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Artificial Intelligence in the Management Sphere of Uzbekistan

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Abstract

This will be a series of documents with regard to the integration of Artificial Intelligent (AI) in the field of management in Uzbekistan, where AI is applied in government, business, and healthcare. This paper examines the current state of affairs in Uzbekistan in terms of preparations for embedding AI into governance and management under the Digital Uzbekistan 2030 and AI Technologies Development Strategy 2030, identifying the progress made through policy reforms, infrastructure enabling and institutional capacity. A conceptual and analytical framework that integrates documentary analysis of national policy documents between 2020 and 2025, international datasets, and secondary literature draws the study. Reference is made to OECD and UNDP indicators, in addition to the Government AI Readiness Index 2024 (Oxford Insights) The country experienced significant policy and infrastructure improvements to progress Uzbekistan from 87th (2023) to 70th (2024) in the Government AI Readiness Index. Real evidence demonstrates considerable penetration of AI-powered systems in e-government, commercial operations, and public health management. However, there are persistent challenges low technical expertise, disconnected data systems and lacking regulation. Using authentic 2025 data, this paper offers the first synthesis of academic study into Uzbekistan's AI-management programme. It frames Uzbekistan into global discussions around AI governance and adds an emerging-economy viewpoint to the literature around digital transformation and public sector innovation.

Keywords: *Artificial intelligence; digital governance; e-government; public management; Uzbekistan; AI readiness; policy innovation.*

1. Introduction

Artificial Intelligence (AI) has moved from a buzzword to a driver of decision-making, efficiency, and service delivery in public and private institutions alike (1–4). As governments increasingly use algorithmic tools for the purposes of administration and optimisation, predictive analytics, and citizen engagement, so firms start to harness AI for operational efficiencies and competitive advantage [1].

Uzbekistan, the fastest economy in Central Asia, has embraced this global transformation through a package of measures. Decision of the Cabinet of Ministers of the Republic of Uzbekistan No. 1031 "On approval of the Digital Uzbekistan 2030 Strategy"7 and the Strategy for the Development of Artificial Intelligence Technologies for 20308, adopted on 14 October 2024 (lex. Various national level plans, such as digital transformation strategy of Uzbekistan (Uz, 2024) present national goals for digitalisation of governance and promotion of AI based innovations. Support at the level of institutions has been strengthened with the establishment of national data centres and the development of ethical-AI-related frameworks in collaboration with UNESCO [2].

In several areas, progress is noticeable. Over 60 per cent of public services are now obtainable via the integrated e-government portal (My. Uzbekistan, 2025) and the number of resident companies in IT Park reached 2846 by June 2025 (IT Park uz., A leap of 17 positions to 70th place in the Government AI Readiness Index 2024 signals an increasing capacity to govern. These reforms were echoed internationally, and culminated in the holding of the UN Public Service Forum 2025 in Samarkand (23–25 June 2025) [3].

These accomplishments did not come without their setbacks however; systemic limits remained nonetheless. Skilled AI professionals are scarce, data quality poses issues, and the AI law is not yet implemented, leading to suboptimal implementation. This paper examines these dynamics by considering three research questions:

Q. How AI in Uzbekistan is taking place in the way of government, business and healthcare management?

What are the institutional or infrastructural enablers or barriers to this integration?

What are the implications for sustainable and ethical AI governance?

2. Theoretical Framework and Background

2.1 AI and the Transformation of Public Management

This study is conceptually grounded in digital-era governance, which describes the structural background of an emerging institutional form and humancapital theory, which explains the interaction between technology and skills formation in institutional reform. In the context of public administration, AI is considered a general-purpose technology that has the potential to redefine bureaucracies, enhance transparency, and support evidence-based policy-making [4].

Internationally, studies highlight the utilitarian nature of AI for task automation, policy outcome prediction and evidence-based governance. Yet the literature also discusses the ethical and operational problems algorithmic bias, accountability gaps, and privacy threats [5]. These dualities therefore ask for adaptive institutional design trying to strike the balance between innovation and public trust.

Emerging Economies and Digital Governance2.2

AI Adoption in Emerging Economies: Unique Opportunities and Unique Risks Research on e-government initiatives in developing countries indicates that the effectiveness of such policies frequently relies on the commitment of leaders, clear regulation, and human capital investment [6]. Uzbekistan shares these trends: a resolutely supportive executive has catalyzed digital transformation, but administrative tug-of-wars and a lack of resources remain limiting factors.

