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Determinants of Electronic Government Procurement Adoption in Local Government: Evidence from Lusaka City Council, Zambia

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Abstract

The adoption of Electronic Government Procurement (EGP) systems has become a central pillar of public sector modernisation worldwide. The study addresses the limited empirical evidence on EGP adoption at local-authority level in Zambia and extends technology-adoption research by integrating user, institutional, and managerial perspectives. Drawing on qualitative data from seventeen purposively selected participants across procurement, finance, ICT, audit, legal, and administration departments, the study employs thematic analysis to surface four principal barriers: inadequate ICT infrastructure, limited staff digital competencies, organisational resistance to change, and gaps in regulatory enforcement. The findings further demonstrate that management support, expressed through resource allocation, policy directives, and visible leadership engagement, constitutes the most decisive determinant of adoption outcomes. The article concludes with a suite of evidence-based strategies encompassing structured capacity building, phased infrastructure investment, enforceable compliance mandates, and comprehensive stakeholder engagement, providing actionable guidance for policymakers and institutional leaders in Zambia and comparable developing-country contexts.

1. Introduction

The adoption of electronic government procurement (EGP) systems has emerged as one of the most significant developments in public sector modernisation across the world. Driven by the dual imperatives of improving transparency and reducing the fiscal costs associated with traditional paper-based procurement, governments at all levels are increasingly transitioning toward digital procurement platforms that promise faster processing, enhanced accountability, and greater value for public money (World Bank, 2023). In Zambia, this transition is occurring within a broader context of public financial management reforms aimed at curbing corruption, improving budget execution, and aligning procurement practices with international standards of governance (Zambia Public Procurement Authority, 2023).

Local authorities occupy a particularly important position within this reform agenda. As the tier of government most directly responsible for delivering services to communities, local councils manage a significant volume of procurement activity spanning infrastructure, goods, and services. At Lusaka City Council, procurement operations are central to the delivery of urban services including road maintenance, solid waste management, water and sanitation infrastructure, and the procurement of goods for public offices. The scale and complexity of these operations make EGP adoption both a priority and a challenge, as the Council must balance institutional capacity constraints with the growing demands of a rapidly urbanising population (Lusaka City Council Annual Report, 2024).

Electronic government procurement refers to the use of information and communication technologies to conduct and manage public procurement processes, including the publication of tenders, submission of bids, evaluation of suppliers, and the management of contracts and payments through digital platforms (OECD, 2023). Research from across Sub-Saharan Africa has demonstrated that EGP systems, when effectively implemented, reduce procurement cycle times, minimise opportunities for collusion, and generate cost savings through increased competition among suppliers (Mwamba and Phiri, 2024). However, evidence from Zambia and comparable developing economies also highlights that EGP adoption is frequently constrained by inadequate digital infrastructure, low levels of digital literacy, resistance from entrenched institutional actors, and a lack of sustained management commitment (Chanda and Mulenga, 2023).

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Previous studies have examined e-procurement and public-sector digitalisation more broadly, limited evidence exists on how technological, human, organisational, regulatory, and managerial factors interact at local-authority level in Zambia.

1.2 Background of the Study

Zambia's public procurement framework has undergone significant legislative and institutional transformation over the past decade. The enactment of the Public Procurement Act No. 8 of 2020 marked a pivotal shift in the country's approach to procurement governance, establishing the Zambia Public Procurement Authority (ZPPA) as the primary regulatory body and providing the legal basis for the progressive adoption of electronic procurement systems across government institutions (ZPPA, 2023). Public entities including local authorities are expected to transition toward digital procurement platforms as part of the government's broader commitment to improving public financial management.

Within Zambia, the national e-Government strategy and the Smart Zambia initiative have created an enabling policy environment for digital transformation in public institutions (Smart Zambia Institute, 2024). The ZPPA has piloted electronic tender advertisement and supplier registration systems, and the Integrated Financial Management Information System (IFMIS) has partially automated payment processing for procured goods and services across central government (Ministry of Finance and National Planning, Zambia, 2024). However, the rollout of comprehensive EGP systems at the local government level has been uneven, with most councils still relying on hybrid or predominantly manual procurement processes despite the availability of national digital infrastructure.

