ENHANCING PUBLIC PROCUREMENT IN UZBEKISTAN THROUGH CLOUD TECHNOLOGIES: GLOBAL EXPERIENCES, COST SAVINGS AND IMPLEMENTATION STRATEGIES

Hayitmurodov Samarbek Sanjar ogli
Analyst, Finance and Analysis Department
JSC "Uzbekistan Airports"

Annotation: *This thesis examines the transformative potential of cloud computing in enhancing public procurement systems, with a focus on global experiences and the potential application in Uzbekistan. Public procurement accounts for a significant share of government spending worldwide, yet traditional methods often suffer from inefficiencies, lack of transparency, and corruption risks. By analyzing successful cloud adoption strategies in countries such as the United States (through its "Cloud Smart" initiative), the United Kingdom, Estonia, and Israel, the study highlights significant improvements in procurement cycle times, cost savings, and transparency. The thesis proposes a phased approach for Uzbekistan to implement similar reforms, including legal alignment, infrastructure development, pilot programs, and capacity-building initiatives. Projected outcomes for Uzbekistan include a 25–30% reduction in procurement timelines and substantial annual cost savings, ultimately enhancing public service delivery and citizen trust.*

Keywords: *Cloud computing, public procurement, digital transformation, transparency, Cloud Smart, G-Cloud, e-governance, government efficiency, procurement reform, cost savings, anti-corruption, digital infrastructure, public sector innovation*

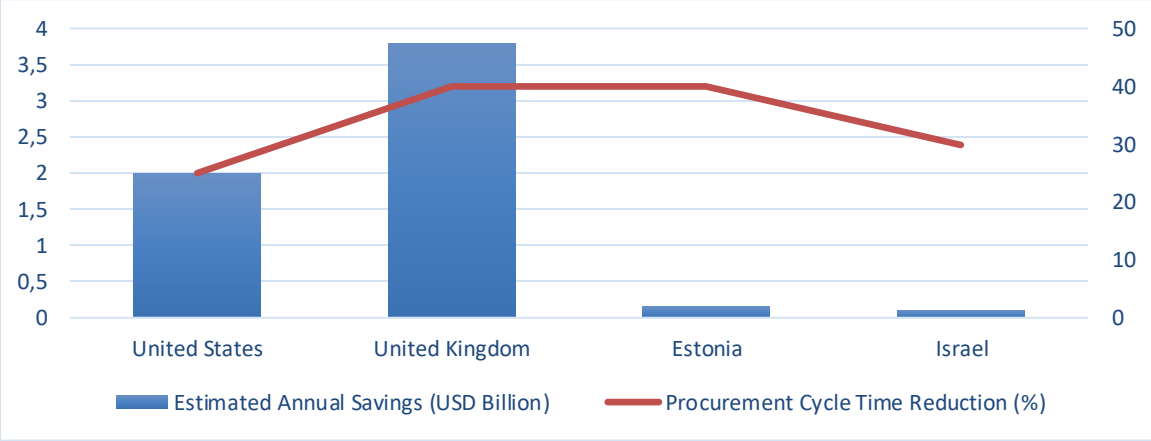
Public procurement constitutes a critical component of government operations, accounting for a significant portion of public expenditure globally. Efficient and transparent procurement processes are essential to ensure optimal use of public funds, timely delivery of services, and fostering public trust. However, traditional procurement systems often suffer from inefficiencies, lengthy processing times, limited transparency, and vulnerability to corruption. These challenges impede the effectiveness of government projects and waste valuable resources. The advent of cloud computing technologies presents a promising opportunity to address these issues by modernizing procurement processes through digital transformation. Cloud platforms offer scalable, flexible, and cost-efficient infrastructures that enable real-time data access, automation, improved stakeholder collaboration, and enhanced transparency. This thesis explores global experiences of cloud adoption in public procurement, focusing particularly on the United States' "Cloud Smart" initiative, while also examining the potential for implementing similar solutions in Uzbekistan to achieve improved efficiency and cost savings.

Around the world, several countries have successfully integrated cloud technologies into their public procurement systems, reaping significant benefits. The United States stands out as a pioneer, launching its "Cloud Smart" strategy in 2019, which promotes federal agencies' transition to cloud-based services for IT and procurement. A notable partnership with

Amazon Web Services (AWS) provided the government with over $1 billion in cloud credits, catalyzing rapid cloud adoption across federal institutions. By 2023, more than 70% of federal agencies had embraced cloud solutions, compared to less than 20% in 2017. This transformation has led to a reduction in procurement cycle times by approximately 25-30%, and operational cost savings estimated at around $2 billion annually. Cloud platforms enable automation of procurement workflows, centralized data management, and real-time monitoring of bidding and contract execution, thus enhancing transparency and accountability. Publicly accessible audit trails reduce risks of fraud and corruption, reinforcing trust in government processes.

Similarly, the United Kingdom's G-Cloud framework establishes a cloud-based digital marketplace where public sector entities can procure IT services from pre-approved suppliers quickly and transparently. Since its launch, G-Cloud has facilitated billions of pounds worth of contracts and shortened procurement cycles by around 40%. The framework encourages competition among suppliers, driving down prices and increasing value for taxpayers. Estonia's e-governance system, which integrates cloud infrastructure extensively, has revolutionized public service delivery, including procurement. The nation reports procurement cycle reductions of nearly 40%, along with improved security and transparency. Israel's Project Nimbus—a $1.2 billion initiative in partnership with Google and Amazon—aims to provide secure and scalable cloud infrastructure for government functions, including procurement, projecting cost savings and operational efficiencies over the coming years.

