DIGITALIZATION OF PUBLIC PROCUREMENT IN UZBEKISTAN: ENHANCING TRANSPARENCY, EFFICIENCY, AND ANTI-CORRUPTION EFFORTS

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Abstract: *Public procurement represents a major component of government expenditure worldwide, accounting for approximately 12–13% of GDP, yet it remains highly vulnerable to corruption risks such as bid-rigging, bribery, and contract mismanagement. This paper examines the theoretical mechanisms through which digital tools—e-tendering platforms, open contracting standards, immutable audit trails, AI-driven anomaly detection, and blockchain—enhance transparency, competition, and integrity while curbing corrupt practices. It reviews global benchmarks, including Ukraine's ProZorro (which delivered significant savings and reduced corruption allegations) and South Korea's KONEPS (recognized for administrative cost reductions and efficiency gains).*

We pose the research question: How has e-procurement reform in Uzbekistan (2018–2025) influenced key procurement outcomes compared to pre-reform and similar countries? We hypothesize that mandatory digitalization of procurement (via the xarid.uz portal from 2022) has increased competition, reduced time and cost, and lowered corruption. Our theoretical framework combines Principal–Agent theory (e-procurement increases oversight, aligning agent behavior with public principals) and Institutional Economics (strong formal rules/institutions improve outcomes).

Keywords: *digital public procurement, e-procurement, transparency, anti-corruption, xarid.uz, open data, blockchain, AI anomaly detection, financial inclusion of SMEs, Uzbekistan reforms, policy recommendations*

Introduction

Public procurement—procurement by government agencies of goods, services and works—is one of the single biggest sectors of public spending globally and in many economies accounts for around 12-13% of GDP and plays a central role as a driver of infrastructure development and provision of social services as well as a tool of fiscal stimulus. [1] The large volume of these purchases also makes it an area prone to corruption including bid-rigging, bribes and contract mismanagement, inflating costs and reducing quality and public confidence. Transparency International's 2024 Corruption Perceptions Index rates Uzbekistan at 121st

out of a possible 180 with a score of 32 and shows a country which has seen recent improvements but still has serious governance issues. [2] Uzbekistan inherited legacy procedures during the Soviet times—marked by paperwork procedures, long discretionary decision-making chains, and minimal oversight by the public—that paved the way for opacity and rent-seeking practices. In response to such flaws, President Shavkat Mirziyoyev initiated a far-reaching reform program in 2017 to modernize the economy and public management, supported by considerable World Bank assistance in the form of four Development Policy Operations amounting to USD 2.1 billion between 2018 and 2021. [3]

The push towards government digitization moved into high gear late in 2020 when President Mirziyoyev announced "the national economy has no future if it does not have a digital transformation," triggering cross-sectoral e-government work and bringing procurement to the level of a flagship digital service [4]. The 2024 Public Expenditure and Financial Accountability (PEFA) report on Uzbekistan praised notable progress on automating and streamlining procurement processes but also noted interoperability gaps among agencies. [5]

Concurrent efforts have been devoted to developing digital capabilities in the private sector and civil society. An OECD peer review on private-sector competitiveness and digital skills identified that while the number of individuals with internet access has increased, numerous small and medium-sized firms do not possess the technical capacity to utilize tender portal applications efficiently, thus stifling competition and inclusion. The Asian Development Bank has also cooperated with the government to design professionalization systems of procurement officers with a strong emphasis on formal certification and competence standards to enhance integrity and efficiency. [6] These developments are interdependent and lay the groundwork for a close look at how electronic public procurement works as an anti-corruption tool in Uzbekistan. The next sections will discuss the theoretical underpinnings of e-procurement, review best practices around the world, and cover the nitty-gritty of Uzbekistan's systems—xarid.uz and data.egov.uz—before touching on groundbreaking pilots in blockchain and AI-based anomaly detection. We will close by analyzing ongoing challenges, policy recommendations tailored to Uzbekistan's circumstances, and directions for further research to help Uzbekistan build on its ongoing reforms and generalize lessons to other emerging economies.

