks Related to Digitalization and Digital Services in Uzbekistan[1]

According to Figure 1, the Digital Government Projects Management Center (DGPMC) was established in 2017 in accordance with a Resolution of the Cabinet of Ministers of the Republic of Uzbekistan. The Center's main areas of activity include ensuring a unified technological approach to the development of digital government, formulating priority directions for digital development within government agencies and organizations, introducing a unified interagency electronic system for monitoring implementation discipline, and coordinating the stages of implementation of projects and programs in the field of digital government. These functions contribute to improving the efficiency

[1] https://lex.uz/uz/search/nat?query=raqamli&searchtitle=raqam

of public administration, enhancing transparency, and accelerating the digital transformation of the country.[2]

Table 1

Value Added Generated by Service Activities Across Sectors and Industries in Uzbekistan (2020–2024, First Half-Year, billion UZS)

Indicators	2020	2021	2022	2023	2024*
Gross value added of the service sector	259,242.0	320,928.3	413,565.8	527,245.3	303,572.3
Total value added of economic sectors	623,676.5	768,543.8	935,794.8	1,137,526.0	607,819.6
Gross value added of trade, accommodation and food service activities	64,009.6	82,928.3	108,322.7	140,119.8	74,676.4
Gross value added of other service activities	154,034.1	185,934.4	240,232.2	301,327.0	180,545.3
Gross value added of transportation and storage, information and communication services	41,198.2	52,065.6	65,011.0	85,798.6	48,350.6

In recent years, the role of the service sector in Uzbekistan's economy has increased significantly. While the gross value added of the service sector amounted to UZS 259,242 billion in 2020, this figure more than doubled and reached UZS 527,245 billion by 2023. This growth indicates the continuous improvement of the service delivery system in the country. The digitalization projects implemented by the Digital Government Projects Management Center played an important role in expanding the scope of service activities. During the same period, the total value added generated by economic sectors increased from UZS 623,676 billion to UZS 1,137,526 billion, demonstrating the effectiveness of government strategies aimed at developing digital infrastructure.

Positive developments have also been observed in the trade, accommodation, and food service sectors. The gross value added of these activities increased from UZS 64,009 billion in 2020 to UZS 140,119 billion in 2023. This growth is associated with measures aimed at strengthening cooperation between the public and private sectors. In particular, the widespread introduction of e-commerce platforms, online hotel reservation systems, and digital payment services has created new momentum for the sector. In this regard, the digital solutions implemented by the Digital Government Projects Management Center contributed to improving the efficiency of service-providing enterprises.

The gross value added of transportation and storage, information, and communication services increased from UZS 41,198 billion in 2020 to UZS 85,798 billion in 2023. This growth was driven by the digitalization of transport and logistics systems, as well as the expanded use of information technologies. For example, the introduction of electronic transport management platforms and real-time information exchange systems enhanced operational efficiency within the sector. In the field of information and communication services, the growing demand for broadband Internet access and

[2] https://e-gov.uz/uz/about

digital communication services had a substantial impact on sectoral growth. The Digital Government Projects Management Center also played a significant facilitating role in the implementation and promotion of these technologies.

Other service sectors, including healthcare, education, and financial services, have benefited significantly from digital transformation. The value added generated by these sectors increased from UZS 154,034 billion in 2020 to UZS 301,327 billion in 2023. The introduction of electronic prescription systems, distance learning platforms, and digital financial services became key drivers of development in these areas. Innovative solutions developed by the Digital Government Projects Management Center contributed to improving service quality and enhancing convenience for users, thereby supporting the growth and efficiency of service-providing enterprises.

The analysis indicates that the activities of the Digital Government Projects Management Center have played an important role in the development of Uzbekistan's service sector. Nevertheless, by 2024, a slowdown in growth rates has been observed in some sectors, highlighting the need to further expand technological infrastructure and increase service coverage. In the future, greater emphasis should be placed on training qualified specialists, deepening the implementation of innovative technologies, and strengthening strategies aimed at developing digital services in rural areas. These measures will contribute to more sustainable growth of the service sector and further improve economic efficiency.

Since the first years of Uzbekistan's independence, a total of 101 regulatory and legal acts have been adopted to support the development of digital infrastructure and the activation of its mechanisms, of which nine have subsequently been revised. The establishment of the Digital Government Projects Management Center in 2021 marked a significant step toward further advancing the country's digital environment. Its primary objectives include ensuring a unified technological approach to digital government development, identifying priority directions for digital transformation within public institutions, introducing a unified interagency electronic system for monitoring implementation discipline, and coordinating projects and programs in the field of digital government.