According to the UNDP (2025) data, AI can contribute up to USD 10 billion to GDP of Uzbekistan and it may create more than 430 000 jobs related with AI by 2030. These forecasts highlight the logic of embedding AI deployment with larger societal objectives like the UN Sustainable Development Goals (SDG 8 on decent work and SDG 9 on innovation).

2.3 Uzbekistan National Policy Context

Uzbekistan has adapted quickly to the advancement of AI and digital governance in particular. There are six pillars, to the AI Technologies Development Strategy 2030:

- ❖ legislation and ethics,
- ❖ data infrastructure,
- ❖ research and innovations,
- ❖ education and skills,
- ❖ international cooperation,
- ❖ monitoring and evaluation.

These are complementary programmes Digital Economy Roadmap 2025 and the National Open Data Platform [7].

In the first reading, the AI Bill was adopted by the Legislative Chamber of the country in April 2025. A draft law introducing the labelling of AI content (lex. The upcoming AI act in the EU. Such developments bring the path of Uzbekistan closer to the global agenda without compromising the favorable regulatory environment for innovation [8].

3. Methodology

3.1 Research Design

Due to its exploratory and cross-sectoral nature, this study utilizes a conceptual qualitative design based on policy-document analysis and secondary-data synthesis. It reviews strategic documents, official statistics, reports from UNDP and OECD & threatened academic articles (2017–2025). This approach is in the interpretive-analytic tradition of public-administration research that stresses contextual understanding above causal inference.

3.2 Data Sources

Primary evidence derives from:

Government AI Readiness Index 2024.

Report on UNDP Digital Economy in Uzbekistan 2025

Official decrees.

Performance bulletins of IT Park Uzbekistan (2025)

Studies about AI adoption [9].

Data was made sure to be reliable and not outdated through Cross-validation. Triangulated against institutional sources, quantitative statistics (e.g., fulfilment position, corporation adoption (use) rate)

3.3 Analytical Approach

We adopted a three-step analytical process:

A systematic categorization of AI applications across government, business, and healthcare;

Positioning the Policies of Uzbekistan within Global AI Governance Models;

Analysis of institutional strengths and challenges, resulting in policy implications [10].

4. Findings and Discussion

4.1 AI in Government Management

And where is this trend more pronounced than in Uzbekistan, where that transition has turned the public sector into the leading testing ground for artificial intelligence adoption? The AI -- Technologies Development Strategy 2030 adopts a so-called "human-centred" position in which infrastructure, ethics and competencies rather than prescriptive regulation are a focus. My was able to overlay 100 % of your public services by end 2024 of course this number fell to more than 60% in-between. providing more than 400 digital services in one place (gov.uz) These institutional gains are also reflected in the country’s improved standing in the Government AI Readiness Index 2024 (70th). [11]

As an example, Government works with UNESCO on ethical-AI frameworks, and also invests in computational infrastructure like the DataVolt program announced in May 2024 that is expected to provide up to 500MW of data-centre capacity nationally [12] Such advances support algorithmic applications in customs management, legal information and digital identity verification.

Applications in public administration

Notable concrete AI deployments are the automated chatbots to assist citizens, primarily the lex. LLM-powered legal assistant and machine-learning tools for customs clearance and border management [13]. These initiatives minimize the administrative burden and promote transparency. Uzbekistan has been

chosen to host the 2025 UN Public Service Forum (23–25 June 2025, Samarkand), as a testament to its achievements in the field of digital governance.

Outcomes and constraints

AI integration is of limited utility due to structural problems: fragmented data systems, inadequate interoperability amongst ministries and a dearth of algorithmic-governance expertise. Across 501 civil servants, perceived usefulness, organisational readiness and regulatory clarity drive adoption success; hierarchical management and low digital literacy inhibit uptake [14]. In order to reduce these barriers, the draft AI Law 2025 states the need to assign clear responsibility and accountability, as well as semi-announcing the origin of AIgenerated content or labelling.

4.2 Business and industry resource management with AI

Alongside state efforts, private-sector uptake has also sped up. According to the 2025 UNDP survey, 57.9 % of bnasaUk firms use AI, primarily for marketing, customer service and content generation, and 42.1 % use generative-AI tools such. IT Park Uzbekistan, which accommodates start-up firms has also expanded over that period, with resident companies rising from about 2000 in 2022 to 2846 by mid-2025. Venture-capital activity peaked at USD 136 million in twelve funds, while fintech platform Uzum achieved unicorn status (USD 1.5 billion valuation) in 2025.

