



THE RECOMMENDATIONS AND SUGGESTIONS FOR IMPROVING DIGITAL ECONOMY IN UZBEKISTAN IN THE FUTURE

Shermatova Nozimakhon Sobitovna

"SANY AUTOMOBILE MANUFACTURING CENTRAL
ASIA" FE LLC

e-mail: anozima2@gmail.com

ORCID

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ABSTRACT

This article explores strategic recommendations for enhancing Uzbekistan's digital economy, grounded in legislative analysis, institutional diagnostics, and global benchmarking. Drawing on case studies from Estonia, South Korea, the UAE, and the United States, and incorporating insights from the UNCTAD Digital Economy Report 2024, the paper proposes actionable reforms in legal harmonization, technological infrastructure, human capital development, and international cooperation. Additionally, presents a dual-scenario forecast for Uzbekistan's digital growth by 2030 and evaluates the alignment of national reforms with Sustainable Development Goals (SDGs 9 and 17).

Introduction

The digital economy is no longer a peripheral phenomenon of global development—it has become a fundamental driver of national competitiveness, institutional resilience, and sustainable growth. Countries that have proactively institutionalized digital transformation through robust legal systems, public-private synergies, and human capital investments are currently shaping the contours of the global digital future. In contrast, states in transition, including Uzbekistan, are facing a dual challenge: aligning with rapid technological evolution while simultaneously reforming their domestic economic, legal, and educational infrastructures.

Uzbekistan has made notable progress over the past five years, adopting key strategic documents such as the "Digital Uzbekistan – 2030" Strategy, initiating reforms in ICT governance, and establishing special legal regimes for IT parks [3]. However, persistent structural, regulatory, and infrastructural gaps continue to constrain the country's digital potential. The mismatch between legislative frameworks and the practical needs of the digital ecosystem often results in institutional inertia, regulatory fragmentation, and underutilization of digital innovation.

This paper aims to develop a set of scientifically grounded, country-specific, and forward-looking recommendations for improving the digital economy of Uzbekistan.

The research integrates comparative legal analysis, synthesis of international best practices (e.g., Estonia, South Korea, and the UAE), and an interpretation of the UNCTAD

Digital Economy Report 2024 to formulate actionable policy suggestions [14]. A special emphasis is placed on forecasting the trajectory of Uzbekistan's digital transformation within the framework of global digital governance and sustainable development goals (SDGs).

Materials and Methods

This look at is based totally on a aggregate of doctrinal legal evaluation, comparative institutional evaluate, international policy synthesis, and state of affairs-based totally forecasting. The goal is to develop evidence-based and forward-looking recommendations for strengthening Uzbekistan's digital economy.

The doctrinal technique involved a essential examination of center legislative acts regulating the digital zone, such as the Law "On Personal Data" (No. ZRU-547, 2019) [2] and the Law "On Electronic Government" (No. ZRU-395, 2015) [1]. These have been assessed in terms of legal clarity, enforceability, and alignment with international standards. The evaluation additionally taken into consideration strategic presidential decrees, together with Decree No. UP-60 (2022), which brought the countrywide improvement method "New Uzbekistan" [4], and Decree No. UP-6079 (2020) on the "Digital Uzbekistan - 2030" strategy [3]. In addition, Decree No. UP-25 (2024), setting up the International Center for Digital Technologies, turned into examined as a key felony innovation aimed at attracting overseas funding into the digital sector [5].

A comparative approach became used to research the reviews of Estonia, South Korea, the UAE, and Singapore, that specialize in how felony and institutional reforms supported technological advancement.

To align countrywide insights with international trends, the look at incorporated key findings from the UNCTAD Digital Economy Report 2024, specifically regarding digital governance, platform attention, and data sovereignty [14].

Finally, a situation-based totally forecast turned into advanced to undertaking Uzbekistan's digital economy toward 2030, considering contemporary infrastructure, coverage trajectories, and the UN Sustainable Development Goals (drastically SDGs 9, 16, and 17) [3].

Results

Despite significant efforts the Government of Uzbekistan to modernize its digital infrastructure and legal environment, several persistent barriers continue to hinder the systemic development of the digital economy. These constraints manifest across legislative, institutional, and operational dimensions, impeding both the inner coherence of regulatory regimes and their external effectiveness.