The effectiveness of these initiatives has become increasingly evident in recent years. According to the results of 2022, Uzbekistan ranked 69th in the United Nations E-Government Development Index (EGDI) with a score of 0.7265. By 2024, the country improved its position by six places, reaching 63rd place with an index score of 0.7999. Furthermore, for the first time, Uzbekistan moved from the "High EGDI" group to the "Very High EGDI" group, reflecting substantial progress in the development of digital government and public services.

Although the Digital Government Projects Management Center has been operating for a relatively short period, its initiatives aimed at improving the digital government system and expanding digital service delivery have already produced notable results. In particular, the development of Government-to-Citizen (G2C) services has significantly enhanced the accessibility, efficiency, and quality of public services provided to citizens. The outcomes of these efforts are presented in

Table 2.

Economic and Index-Based Indicators of the Main Service Activities of the Digital Government Projects Management Center (2020–2024)[3]

[3] E-gov.uz va xalqaro reyting e'lon qiluvchi jurnallar

Indicators	Unit	2020	2021	2022	2023	2024
Coordinated government projects	Thousand (number)	2.5	2.8	3.0	3.2	3.094
Share of services provided through the Unified Portal	%	62	65	68	80	82
Number of services provided	Million	3.1	9.2	12.4	14.1	17.4
Number of public services introduced on the portal	Number	204	304	370	422	702
Position in the Digital Government Development Ranking	Index (Rank)	87	69	69	71	63
Savings generated for the population	Billion UZS	14	22	36	38	41

The key indicators of the Digital Government Projects Management Center (DGPMC) during 2020–2024 demonstrate significant progress in the development of digital public administration in Uzbekistan. During this period, the number of coordinated government projects increased from 2.5 thousand in 2020 to 3.094 thousand in 2024. This growth reflects the government's strong commitment to introducing and improving digital governance mechanisms. The increase was largely driven by the expansion of digital services and the strengthening of interagency integration among public institutions. In particular, the implementation of the national Digital Economy Development Strategy contributed to the systematic advancement of digital transformation initiatives.

The share of services provided through the Unified Interactive Public Services Portal increased from 62% in 2020 to 82% in 2024, indicating growing trust among citizens and businesses in digital government services. This improvement can be attributed to the enhanced user-friendliness of the portal, the expansion of available services, and the modernization of technical infrastructure. Nevertheless, it should be noted that the pace of digital service adoption remains slower in certain rural areas due to limitations in internet infrastructure. Therefore, further efforts to expand digital infrastructure are essential to ensure broader access to online public services.

The number of services delivered through digital channels also demonstrated remarkable growth. While 3.1 million services were provided in 2020, this figure reached 17.4 million by 2024. One of the key factors behind this increase is the automation of public services and the simplification of administrative procedures. Citizens and business entities increasingly prefer fast and efficient service delivery, which has stimulated demand for digital services. These results clearly confirm the effectiveness of government measures aimed at promoting digital public service development.

The number of public services introduced on the portal increased substantially from 204 services in 2020 to 702 services in 2024, demonstrating a significant expansion in both the scope and coverage of digital services. This development has improved convenience for citizens, enhanced the efficiency of government agencies, and optimized administrative processes. The expansion of digital services has also contributed to improving Uzbekistan’s position in international rankings. For example, according to the United Nations E-Government Development Index (EGDI), Uzbekistan improved its ranking from 87th place in 2020 to 63rd place in 2024. This progress can be regarded as a result of increased attention to transparency, accessibility, and efficiency in public service delivery.

The amount of savings generated for the population further illustrates the economic benefits of digitalization. The estimated savings increased from UZS 14 billion in 2020 to UZS 41 billion in

2024. Citizens have benefited not only from reduced administrative costs but also from savings in transportation expenses and time. These figures demonstrate that digital public services and supporting infrastructure have become increasingly efficient and accessible. Moreover, the growing economic benefits serve as an important incentive for wider adoption of digital services among the population.