For instance, AI in finance can be used for predictive analytics, whereas supply-chain optimisation is possible with AI applications in retail, and generative-content production in the marketing domain. The government operates domestic GPU clusters that are connected to the TAS-IX network in order to lower computational costs. In the nation-wide supercomputing facilities designed (2026) can provide simultaneous support to 100 AI training projects.

However, there are still limitations; 57.9 % of businesses say lack of sufficient specialists, almost half cite low data quality. Diffusion tend slowly because of institutional inertia and small understanding of the directors. Federal policy responses including tax incentives, regulatory sandboxes, and the expansion of university AI programs try to close these gaps. The overall development of government AI readiness and private-sector adoption is a reflection of the upward movement in Uzbekistan's digital transformation trajectory (Figure 1).

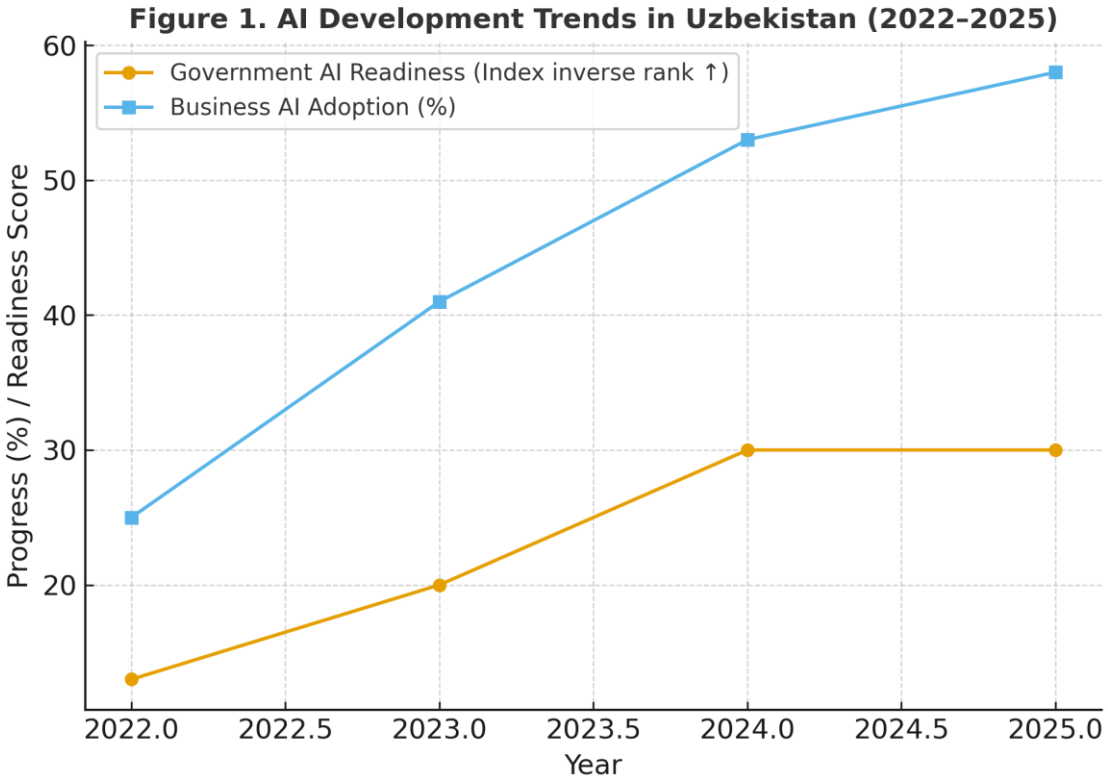

Figure 1. AI Development Trends in Uzbekistan (2022–2025).

Figure 5 Compares advances on government AI preparedness rankings (Oxford Insights 2024) with

advances on business AI adoption rates revealed by UNDP 2025 [16].

4.3 AI in Healthcare Managemen

Healthcare is one of the most relevant testing ground for the societal value of the AI. Uzbekistan utilized AI for diagnosing illnesses through imaging, epidemic prediction, and resource organization. AI-based mammography analysis has made early detection of breast cancer better; in a similar manner to tuberculosis and pneumonia screening supported by these systems.