National procurement audit reports indicate that approximately 68 percent of local authorities in Zambia still rely on manual procurement systems, while only about 32 percent have partially adopted electronic procurement tools, resulting in persistent inefficiencies including prolonged tender cycles, limited supplier participation, poor record keeping, and vulnerability to procurement irregularities (Office of the Auditor General, Zambia, 2023). At Lusaka City Council specifically, internal assessments suggest that about 70 percent of procurement processes are still conducted manually. Despite the existence of an enabling legal and digital-policy environment, the persistence of predominantly manual procurement indicates an implementation gap at local-authority level.

2 Literature Review

2.1 Global Perspectives on EGP Adoption

At the global level, electronic government procurement has become a central component of public sector digital transformation strategies aimed at improving efficiency, transparency, and accountability in procurement processes (OECD Digital Report, 2024). Countries such as South Korea and Estonia have successfully implemented advanced EGP systems that streamline procurement operations and reduce administrative costs (Park and Kim, 2023). The availability of adequate ICT infrastructure is widely recognised as a fundamental requirement for successful EGP implementation. Reliable internet connectivity enables procurement officers and suppliers to access digital platforms efficiently and without disruption, while system compatibility ensures that procurement platforms interact seamlessly with existing government systems such as financial management and auditing systems (Taylor and Green, 2024).

Data security and system reliability are equally essential considerations. Secure systems protect sensitive procurement data from cyber threats and unauthorised access, and system reliability ensures consistent performance necessary for building user trust and confidence (Baker, 2023). Developing countries face additional barriers including inadequate infrastructure and limited technical capacity that compound these challenges (UNDP, 2024).

2.2 African and Zambian Contexts

In Africa, the adoption of electronic government procurement systems is gradually increasing as governments seek to improve transparency and efficiency in public procurement (African Development Bank, 2024). Countries such as Rwanda and Kenya have made notable progress in implementing digital procurement platforms; however, the adoption of EGP in Africa remains uneven due to infrastructural and institutional challenges (Mwangi and Otieno, 2025). Management support and leadership commitment are widely recognised as critical determinants of EGP adoption in African public sector institutions (Kamau, 2024). Organisational culture also plays a significant role, with public sector organisations often exhibiting resistance to change due to entrenched practices and fear of new technologies (Okafor, 2025).

In Zambia, EGP adoption is still evolving within the broader context of public sector reforms. Staff ICT skills and competencies are critical factors influencing the adoption and effective use of EGP systems. Limited digital literacy among procurement officers hinders system utilisation, while training programmes play an important role in improving user competence and confidence (Kapasa, 2024). Supplier readiness and participation are equally important, as the level of digital literacy among suppliers affects their ability to engage with procurement platforms (Chanda, 2024).

2.3 Theoretical Frameworks

Two theoretical frameworks underpin this study. The Technology Acceptance Model (TAM) explains how users come to accept and use new technologies, focusing on perceived usefulness and perceived ease of use as key determinants that influence user attitudes and behavioural intentions (Davis, 2025). TAM has been widely applied in studies on EGP adoption and is particularly relevant in public sector contexts where users must adopt systems mandated by institutional policy. Institutional Theory complements TAM by explaining how organisational structures, rules, regulations, and cultural expectations shape decisions regarding technology adoption (Scott, 2024). External pressures from regulatory bodies and the broader institutional environment influence organisational behaviour and compliance with mandates, making institutional theory directly applicable to local government procurement reform.

TAM explains adoption from the perspective of individual users, particularly how perceived ease of use and usefulness shape acceptance, while Institutional Theory explains how regulatory mandates, organisational routines, cultural norms and management structures influence institutional adoption. Together, the two theories allow EGP adoption to be understood as both a behavioural and organisational process.

3 Research Methodology

Research Approach and Design

The study adopted a qualitative research approach underpinned by the interpretivist paradigm. The approach was appropriate because the study sought to understand participants' experiences and perceptions of the factors influencing Electronic Government Procurement (EGP) adoption within an organisational setting. A case study design focusing on Lusaka City Council was employed to facilitate an in-depth examination of technological, human, managerial, and institutional factors affecting EGP adoption.

Study Population and Sampling

The study population comprised employees of Lusaka City Council whose responsibilities were directly or indirectly related to procurement processes and the implementation or use of electronic procurement systems. Participants were drawn from procurement, finance, ICT, audit, legal, administration, and senior management functions.