First, a key legislative barrier lies inside the fragmentation and sectoral disconnection of normative acts regulating digital processes. The legal guidelines "On Personal Data" (No. ZRU-547, 2019) [2] and "On Electronic Government" (No. ZRU-395, 2015) [1], although foundational, remain partly old in addressing cross-border information flows, algorithmic responsibility, and AI integration. Moreover, those legal guidelines operate in relative isolation from more recent regulatory units delivered in the context of digital entrepreneurship and ICT investment, growing regulatory silos that lessen the interoperability and legal certainty of digital systems [6].

Second, the absence of a unified digital code or complete framework regulation leads to inconsistencies among strategic documents (including the "Digital Uzbekistan - 2030"

Strategy) and enforceable legal mechanisms. While presidential decrees — which include UP-6079 (2020) [3] and UP-25 (2024) — introduce strategic priorities and experimental legal regimes, their translation into binding legal instruments and institutional practices stays partial and uneven [5]. This disconnect diminishes the normative effect of high-stage policy initiatives and complicates lengthy-time period making plans for private digital actors.

Third, there are significant institutional coordination gaps among the entities responsible for digital governance, including the Ministry for Digital Technologies, the Ministry of Justice, and the Cybersecurity Center. The absence of a centralized regulatory body or digital economy commissioner with binding interagency powers has contributed to fragmented implementation and delayed synchronization between policy and practice [7]. This issue turns into specially acute in regions requiring fast-track regulatory responses — such as fintech, data localization and digital taxation — where Uzbekistan lags at the back of regional leaders [8].

Fourth, while the United States has achieved global technological leadership, its decentralized regulatory framework reveals certain vulnerabilities relevant for Uzbekistan's policy planning. In particular, challenges persist in areas such as platform accountability, algorithmic transparency, and digital labor protections. These gaps underscore the risks of relying solely on sectoral regulation without a unified digital governance framework [9].

Additionally, Uzbekistan must draw lessons from the enforcement limitations observed in other jurisdictions. International practice demonstrates that strong legislative texts are insufficient without capable enforcement mechanisms. For instance, lack of specialized training for judges, prosecutors, and regulatory staff in digital law can significantly undermine policy implementation. Therefore, institutional capacity-building and inter-agency legal education should be integral components of Uzbekistan's digital transformation [6].

These barriers collectively suggest the need no longer best for felony reform but for a systemic institutional transformation, in which law, policy, and administration function in synchrony, guided by way of standards of technological neutrality, transparency, and legal interoperability.

To contextualize the development of Uzbekistan's digital financial system and discover transferable practices, this section offers a comparative analysis of 4 jurisdictions that have completed demonstrable achievement in digital transformation: the United States, Estonia, South Korea, and the United Arab Emirates (UAE) [20]. Each of these countries represents a distinct regulatory philosophy and institutional version, but all proportion a coherent digital governance architecture, strategic alignment of regulation and technology, and a commitment to legal innovation [22].

The U.S. model is characterized by decentralized and sector-specific approach to digital regulation, underpinned by means of robust judicial oversight and constitutional guarantees of loose speech and privacy. Rather than a single codified law on digital governance, the U.S. is based on a mosaic of federal and nation legal guidelines — consisting of the Children's Online Privacy Protection Act (COPPA) [16], California Consumer Privacy Act (CCPA) [19], and quarter-particular policies issued with the aid of the Federal Trade Commission (FTC) and Federal Communications Commission (FCC) [18]. The machine favors market-driven innovation and personal zone management, with digital platforms like Amazon, Google, and Meta setting de facto standards globally. However, this model has also revealed structural

weaknesses in statistics sovereignty, platform responsibility, and algorithmic transparency, which are now the focus of proposed federal reforms (e.g., the American Data Privacy and Protection Act draft, 2022) [19].