Methodology.

We develop a mixed-methods design: quantitative analysis of official data (2018–2025) and qualitative policy review. Data sources include Ministry of Finance reports, the xarid.uz portal, World Bank, OECD, UN E-Government reports, Transparency International, and Open Contracting Partnership. We tabulate key KPIs before vs. after (pre-2022 vs. 2022–2024) and Uzbekistan vs. comparator countries (Ukraine, Kazakhstan, Kyrgyzstan): number of complaints, bidders per tender, procurement cycle time, e-procurement share, direct purchase share, and CPI. A simple regression and scenario analysis assess e-procurement's effect on corruption indicators.

Our findings indicate Uzbekistan's reforms have markedly shifted procurement dynamics: the share of non-competitive (direct) contracts fell from ~70% in 2019 to ~41% in 2022[1], and all formal tenders moved to the portal in 2022[2]. Preliminary data show a moderate increase in competition (bidders per tender) and faster tender closure.

We discuss risks (legal gaps, tech challenges, budgetary costs, digital divide) and perform a high-level cost–benefit analysis, citing international evidence of large gains from e-procurement[3][4]. Finally, we propose actionable, prioritized reforms (e.g. expanding analytics/AI, enhancing complaints mechanism, training) with an implementation timeline and budget table.

Data Collection & Analysis

The ProZorro online procurement system was instituted in 2016 to replace secret, paper-only tendering with an all-online, reverse-auction process by which all tender stages—publication to award—are conducted electronically and recorded in machine-readable forms (OCDS). Its design requires real-time publishing of offers and includes a public feedback component to hold civic society and media accountable to monitor procurements. In its first two years, ProZorro estimated a budget saving of around USD 1.9 billion by eliminating excessive pricing and containing rigging of offers, showing the powerful anti-corruption effect of open-data procurement systems. The transparency of the platform and streamlined processes were seen to account for a decrease of up to 60 percent in corruption allegations and are a global standard-bearer of digital procurement innovation. [7]

South Korea's KONEPS (Korea ONline E-Procurement System), which was launched in 2002, encompasses the entire public procurement life cycle of central government agencies such as e-tendering, e-catalogue, and integrated payment and contract management modules. A United Nations Public Service Award was conferred on KONEPS in 2002 because it was seen to utilize innovative e-commerce solutions to rationalize government buying. Follow-up estimates show that the Korean government saves around USD 8 billion in adminstration costs per year by automating repetitive work, less paperwork and fewer opportunities for discretionary interference. Its success has spawned other systems around the world and shows how large-scale digital infrastructures can both enhance efficiency and discourage corruption. [8]

We obtained data from: the Uzbek Government Procurement Portal (xarid.uz, for number of auctions, average bids, tender durations); the Open Data Portal of Uzbekistan; the World Bank Global Public Procurement Database (limited Uzbekistan data); ADB and UNDP reports on Uzbek reforms; Transparency International for CPI[7]; and the Open Contracting Partnership report on Uzbekistan[1]. Data gaps include specific counts of complaints and detailed tender-level data (bidders per tender) – these were not publicly available. We note these gaps and use proxies: e.g., using international studies to estimate competition gains.

Table 1. Uzbekistan: Pre- (2019–21) vs Post-Reform (2022–24) KPIs

KPI	Before (2019–21)	After (2022–24)
Electronic Procurement Share (%)	0%	100% [2]
Direct purchases (% of all)	70% (2019)[1]	41% (2022)[1]
Avg bidders per tender	Data not available	2–3 by 2024
Tender duration (median)	>10 days	7 days (75% done)[8]
Successful auction rate (%)	–	56.5% (Q1 2022)[9]
CPI score (Transparency Int.)	30 (2021)	31 (2023)[7]

Findings: The shift to e-procurement is dramatic: by 2022 all tenders use the portal[2]. The share of competitive processes rose (direct purchases fell from 70% to 41%)[1]. Tender times shortened (most auctions closed within 7 days)[8]. Data on bidders per tender is scarce, but international evidence suggests a rise (e.g., Bangladesh saw 1-bid contracts halved) [10]. Corruption (CPI) remained around 30–31, indicating that full effects may take time.

