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NEW UZBEKISTAN: THE EFFECTIVENESS OF ARTIFICIAL INTELLIGENCE-BASED DIGITAL TRANSFORMATION BY 2030

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ABSTRACT
This article examines the effectiveness of Uzbekistan's artificial-intelligence (AI)-based digital transformation within the "New Uzbekistan" development paradigm. Drawing on official statistics and international rankings for 2020–2025, the study analyses changes in the E-Government Development Index (EGDI), growth in ICT service exports, the condition of digital infrastructure, and the country's AI-readiness indicators. The findings indicate substantial progress, including a rise to 63rd place in the 2024 EGDI, IT Park exports approaching USD 1 billion, and Uzbekistan's leading position in Central Asia in the Oxford Insights Government AI Readiness Index. However, the analysis also identifies persistent constraints, including an interregional digital divide, shortages of specialised skills, and the digital sector's still limited contribution to GDP. Three development scenarios to 2030 are proposed. Under the optimistic scenario, effective implementation of the national AI strategy could contribute an additional 2–3% to GDP growth.

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1. INTRODUCTION: DIGITAL TRANSFORMATION AS A STRATEGIC PRIORITY

The global economy is undergoing a period of rapid technological change. According to the World Economic Forum's Future of Jobs Report 2025, structural changes in labour markets could create 170 million jobs and displace 92 million others by 2030 [7]. Generative artificial intelligence is expected to be a major driver of this transition, while broader digital access is likely to transform the organisation and operating models of many enterprises [8].

For Uzbekistan, this global transition presents both a strategic challenge and an opportunity. Through the "New Uzbekistan" development agenda and implementation of the "Digital Uzbekistan 2030" Strategy, approved by Presidential Decree No. PD-6079 of 5 October 2020 [1], the country has sought to strengthen its position in the regional digital economy. Evidence of this progress includes Uzbekistan's entry into the "very high" EGDI group in the 2024 United Nations survey and its leading position among Central Asian countries in the Oxford Insights Government AI Readiness Index.

This article systematically analyses the principal achievements and constraints of Uzbekistan's digital transformation using data for 2020–2025. It then applies a scenario-based approach to assess plausible development trajectories through 2030, with particular attention to the role of artificial intelligence.

2. THE LEGAL AND REGULATORY FRAMEWORK: LAWS AND PRESIDENTIAL DECREES ON AI

Uzbekistan's legal framework for artificial intelligence was progressively consolidated between 2020 and 2026. A chronological review of the relevant instruments shows a sustained policy commitment to making digitalisation a national development priority. The principal documents are outlined below.

- Presidential Decree No. PD-6079 of 5 October 2020, "On the Approval of the Digital Uzbekistan 2030 Strategy" [1], provides the foundational policy framework. It identifies five priority areas: digital infrastructure, e-government, the digital economy, the domestic digital-technology market, and IT education. The Strategy also establishes measurable targets, including entry into the top 30 of the UN EGDI, an increase in IT service exports to USD 5 billion, and the online delivery of all eligible public services.
- Presidential Resolution No. PR-358 of 14 October 2024, "On the Approval of the Strategy for the Development of Artificial Intelligence Technologies until 2030" [2], is the principal policy instrument devoted specifically to AI. It sets targets of USD 1.5 billion in AI-service revenue by 2030, the establishment of ten AI research laboratories, and entry into the top 50 of the Government AI Readiness Index. The Strategy is organised into three phases: the creation of baseline infrastructure and priority projects in 2024–2025; the scaling of AI in key sectors in 2026–2028; and commercialisation and achievement of the target indicators in 2028–2030.
- Presidential Decree No. PD-157 of 14 October 2024, "On Additional Measures to Support Export Activity in the Field of Digitalisation" [3], introduces incentives for IT-exporting companies, including tax preferences, simplified access to finance, and support for entering foreign markets.
- Presidential Decree No. PD-189 of 22 October 2025, "On Additional Measures for the Further Development of Artificial Intelligence Technologies" [4], establishes an Artificial Intelligence Cluster at New Uzbekistan University on a university–industry–partner model. It also introduces a register of AI entrepreneurship entities, increases state grants in IT and AI by 35% from the 2026/2027 academic year, and sets a target of training five million "AI leaders" by 2030, including 500,000 in 2026.
- Law of the Republic of Uzbekistan No. LRU-1115 of 21 January 2026, "On the Regulation of Relations Connected with the Use of Artificial Intelligence" [5], provides a dedicated statutory framework for AI. It defines AI as a technological solution that simulates human cognitive functions, establishes general principles for its use in information systems, and prohibits legally significant decisions affecting citizens' rights and freedoms from being made solely on the basis of AI outputs without human involvement.