NURA, which will open the first centre for preventive-diagnostics testing in 2024 by way of a collaboration with Fujifilm and a large Mongolian company, uses AI imaging to detect non-communicable diseases. The first robotic-surgery platform was introduced in state urology clinic at 2025 which brings AI-assisted medical robotics advanced [17]. Another application of AI is in public-health surveillance, which utilizes machine-learning analysis of satellite and clinical data to create forecasts of outbreaks.

Limitations such as the lack of annotated datasets, privacy issues and a lack of biomedical-AI specialists make this task challenging. Under draft AI Law 2025, there is strict safeguarding of health data, whereas training initiatives promote cross-disciplinary expertise. Over 20 artificial intelligence-enabled medical initiatives were operational in the country by 2025, indicating growing maturity of institutions [18].

Challenges and Policy Implications

However, there are a number of systemic challenges that inhibit full and broad realisation of AI:

Skills deficit. Lack of Data Scientists and AI Engineers hampers scalability Expanding of specialized degree programs and vocational retraining is key.

Data fragmentation. Disparate agency databases restrict interoperability. Having open-data standards, along with metadata registries, will increase algorithmic trust.

Infrastructure gaps. Data Volt and domestic clusters are stepping stones but in order to be sustainable they need to couple with renewable energy and local datacom hubs.

Ethical and regulatory capacity. The AI Law 2025 is still in review, but institutionalising an independent ethics board would ensure that national practice meets OECD AI Principles,

Public trust and accountability. For AI-assisted decisions, a transparency and grievance-redress mechanism is key for citizen confidence [19].

There are policy implications here, too to think about how AI governance can be embedded within civil-service reform, to incentivise and develop much-needed public-private partnerships for innovation, and to link AI policy to the SDGs. In order to maintain social legitimacy, an incremental, evidence-based approach pilot testing before scale-up will help [20].

Figure 2. Conceptual Model of AI Integration in Public Management

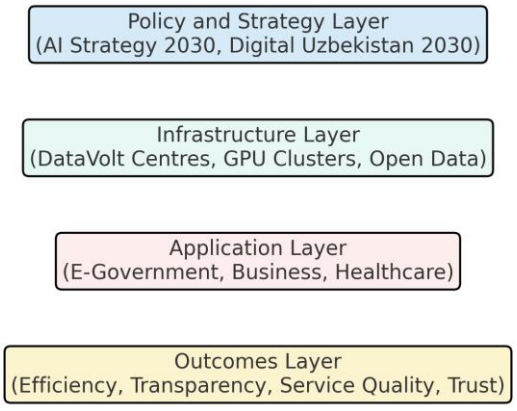

Figure 2. Abstract full-with Black boxes should transform the governance of our public lives, but details about the financial aspect remain unclear [21].

The model identifies four interdependent layers policy and strategy, infrastructure, application, and

outcomes. It illustrates the way Uzbekistan national strategies trickle down through data-infrastructure and application layers to realize efficiency, transparency and trust amongst citizens [22].

Future Research

The restrictions of this study are due to the fact that we do rely upon secondary sources and we do not have any significant primary data from the field. This analysis focuses on national-level policies, with subnational implementation and user perspectives being important future areas for empirical research. Cross-national studies within Central-Asian states can identify processes of diffusion across the MENA region. Improved policy assessment would result from more quantitative modelling of not just the fiscal but also the social impacts of AI [23].

Conclusion

The case of AI adoption in Uzbekistan is a reflection of technological aspiration and institutional adaptation. With the governmental reforms based on AI Technologies Development Strategy 2030 the country becomes a digital innovator in a region. We have already seen measurable results, such as e-government services, private-sector automation, and early-stage scale-up applications using AI technologies in health. Moving from the 87th position to 70th in the world in terms of being prepared for AI is proof of bureaucratic diligence.

But to maintain the momentum they need, companies have to keep investing in people, data governance, and ethical oversight. Over the medium term, success will require the development of comprehensive AI legislation, scaling of research infrastructure and building the trust of citizens and organisations. Uzbekistan Experience Adds to Comparative Scholarship on Post-Transitional AI-Governance: Even Late Adopters Can Leverage Policy Coordination to Ensure that Strategic Formulation of AI is Embedded in Public-Management Reform.

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