Adoption has been swift: more than 50 000 tenders have been executed on xarid.uz since 2018, of which more than 15 000 in 2023 alone. In April 2021 alone, JSC Uz RTsBS signed agreements amounting to 734.0 billion UZS on the xarid.uz portal—a 20.2 percent increase compared to the previous month—achieving average savings of 12 percent relative to pre-e-procurement baselines. [9] In state-controlled entities such as the National Electric Grid of Uzbekistan, as much as 95 percent of procurement expenditures (294 587.1 million out of a total of 309 878.3 million UZS) in the first nine months of 2023 flowed through the xarid.uz portal, a marker of widespread system penetration. [10] Independent estimates by the World Bank observe that the portal has trimmed the average award cycle by about two weeks relative to 2019 levels, improving procedure efficiency and closing down discretionary delays. [11]

Uzbekistan's Law on Principles of State Digitalization of 2020 (No. LRU-654) required publication of government data, prompting the opening of the country's national Open Data Portal (data.egov.uz), which contains procurement data sets—tender notices, bid offers, award outcomes, and contract modifications—in machine-readable XML, JSON, and CSV formats. More than 30 000 procurement records from 90 central and local agencies were available as of December 2023 through RESTful APIs to support automating downloads and integration with third-party tools. [12]

Table 2. Uzbekistan vs. Comparator Countries

KPI	Uzbekistan	Ukraine	Kazakhstan	Kyrgyzstan
Bidders per tender (avg)	n/a	2.4[11]	n/a	n/a
SME share of awards (%)	–	97.7% [11]	–	–
Median tender time	7 days[8]	2 hours [12]	–	–
E-procurement share (%)	100%	100%	100%	–
Direct purchase share (%)	41%[1]	30%	35%	50%
CPI score (2023)	31[7]	33 (rank 114)	38	26

In late 2021, UNDP and the Justice Ministry implemented a blockchain pilot—operated on the eZAGC platform—to validate bid dates and contract changes in civil-registry services. The distributed-ledger system provides immutability of procurement records and protection against back-dating or illegal alterations. The success of the pilot has resulted in a phased rollout of blockchain-supported record-keeping to other agencies such as the State Tax Committee and the Minstry of Health by 2025. [13]

The Government of Uzbekistan committed in 2025 to the launch by year-end of an electronic system to fight illegal public procurement practices such as inflated prices and conflicts of interest using AI, automating oversight and lessening manual workload on review work. [14]

Risk Assessment and Cost–Benefit Analysis

Legal/Regulatory Risks: Gaps remain in the law. For example, the Complaints Commission cannot adjudicate tender term disputes[13]. If not addressed, vendors may still seek workarounds. New e-proc rules must be fully enforced and aligned with international OCDS standards[14].

Technological Risks: Cybersecurity is critical. An entirely online system could be vulnerable to attacks or outages, which would disrupt procurement. We must invest in secure infrastructure and backups. A digital divide risk exists: smaller firms or rural areas might lack internet access or skills, potentially reducing competition. Uzbekistan must ensure inclusive access (e.g., training, local e-kiosks).

Budgetary Risks: Initial costs for the portal, hardware, and training can be high. However, experience shows these are relatively low: many countries built e-proc systems for <$2–5 million[4]. Maintenance and upgrades add ongoing costs. There is also opportunity cost: officials need time to adapt.

Ethical/Social Risks: Complete transparency might expose sensitive supplier or citizen data. Care must be taken with privacy. There is also risk of exclusion of suppliers who rely on informal networks.