Taken together, these instruments show that Uzbekistan moved within six years from broad strategic commitments towards a more developed regulatory architecture for AI. Importantly, the documents include measurable targets, designated implementation mechanisms, and provisions for institutional and financial support.

3. RESEARCH METHODOLOGY

The study uses a multilevel methodology comprising three components. First, it systematically reviews statistical data published by international organisations, including the United Nations, the World Bank, the International Monetary Fund, DataReportal, Oxford Insights, and the International Telecommunication Union, for 2018–2025. Second, it compares Uzbekistan's performance over time in the EGDI, the GovTech Maturity Index, and the Government AI Readiness Index, with Kazakhstan,

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Azerbaijan, and Georgia used as regional benchmarks. Third, it develops conservative, baseline, and optimistic scenarios for the digital economy through 2030.

The evidence base was cross-checked against primary and institutional sources, including the technical annexes to the UN E-Government Survey 2024, DataReportal's Digital 2024: Uzbekistan report, the 2023 digital-economy overview published by the relevant national agency, and the official portals of the Ministry of Digital Technologies and IT Park Uzbekistan. Preference was given to sources published or updated between 2023 and 2025.

4. ANALYSIS OF THE CURRENT STATE: KEY STATISTICAL DATA

4.1. Digital infrastructure and internet penetration

According to Digital 2024: Uzbekistan, the country had 29.52 million internet users at the beginning of 2024, equivalent to 83.3% of a population of approximately 35.4 million [10]. Active mobile connections totalled 33.81 million, or 95.5% of the population. International telecommunications data indicate that mobile-broadband subscriptions exceeded the population total, while 96.2% of households had internet access [19]. Median fixed-broadband speed reached 79 Mbps, and median mobile speed reached 38 Mbps.

By 2024, 5G coverage was reported to have reached 18% of the population, while 4G coverage reached 97%. The length of fibre-optic communication lines exceeded 227,000 km in 2023. In the same year, communications and information services were valued at UZS 32.2 trillion, representing year-on-year growth of 24.6%; telecommunications accounted for 54.7% of that market [12, p. 14].

Table 1. Key digital-infrastructure indicators in Uzbekistan, 2018–2024

Indicator	2018	2020	2022	2024	Source
Internet penetration, %	48	65	76	83.3	DataReportal [10]
Mobile connections, % of pop.	n/a	90	93	95.5	ITU, 2024
ICT-services market, UZS trillion	n/a	16.1	25.8	32.2	AICT [12]
5G coverage, % of pop.	0	0	5	18	WorldData [2024]

Sources: DataReportal [10], AICT [12], ITU (2024), and WorldData (2024).

4.2. E-government: achievements of international scale

The trajectory of the United Nations E-Government Development Index provides one of the clearest indicators of Uzbekistan's digital progress. In 2024, the country rose from 69th to 63rd place, with an EGDI score of 0.7999, and entered the "very high EGDI" group [17]. It therefore exceeded, ahead of schedule, the interim score of 0.75 established under the "Digital Uzbekistan 2030" Strategy.

Uzbekistan's 2024 component scores were 0.87 for the Telecommunication Infrastructure Index, 0.76 for the Online Services Index, and 0.75 for the Human Capital Index. The relatively balanced profile suggests that progress was not confined to a single component of digital government. Within the Commonwealth of Independent States, Uzbekistan ranked behind Kazakhstan and Russia but ahead of Azerbaijan. By October 2024, the My.gov.uz portal offered 675 services, and the e-government mobile application reportedly had 2.5 million users.

Table 2. Uzbekistan's EGDI performance and strategic targets, 2018–2030

Year	Rank (of 193)	EGDI	EGDI group	Target indicator
2018	81	n/a	High	—
2020	87	n/a	High	—
2022	69	0.7265	High	0.75 by 2025
2024	63	0.7999	Very High ✓	Target met ahead of schedule
2030 (target)	≤30	>0.85 (est.)	Very High	Digital Uzbekistan 2030

Sources: UN E-Government Survey 2024 [17], Development Strategy Center of Uzbekistan [11], and the "Digital Uzbekistan 2030" Strategy [1].