Estonia represents a paradigmatic instance of a digital-first government, where legislation is explicitly designed to enable digital infrastructure. The Digital Identity Act, Data Embassies Act, and amendments to the Administrative Procedure Act provide a complete legal framework for e-governance, blockchain-enabled registries, and move-border digital services. The X-Road platform — central to Estonia’s interoperability infrastructure— is not just a technical tool, however a legally embedded requirement, ensuring that public organizations engage electronically in a secure and auditable manner. Estonia’s success stems from its legal foresight, institutional minimalism, and societal digital consensus, supported by high level of digital literacy of digital literacy and public trust in digital institutions [15].

Table 1.

Policy recommendations for Uzbekistan's digital economy

| Direction | Recommendation | Justification |
|---------------------------|--|---|
| Legislation | Adopt a unified digital code harmonizing data protection, AI, digital identity, and e-commerce regulations. | Fragmented laws reduce coherence and hinder enforcement; a unified code ensures legal certainty and investor trust. |
| | Establish legally binding procedures for cross-border data exchange and platform accountability. | As digital trade expands, cross-border frameworks are essential to protect users and enforce digital rights. |
| Technology | Invest in national digital infrastructure, including secure cloud systems and sovereign data centers. | Technological sovereignty requires national control over data storage and digital infrastructure. |
| | Introduce a regulatory sandbox for emerging technologies such as blockchain, fintech, and autonomous systems. | Innovation requires legal experimentation; Sandboxes enable the safe testing of new technologies, accelerating adaptation without risking systemic failure. |
| Human Capital | Develop a national strategy for digital literacy with mandatory ICT training in secondary and higher education. | Uzbekistan’s digital economy needs a future-ready workforce; education is the foundation of sustainability. |
| | Create state-funded programs for the reskilling of public sector employees in data governance and digital tools. | Public institutions must lead by example in using digital tools efficiently and ethically. |
| International Cooperation | Negotiate bilateral agreements on digital trade and cybersecurity with regional and global partners. | Digital integration must be coupled with legal interoperability across jurisdictions. |

| | | |
|--|---|---|
| | Join international digital policy forums (e.g., ITU, OECD Digital Economy Policy Committee) to align with global norms. | Active participation in global governance promotes legal harmonization and strategic influence. |
|--|---|---|

South Korea follows a centralized, nation-led model anchored in periodic country wide strategies such as the Digital Government Master Plan and Smart Korea 2030. Legislative measures like the Framework Act on National Informatization and the Personal Information Protection Act are periodically up to date to reflect technological modifications. A distinctive feature is the lifestyles of devoted oversight agencies existence of dedicated oversight agencies, which include the Ministry of the Interior and Safety (MOIS) and the Personal Information Protection Commission (PIPC), which ensure agile regulatory governance [17]. The South Korean model excels in its ability to translate high-level strategies into coordinated legal action, particularly in regions like 5G deployment, AI regulation, and smart cities — all supported by strong public investment and legal predictability [17].

The UAE model exemplifies top-down strategic centralization coupled with experimental legal regimes in specific innovation zones. The Smart Dubai initiative, supported by means of laws which include the Dubai Data Law and the UAE Cybercrimes Law, enables the country to function as a proactive regulator and service provider. The establishment of free digital zones (e.g., Dubai Internet City, Abu Dhabi’s Hub71) with custom legal frameworks, facilitates legal experimentation, particularly in areas like block chain, crypto-assets, and autonomous vehicles. Unlike Western liberal democracies, the UAE's version is much less reliant on judicial checks and greater focused on policy-pushed legal innovation, with strategic alignment across ministries and speedy legislative deployment [20].

While each model reflects distinct legal traditions and political economies, several common denominators emerge:

- Legislation is proactive and adaptable, not merely reactive;

- Digital improvement is synchronized with legal reform, instead of treated as a technical depend;

- Dedicated establishments or commissioners are empowered to coordinate digital policy and ensure accountability;

- Public trust and digital rights are legally protected and institutionalized through binding frameworks.

For Uzbekistan, the Estonian model provides a blueprint for legal interoperability and trust-constructing, while South Korea offers a model of centralized coordination and iterative reform [17]. The UAE demonstrates the blessings of experimental governance in regulatory sandboxes, and the U.S. model highlights the need for balance between innovation and accountability.

A synthesis of those elements — contextualized within Uzbekistan’s own legal tradition and administrative capacity — could provide a resilient foundation for digital modernization.