A purposive sampling technique was used to select participants with relevant knowledge and experience of procurement and EGP processes. A total of 17 participants were interviewed. The sample included procurement officers, finance personnel, ICT staff, and representatives from senior management, audit, and legal functions. Participants with substantial institutional experience were deliberately included to provide informed perspectives on the development and implementation of EGP within the Council. Data collection continued until sufficient thematic depth was achieved and no substantively new themes relevant to the research questions were emerging.

Data Collection

Primary data were collected through semi-structured interviews. This method provided consistency around the major research themes while allowing participants sufficient flexibility to explain their experiences, perceptions, and concerns regarding EGP adoption.

The interview guide focused on the principal factors affecting EGP adoption, the role of management support, and strategies for improving implementation. With participants' consent, interviews were recorded and subsequently transcribed for analysis. The transcripts were reviewed against the recordings to improve accuracy before coding and interpretation.

Data Analysis

Data were analysed using thematic analysis. The analysis involved familiarisation with the interview transcripts, initial coding, identification of recurring patterns, development of preliminary themes, review and refinement of the themes, and interpretation in relation to the study objectives and theoretical framework.

NVivo was used to organise and manage the qualitative data and support systematic coding. Codes with related meanings were grouped into broader themes representing the principal determinants of EGP adoption. The analysis generated themes relating to ICT infrastructure, staff digital competencies, resistance to change, regulatory enforcement, management support, and strategies for strengthening EGP adoption. The themes were subsequently interpreted using the Technology Acceptance Model and Institutional Theory where theoretically relevant.

Trustworthiness of the Study

The quality of the qualitative inquiry was strengthened through attention to credibility, dependability, confirmability, and transferability. Credibility was enhanced through member checking and the inclusion of participants from different functional areas involved in procurement processes. Triangulation across participant categories enabled comparison of perspectives from procurement, finance, ICT, audit, legal, administration, and management functions.

Dependability was supported through the consistent use of a semi-structured interview guide and a systematic thematic analysis procedure. Confirmability was enhanced by grounding interpretations in participants' accounts and retaining an identifiable connection between the emerging themes and the underlying interview evidence. The study also provides sufficient contextual information about Lusaka City Council and the participants to enable readers to assess the potential transferability of the findings to comparable local authorities.

Ethical Considerations

Ethical principles of informed consent, voluntary participation, confidentiality, anonymity, and protection from harm guided the study. Participants were informed of the purpose of the research and their right to withdraw from participation. Consent was obtained before interviews and recording.

Participants' identities were protected during transcription, analysis, and reporting. Interview evidence was presented without information that could unnecessarily identify individual respondents. Research data were handled confidentially and used solely for the purposes of the study. Institutional permission and ethical approval were obtained where required before commencement of data collection.

Methodological Scope

As a qualitative case study, the research was intended to provide an in-depth understanding of EGP adoption within Lusaka City Council rather than statistical generalisation to all local authorities in Zambia. Nevertheless, the inclusion of participants from multiple functional areas provides diverse institutional perspectives and allows the findings to offer analytical insights that may be relevant to other local authorities operating under comparable procurement and digital-governance conditions.

4 Findings and Discussion

The findings demonstrate that Electronic Government Procurement (EGP) adoption at Lusaka City Council is shaped by an interaction of technological, human, organisational, managerial, and regulatory factors. Although EGP is supported by Zambia's broader public procurement and digital transformation agenda, effective adoption at institutional level remains constrained by implementation challenges. The findings therefore suggest that the existence of an electronic procurement system and an enabling regulatory environment does not automatically translate into effective organisational adoption.

ICT infrastructure emerged as the most widely reported barrier, with 94% of participants identifying unreliable internet connectivity, outdated hardware, and power disruptions as major constraints. These challenges frequently forced procurement officers to revert to manual processes, thereby undermining

consistent use of EGP. This finding supports earlier studies that identify reliable ICT infrastructure as a prerequisite for successful digital procurement. More importantly, the study shows that infrastructure deficiencies are not merely technical problems; they are linked to institutional resource allocation and management priorities. Where adequate resources are not committed to ICT systems, sustainable EGP adoption becomes difficult.

Limited staff digital competencies were also a significant constraint, identified by 88% of participants. The findings indicate that training was largely episodic and insufficient to develop sustained competence in EGP utilisation. This finding is consistent with the Technology Acceptance Model (TAM), particularly the role of perceived ease of use in technology adoption. Staff who lack adequate skills and technical support may perceive EGP systems as difficult to use and consequently revert to familiar manual procedures. Continuous, role-specific training and accessible technical support are therefore important for improving user confidence and sustained system utilisation.