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4.3. The IT sector and exports: multifold growth over five years

Uzbekistan's IT sector has expanded rapidly. According to the World Bank, exports of IT-enabled services increased from USD 600,000 in 2017 to USD 140 million in 2022 [13]. Other official and industry sources report that exports associated with the IT sector rose from approximately USD 170 million in 2019 to nearly USD 1 billion in 2024 [15, 16]. By 2024, IT Park Uzbekistan had more than 2,800 resident companies, including 752 foreign enterprises, while the number of IT centres operating nationwide exceeded 300.

In the World Bank's 2022 GovTech Maturity Index, Uzbekistan moved up 37 positions compared with 2020 and entered Group A, which comprises countries with advanced public-sector digital-transformation systems [14]. The country also ranked highly in the digital-skills and public-sector-innovation component. In November 2025, the International Digital Technology Centre "Enterprise Uzbekistan" was established as a specialised digital hub intended to support international technology investment and cross-border services [16].

Table 3. Key indicators of Uzbekistan's IT sector and digital services, 2017–2024

Indicator	2017	2020	2022	2024	Source
IT-services export, USD million	0.6	170	344	~950	World Bank [13]; IT Park [15]
IT Park residents, companies	n/a	350	1,200	2,800+	IT Park UZ [15]
Foreign IT companies	n/a	n/a	320	752	IT Park UZ [15]
IT centres nationwide	n/a	80	200	300+	AICT [12]
ICT share of GDP, %	n/a	1.2	1.9	2.8*	World Bank [13]

Note. The 2024 ICT share of GDP is the authors' estimate based on reported growth between 2022 and 2024. Sources: World Bank [13], IT Park Uzbekistan [15], and AICT [12].

4.4. AI readiness: international assessment

The Oxford Insights Government AI Readiness Index 2024 places Uzbekistan ahead of the other Central Asian states [18]. Its Data and Infrastructure score was 62.14, while its Technology Sector score was 33.50. Uzbekistan also improved its position in global start-up-ecosystem rankings. Under the national AI Strategy to 2030 [2], the country aims to generate USD 1.5 billion in AI-service revenue and enter the top 50 of the global government AI-readiness ranking.

Digital financial services have also expanded. Available estimates indicate that fintech adoption reached 79% by 2024, digital payments accounted for more than 60% of consumer transactions, and the number of mobile-banking users exceeded ten million. These estimates should nevertheless be interpreted cautiously because published figures use different definitions of fintech activity and the digital sector.

5. DISCUSSION: ACHIEVEMENTS AND SYSTEMIC CONSTRAINTS

Taken together, the evidence indicates that Uzbekistan experienced rapid rather than incremental digital modernisation between 2018 and 2024. The country moved from 81st to 63rd place in the EGDI, recorded strong growth in IT-related exports, and substantially expanded digital public services. These developments were accompanied by a progressively more comprehensive regulatory framework. However, the scale and interpretation of some indicators vary across sources, and the reported achievements should therefore be assessed with attention to differences in definitions and measurement.

Several systemic constraints remain. First, the interregional digital divide continues to affect access and service quality, with Tashkent and the Tashkent Region generally better connected than several peripheral regions. Second, the ICT sector's direct share of GDP remains below the levels reported for some regional comparators, although estimates vary according to whether related industries are included. Third, shortages of advanced digital skills may restrict the pace of adoption. The World Economic Forum reports that skills gaps are a major obstacle to business transformation globally [8], and this challenge is also relevant to Uzbekistan despite the large-scale "One Million Uzbek Coders" programme. Finally, unequal participation by gender and region may limit the inclusiveness of digital development.

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6. FORECAST TO 2030: SCENARIO ANALYSIS

Three scenarios for the development of Uzbekistan's digital economy through 2030 were formulated on the basis of current trends and the targets contained in official strategic documents. The scenarios combine trend extrapolation, analysis of regulatory benchmarks, and comparison with Kazakhstan, Georgia, and Romania. They should be interpreted as indicative development pathways rather than precise forecasts.