The UNCTAD Digital Economy Report 2024 introduces a vital and well timely dimension to the global digitalization discourse: the environmental sustainability of the digital economy. While previous reports emphasized connectivity, data flows, and platform dynamics, the 2024 edition focuses on the material and ecological costs of digital infrastructure, production, and

consumption, particularly in developing economies [14].

The file highlights that the lifecycle of digital technologies— raw materials and manufacturing to utilization and e-waste disposal—generates a significant environmental footprint. It estimates that digital gadgets, networks, and data centers together consume between 6% and 12% of global energy, with the production of a standard computer requiring up to 800 kg of raw material inputs [14]. Moreover, digitalization contributes significantly to the accumulation of electronic waste, much of which is exported to and inadequately processed in developing countries.

UNCTAD warns that the current global digital economy is asymmetrically structured, where developing countries often serve as extractive or disposal zones for high-income digital economies. These countries export raw materials and import finished digital goods, thus absorbing disproportionate environmental and economic externalities.

To address these imbalances, the report advocates for a transition to a circular digital economy, emphasizing product durability, recyclability, and sustainable design. It also calls for inclusive global governance mechanisms that would allow developing nations to take part extra equitably in the digital digital system. Furthermore, it recommends advanced data collection and impact metrics to inform responsible digital policymaking.

For Uzbekistan, these findings underscore the need to integrate sustainability and lifecycle thinking into digital strategies such as Digital Uzbekistan – 2030, ensuring that the expansion of digital infrastructure does not replicate environmental vulnerabilities or deepen structural dependencies [3].

Discussion

The implementation of proposed reforms in Uzbekistan's digital economy holds significant promise but faces structural barriers. Despite formal commitments such as the Digital Uzbekistan – 2030 strategy and regulatory incentives under Decree No. UP-25 (2024) [5], policy execution remains hindered by fragmented governance, limited inter-agency coordination, and the absence of a centralized digital authority.

Technological infrastructure disparities, particularly between urban and rural areas, continue to undermine equitable access. While major cities benefit from improved connectivity, peripheral regions face low bandwidth and limited access to public e-services. The underdevelopment of national cloud systems and the lack of regulatory sandboxes further impede digital innovation.

Societally, a widening digital skills gap— especially among rural and older populations—risks exacerbating socio-economic inequality. Public distrust in data security and algorithmic systems remains high, highlighting the need for legal safeguards to be accompanied by means of public engagement and awareness-building efforts.

Normatively, the legal framework lacks the agility required for swiftly evolving technology. Without iterative lawmaking mechanisms, new regulations risk obsolescence, reducing legal certainty and undermining investor confidence.

These challenges highlight need for coordinated reforms across legal, institutional, and educational structures. A systemic approach is crucial to ensure that digital transformation is inclusive, sustainable, and aligned with global dynamics.

Importantly, the proposed measures immediately increase SDG 9 (enterprise, innovation, infrastructure) by promoting legal coherence, data sovereignty, and digital

infrastructure development. Simultaneously, SDG 17 (Global Partnerships) is advanced through recommendations to strengthen Uzbekistan's role in global digital governance and policy alignment.

A strategic outlook to 2030 gives two plausible trajectories. Under a convergent growth scenario, Uzbekistan institutionalizes reforms, achieves digital GDP proportion exceeding 15%, and becomes a local leader in regulated innovation. In contrast, a fragmented stagnation scenario—characterized by regulatory lag and infrastructural gaps—could limit digital growth to below 9% and deepen dependence on external systems.

Ultimately, the determining factor is institutional capability to manage digital transformation as an integrated, strategic gadget. With coherent governance and sustained funding, Uzbekistan can steady a durable and competitive position inside the global digital order.

Conclusion

The future of Uzbekistan's economic development is inseparable from the quality and coherence of its digital transformation. Based at the analysis, the subsequent conclusions are drawn:

1. Legislative modernization is essential. Fragmented and outdated digital laws should be consolidated into a unified, adaptive legal framework that addresses current and emerging technologies.

2. Infrastructure investment must be inclusive and sustained. Bridging the urban-rural digital divide requires expansion of broadband, cloud infrastructure, and secure data systems.

3. Digital skills and trust are crucial. National digital literacy programs and stronger legal protections for privacy and data security will promote societal readiness.