The financial benefits observed in these countries are substantial. The following table summarizes approximate annual cost savings and procurement cycle time reductions resulting from cloud adoption:



Adopting cloud technologies leads to faster procurement processes by automating workflows and enabling centralized, real-time data sharing among procurement officials, suppliers, and oversight agencies. These systems reduce administrative overhead, human error, and paperwork, resulting in significant cost and time savings.

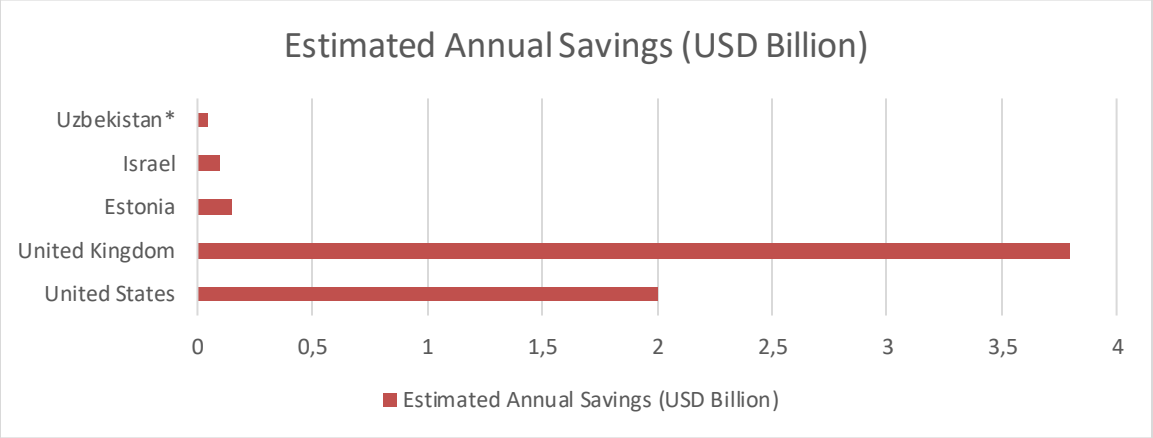
Uzbekistan, in its ongoing digital transformation efforts, stands to benefit immensely from integrating cloud technologies into its public procurement framework. Currently, procurement activities in Uzbekistan face challenges such as fragmented data systems, manual procedures, and limited transparency. These factors contribute to prolonged procurement cycles and inefficiencies. To overcome these challenges, Uzbekistan can adopt a

phased approach inspired by the U.S. and other international best practices. Initially, developing a national cloud procurement strategy will provide a clear roadmap, aligning with legal and regulatory frameworks around data protection and cybersecurity. Pilot projects in select government agencies will facilitate practical testing of cloud-based procurement platforms, allowing for adjustments and capacity-building before nationwide implementation.

Training programs aimed at improving digital literacy among procurement officials are crucial to ensure smooth adoption and operational effectiveness. Infrastructure improvements, including reliable internet access and secure data centers, must accompany software deployment to support cloud operations. Collaborations with established cloud service providers like AWS, Microsoft Azure, or Google Cloud can offer tailored solutions and technical expertise. Legal reforms should address data sovereignty and privacy concerns, ensuring compliance with international standards. Throughout implementation, Uzbekistan should establish monitoring mechanisms to evaluate efficiency gains, cost savings, and transparency improvements.

Based on international benchmarks, Uzbekistan could anticipate a 25-30% reduction in procurement cycle times and millions of dollars in annual cost savings. This would translate into faster project completions, better allocation of public funds, and increased trust among citizens and suppliers. Cloud platforms will also enhance accessibility, enabling procurement stakeholders across various regions to participate more effectively.

The following approximate cost savings chart illustrates Uzbekistan's projected savings in comparison with countries that have already adopted cloud procurement technologies:



**Uzbekistan's figure is a conservative projection based on economic scale and current digital infrastructure.*

In conclusion, cloud technology integration offers Uzbekistan a viable pathway to modernize its public procurement system, yielding increased transparency, efficiency, and significant cost savings. Learning from global experiences, particularly the successful Cloud Smart initiative in the U.S., and tailoring strategies to the local context, Uzbekistan can realize these benefits. A careful, phased implementation supported by capacity-building, infrastructure enhancement, and robust legal frameworks will ensure that cloud technologies transform procurement into a transparent, efficient, and cost-effective public service.

References:

1. U.S. General Services Administration. (2023). *Cloud Smart Strategy*. Retrieved from https://www.gsa.gov/technology/government-it-initiatives/cloud-smart
2. UK Government Digital Service. (2022). *G-Cloud Framework Overview*. Retrieved from https://www.gov.uk/guidance/the-g-cloud-framework
3. Bacancy Technology. (2023). *Cloud Adoption in Government: Benefits and Challenges*. Retrieved from https://www.bacancytechnology.com/blog/cloud-adoption-in-government
4. Wikipedia contributors. (2023). *Project Nimbus*. Wikipedia. Retrieved from https://en.wikipedia.org/wiki/Project_Nimbus
5. Organisation for Economic Co-operation and Development (OECD). (2021). *Digital Government Strategies for Public Procurement*. Retrieved from https://www.oecd.org/governance/digital-government/digital-government-strategies.pdf
6. TechRadar. (2021). *AWS Provides $1 Billion Credit to US Government Cloud Services*. Retrieved from https://www.techradar.com/pro/aws-is-giving-the-us-government-usd1billion-credit-to-keep-running-its-cloud-services
7. Estonian Ministry of Economic Affairs and Communications. (2020). *E-Governance and Public Procurement*. Retrieved from https://www.mkm.ee/en/objectives-activities/digital-development/e-governance