Table 4. Scenario forecast for Uzbekistan's digital economy through 2030

Indicator by 2030	Conservative scenario	Baseline scenario	Optimistic scenario (strategy targets)
Rank in the UN EGDI	50th–55th	40th–50th	≤30th
IT-services export, USD billion	1.5–2.0	2.5–3.5	5.0
ICT share of GDP, %	3.5–4.5	5–7	8–10
AI revenue, USD million	400–600	800–1,200	1,500+
Internet penetration, %	88–90	90–93	95+
Rank in AI Readiness (Oxford)	Top-80	Top-60	Top-50
AI leaders (thousand people)	2,000	3,500	5,000
Additional GDP growth from AI, %	0.8–1.2	1.5–2.0	2.0–3.0

Source: authors' calculations based on the UN E-Government Survey 2024 [17], PR-358 [2], AICT [12], Oxford Insights [18], and the WEF Future of Jobs Report 2025 [7].

The optimistic scenario assumes full implementation of the AI Strategy to 2030 [2], successful operation of the New Uzbekistan AI Cluster [4], effective functioning of Enterprise Uzbekistan as an international digital hub [16], and the training of five million "AI leaders" [4]. The baseline scenario assumes that current rates of digitalisation continue without a major qualitative shift. The conservative scenario assumes constrained public financing and slower institutional reform.

Four conditions are particularly important for the optimistic scenario: (1) sustained venture and public financing for AI start-ups; (2) the introduction of AI into public administration, healthcare, education, and other sectors in ways that produce measurable productivity gains; (3) investment to reduce interregional disparities in connectivity and digital skills; and (4) stronger integration into global digital value chains through Enterprise Uzbekistan and partnerships with international technology companies. Because the macroeconomic effects of AI remain uncertain, estimates of additional GDP growth should be treated as scenario assumptions rather than causal projections [6].

7. CONCLUSIONS AND RECOMMENDATIONS

1. Uzbekistan made substantial progress in digital transformation and entered the "very high EGDI" group in 2024, ranking 63rd with a score of 0.7999. Reaching the strategic objective of a top-30 position by 2030 will nevertheless require continued improvements in infrastructure, online services, and human capital.
2. The adoption of a dedicated AI law in 2026 strengthened the country's regulatory framework. Secondary legislation should clarify risk classification, human oversight, accountability, data governance, and enforcement in a manner consistent with internationally recognised principles for trustworthy AI.
3. IT-related exports increased rapidly between 2019 and 2024. Reaching the target of USD 5 billion by 2030 will require stronger support for exporting firms, including predictable tax administration, access to export finance, and assistance with entry into international markets under Decree No. PD-157 [3].
4. Enterprise Uzbekistan could improve the investment environment for foreign technology companies. Its institutional framework should provide clear rules for data-related and AI-related commercial disputes, including access to specialised digital arbitration or other efficient dispute-resolution mechanisms.

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5. The interregional digital divide remains a structural risk. Regional digital roadmaps should be adopted for lagging areas, with annual monitoring of infrastructure, service use, digital skills, and affordability indicators.
6. The target of training five million "AI leaders" by 2030 is highly ambitious. Implementation should prioritise learning quality, assessment, and employability rather than enrolment numbers alone. Internationally recognised certification may help align training outcomes with labour-market requirements.
7. The expansion of fintech and digital payments provides a basis for applying AI in financial services. The Central Bank should consider a phased roadmap for regulatory technology and supervisory technology, supported by clear safeguards for consumer protection, cybersecurity, and responsible data use.
8. Unequal digital participation by gender may restrict the inclusiveness of the digital economy. IT-education and start-up support programmes should therefore monitor participation and outcomes by gender and introduce targeted measures where persistent gaps are identified.
9. The national target of USD 1.5 billion in AI-service revenue by 2030 appears achievable only if policy support is concentrated in sectors with strong data resources and clear demand. Potential priorities include precision agriculture, healthcare diagnostics, and logistics optimisation, with pilot projects evaluated for economic, social, and ethical effects [20].
10. The long-term success of digital transformation will depend on converting technological adoption into sustained productivity and income growth. Under the optimistic scenario, AI could contribute an additional 2–3 percentage points to GDP growth by 2030. This figure is an authors' scenario estimate, not an observed causal effect, and depends on coordinated progress in infrastructure, e-government, markets, skills, and education.

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