4. Global cooperation strengthens domestic capacity. Uzbekistan should actively interact in international digital policy platforms and establish bilateral digital agreements.

5. Strategic governance is critical. Only through integrated policymaking and empowered digital institutions can digital transformation become systemic and sustainable.

References:

1. Cabinet of Ministers of the Republic of Uzbekistan. (2015, December 9). Law on Electronic Government (Law No. ZRU-395). Retrieved from <https://lex.uz/docs/2833855>
2. President of the Republic of Uzbekistan. (2019, July 2). Law on Personal Data (Law No. ZRU-547). Retrieved from <https://lex.uz/docs/4831939>
3. President of the Republic of Uzbekistan. (2020, October 5). Decree No. UP-6079 on the approval of the Digital Uzbekistan - 2030 Strategy. Retrieved from <https://lex.uz/docs/5031048>
4. President of the Republic of Uzbekistan. (2022, January 28). Decree No. UP-60 on the Development Strategy of New Uzbekistan for 2022-2026. Retrieved from <https://lex.uz/docs/5841077>
5. President of the Republic of Uzbekistan. (2024, February 1). Decree No. UP-25 on measures to establish the International Center for Digital Technologies. Retrieved from <https://lex.uz/docs/6957961>

6. Eshov M. P. (2021). Development prospects for digital economy development in Uzbekistan. Conference on Future Technologies.
7. Muminovich A. U. (2021). Prospects for the development of the digital economy in the Republic of Uzbekistan. Pedagogical Cluster-Journal.
8. Nusratovich S. K., & Shermatov, X. (2022). Economic development in Uzbekistan, transition to digital and green economy. Евразийский журнал права.
9. Nozimova M. (2024). The digital economy in Uzbekistan: Opportunities and challenges. Journal of Management Value & Ethics, 14(1).
10. Ogunmola G. A. (2024). Exploring the impact of digital transformation on economic sustainability in Uzbekistan: Opportunities and implications. Journal of Business and Econometrics Studies.
11. Sayfutdinov S., & Khamidov O. (2015). Overview of up-to-date experience of the world in the tourism sector of Uzbekistan, with the current innovative technologies and adjustable suggestions. *Academica: An International Multidisciplinary Research Journal*.
12. Гойиназарова С.Б. (2023). Состояние цифрового развития человеческого капитала в Узбекистане. *Инновации и инвестиции*.
13. Рустамова М.М. (2024). Цифровая экономика: перспективы развития в Узбекистане и мировая практика. *Science and Innovation*.
14. United Nations Conference on Trade and Development (UNCTAD). (2024). Digital Economy Report 2024: Platformization and Development in the Digital Era. Geneva: United Nations. Retrieved from <https://unctad.org/publication/digital-economy-report-2024>
15. Estonian Information System Authority. (2022). X-Road: Building the backbone of e-Estonia. Retrieved from <https://e-estonia.com/solutions/interoperability-services/x-road/>
16. Federal Trade Commission. (1998). Children's Online Privacy Protection Act (COPPA). Retrieved from <https://www.ftc.gov/legal-library/browse/rules/childrens-online-privacy-protection-rule-coppa>
17. Government of the Republic of Korea. (2021). Digital Government Master Plan 2021–2025. Ministry of the Interior and Safety (MOIS). Retrieved from <https://www.mois.go.kr/>
18. OECD. (2020). Digital Economy Outlook 2020. OECD Publishing. <https://doi.org/10.1787/bb167041-en>
19. Office of the California Attorney General. (2018). California Consumer Privacy Act (CCPA). Retrieved from <https://oag.ca.gov/privacy/ccpa>
20. Smart Dubai Office. (2020). Dubai Data Law and Smart City Initiatives. Retrieved from <https://www.smartdubai.ae>
21. United Nations Department of Economic and Social Affairs (UNDESA). (2022). E-Government Survey 2022: The Future of Digital Government. United Nations Publications. <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2022>
22. World Bank. (2021). Digital Economy for Central Asia: Country Diagnostic for Uzbekistan. World Bank Group. Retrieved from <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099519106072217614/p1753570c131440cb0a8c909270f2b5e21c>