Cost–Benefit Analysis: Even under conservative assumptions, benefits greatly outweigh costs. International studies report

procurement cost savings of 4–7% (e.g., Argentina 4%, Bangladesh 7%, Moldova 15%)[3] due to lower prices and reduced corruption. With Uzbekistan's public procurement budget (billions of USD annually), a 5% saving is hundreds of millions of dollars per year. Setup costs (~$5–10M) would be recouped in 1–2 years. For example, in India, e-procurement saved $0.5M in advertising alone[15]. We assume Uzbekistan's e-proc yields at least 5% procurement savings, valuing them at ~$50–100M/yr, far exceeding implementation costs. Non-monetary benefits (faster projects, fewer kickbacks) further justify the reforms.

In light of Uzbekistan's progress in its digital infrastructure, however, many small and medium-sized enterprises (SMEs) struggle to access and leverage e-procurement systems. The OECD identifies the scarcity of digital skills and awareness among SMEs as a barrier to their active engagement in the digital marketplace. Moreover, ESCAP recognizes a paltry 10% of active SMEs on online public service portals as showing a low rate of exploitation of available services. [15]

Recommendations and Implementation Plan

Based on our analysis, we propose the following prioritized actions:

1. Enhance Data Analytics & AI: Invest in data-driven oversight. Implement machine learning tools for anomaly detection (flag suspicious bids) and integrate blockchain pilots to ensure auditability. Rationale: In late 2021 Uzbekistan launched blockchain pilots (UNDP) and committed to AI fraud detection by 2025, which should be accelerated.

2. Strengthen Complaint Resolution: Grant full powers to the Procurement Complaint Commission to review tender terms, and publish all complaint outcomes online. This increases accountability.

3. Capacity Building: Establish a national procurement training program (for both government buyers and suppliers) and create certification standards[16]. Uzbekistan currently lacks a structured procurement profession; training will improve efficiency and rule compliance.

4. Legislative Updates: Close legal loopholes by revising the Public Procurement Law (e.g., enforce standard contracts, mandate open data in OCDS format[14]). Create whistleblower protections for procurement.

5. Digital Inclusion Measures: Provide support (e.g., subsidized internet access, regional e-proc offices) to ensure SMEs and rural businesses can participate.

Conclusion

Digitalization of public procurement has become a cornerstone of the larger reform program to enhance governance, efficiency, and combat systemic corruption. By implementing integrated systems like xarid.uz and data.egov.uz and pilot work in blockchain and anomaly-detection using AI systems, the government has been successful in improving transparency, streamlining procedural delays, and promoting competition. These reforms are backed by global development partners like the World Bank, UNDP, ADB, and the OECD, all of whom believe in the transformative power of e-procurement to bring measurable governance benefits. Yet as the example of Uzbekistan shows, tech by itself cannot eradicate corruption unless accompanied by enabling policy, institution building and long-standing political will. Central challenges remain, including the digital divide, cybersecurity breaches and lack of professionalization in procurement positions. Unless the obstacles to it are overcome, the promise of completely open and accountable procurement systems could prove illusory.

Uzbekistan has to implement a comprehensive and people-focused approach to attain the next level of reform maturity. This involves enhancing legal mechanisms, investing in digitalization—especially among SMEs—interagency interoperability, and mainstreaming procurement professionalism into the civil service system. Most importantly, continuous monitoring and evidence-led assessment of user behavior, cost-reduction, and corruption patterns are essential to inform policy realignment and support accountability mechanisms. The Uzbek experience contains important lessons for other developing nations undertaking digital transformation. It shows how digitally driven procurement systems can do more than just function as technical solutions; they can be institutional enablers of integrity, inclusiveness, and fiscal prudence if implemented and tailored to local settings.

Assumptions & Limitations: Our analysis assumes e-proc adoption is exogenous and isolates its effect, though in reality governance quality and market conditions also evolve. Data gaps (e.g. complaints statistics) required us to infer from proxies and case studies [3][5]. CPI is a general measure, not procurement-specific. We emphasize transparency in sources and note where official Uzbek data were unavailable. Despite these, the convergence of qualitative and quantitative evidence supports continuing e-proc reforms.

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