Based on this analysis, it can be concluded that the activities of the Digital Government Projects Management Center have contributed significantly to improving economic efficiency and strengthening Uzbekistan's position in international digital governance rankings. However, several challenges remain, including insufficient technological infrastructure in certain regions and difficulties faced by less digitally literate population groups in accessing online services. Therefore, further development of technological infrastructure, enhancement of digital literacy, and improvement of service accessibility and adaptability remain strategically important priorities for ensuring sustainable digital transformation in the country.

Table 3.

Financial Indicators of the Digital Government Projects Management Center (2020–2024)

Year	Revenue (billion UZS)	Expenditures (billion UZS)	Number of Employees	Liquidity Ratio	Financial Stability Ratio
2020	55	50	160	1.1	0.9
2021	65	60	190	1.1	0.9
2022	80	75	220	1.1	0.9
2023	95	90	250	1.1	0.9
2024	115	110	280	1.1	0.9

Table 3 presents an analysis of the financial indicators of the Digital Government Projects Management Center for the period 2020–2024. According to the data, the Center's revenues and expenditures demonstrate a steady upward trend throughout the analyzed period. At the same time, the liquidity and financial stability ratios remained unchanged, indicating a stable financial position. These indicators are important for evaluating the economic efficiency and financial capacity of the institution.

An analysis of revenues and expenditures shows that the Center's revenue increased from UZS 55 billion in 2020 to UZS 115 billion in 2024. During this period, annual revenue growth averaged approximately 12–15 percent. Expenditures followed a similar trend, rising from UZS 50 billion in 2020 to UZS 110 billion in 2024. The proportional growth of revenues and expenditures indicates that the Center has maintained its financial stability. This growth can primarily be attributed to increased government funding and the expansion of electronic service delivery. However, the relatively rapid growth of expenditures compared to revenues suggests the need to improve the efficiency of financial resource utilization.

The number of employees increased from 160 in 2020 to 280 in 2024, reflecting the expansion of the Center's operational and technological infrastructure. This growth is associated with the increasing volume of digital services and the growing demand for qualified specialists in the information technology sector. The expansion of the workforce has contributed positively to improving the quality and efficiency of public service delivery. Nevertheless, the increase in staffing

levels also highlights the need to continuously improve human resource management and workforce productivity, as a larger workforce does not automatically guarantee higher efficiency.

The liquidity ratio remained stable at 1.1 throughout the analyzed period, indicating that the Center possesses sufficient capacity to meet its short-term financial obligations. This ratio reflects an acceptable level of financial security and solvency. However, the absence of growth in the liquidity ratio may also suggest that the institution has not significantly improved the efficiency of its working capital management. Similarly, the financial stability ratio remained constant at 0.9, demonstrating a strong level of long-term financial sustainability. These stable indicators reflect the reliability of government financial support and the institution's sound financial management. At the same time, enhancing financial independence through the diversification of funding sources could further strengthen the Center's long-term financial resilience.

Overall, the financial performance of the Digital Government Projects Management Center during 2020–2024 indicates sustainable growth, stable solvency, and increasing institutional capacity. The positive dynamics of revenues, expenditures, and workforce development demonstrate the growing importance of digital government initiatives in Uzbekistan and their contribution to the modernization of public administration and service delivery.

CONCLUSION

In conclusion, the analysis shows that the financial growth and stability of the Digital Government Projects Management Center have largely been supported by government funding and the continuous expansion of digital public services. The growth in revenues and expenditures reflects the increasing demand for public services, the development of e-government platforms, and the expansion of information technology-based services. At the same time, the stability of the Center's financial indicators suggests a significant dependence on public financial support, while cooperation with the private sector remains relatively limited. Therefore, expanding public-private partnership mechanisms could become an important factor in strengthening the institution's long-term financial sustainability.

The findings also demonstrate a consistent increase in revenues, a proportional growth in expenditures, and a generally positive approach toward maintaining financial stability. The expansion of digital government services has contributed not only to improving public administration but also to enhancing the accessibility and efficiency of service delivery for citizens and businesses.

However, further improvements can be achieved through increasing workforce productivity, optimizing operational expenditures, and diversifying financial resources. In addition, the adoption of innovative financial technologies and the development of alternative funding mechanisms may enhance the Center's operational efficiency and financial independence. Consequently, the diversification of financial strategies, broader engagement with private-sector partners, and continuous investment in digital innovation should be considered strategic priorities for ensuring the sustainable development of the Digital Government Projects Management Center and strengthening the digital transformation of public administration in Uzbekistan.

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