Resistance to change, reported by 82% of participants, further demonstrates that EGP adoption is not solely a technological process. Preference for established manual procedures, concerns about system reliability, and anxiety associated with changing work practices contributed to resistance. This finding is consistent with Institutional Theory, which emphasises the influence of established organisational norms, routines, and practices on institutional behaviour. The persistence of manual procurement practices suggests that successful digital transformation requires deliberate change management alongside technological investment.

The findings also reveal an important regulatory dimension. Although Zambia has an enabling procurement framework, 65% of participants perceived weaknesses in the operationalisation and enforcement of EGP requirements at local-authority level. Where electronic procurement requirements are not accompanied by clear institutional directives, implementation targets, and accountability mechanisms, officers retain considerable discretion to continue using manual procedures. From an Institutional Theory perspective, this demonstrates that regulatory pressure is more likely to influence organisational behaviour when formal requirements are supported by effective enforcement and internal compliance mechanisms.

A particularly important finding is the role of management support in shaping EGP adoption. All participants identified resource allocation as a critical expression of management commitment, while 88% highlighted the importance of clear policy directives and 76% emphasised visible leadership engagement. These findings suggest that management support operates as a cross-cutting enabling factor rather than simply another determinant of adoption. Management decisions influence infrastructure investment, staff training, policy enforcement, and organisational attitudes towards digital procurement. Consequently, weaknesses in management commitment may reinforce technological and behavioural barriers, whereas strong leadership can facilitate their resolution.

The findings therefore extend the combined application of TAM and Institutional Theory. While TAM helps explain individual acceptance of EGP through user competence and perceived ease of use, Institutional Theory explains how regulatory requirements, organisational routines, and institutional expectations shape adoption at organisational level. The study demonstrates that these dimensions are interconnected through management support. Effective EGP adoption requires not only employees who are willing and able to use the technology, but also an institutional environment that provides adequate resources, establishes clear expectations, and reinforces digital procurement practices.

Overall, the study suggests that EGP adoption at Lusaka City Council should be understood as a multidimensional organisational transformation process rather than simply the introduction of new technology. Sustainable adoption requires simultaneous attention to infrastructure, staff capabilities, organisational culture, regulatory enforcement, and leadership commitment. The study's principal contribution is therefore the identification of management support as a coordinating mechanism through which technological, human, and institutional conditions can be strengthened to facilitate effective EGP adoption in local government.

5 Conclusion and Recommendations

5.1 Conclusion

The adoption of Electronic Government Procurement at Lusaka City Council remains limited due to a combination of structural, institutional, and behavioural challenges. While the policy environment in Zambia supports digital procurement, practical implementation at the local authority level has been constrained by inadequate infrastructure, limited human capacity, and weak institutional enforcement mechanisms. EGP adoption is not solely a technological issue but a multidimensional process requiring alignment between systems, people, and organisational structures.

The study contributes by showing that management support is not merely one determinant among many, but a coordinating mechanism that influences resource availability, user readiness, policy enforcement, and organizational commitment. Without strong leadership commitment, adequate resource allocation, and clear policy direction, digital procurement initiatives are unlikely to achieve meaningful progress. Successful EGP adoption therefore requires a holistic and integrated approach that addresses technological readiness, human capacity, organisational culture, and institutional governance simultaneously. Isolated interventions are unlikely to produce sustainable outcomes unless they form part of a coordinated strategy supported by strong leadership and adequate resources.

5.2 Recommendations

In light of the findings and conclusions of the study, the following recommendations are proposed to enhance EGP adoption at Lusaka City Council and comparable local authorities. The Council should prioritise investment in ICT infrastructure by allocating dedicated financial resources toward improving internet connectivity, upgrading hardware, and ensuring system reliability, treating such investment as a strategic priority rather than an optional expenditure. A phased approach beginning with the procurement unit is both practically feasible and likely to generate visible results that justify further investment.

The Council should implement a structured and continuous training programme focused on building practical competencies among staff, tailored to specific job roles and supported by ongoing technical assistance, mentorship, and peer-champion networks. Clear internal policies mandating the use of EGP systems across all procurement activities should be developed and enforced, accompanied by monitoring and accountability mechanisms to ensure compliance and consistency. Establishing EGP as the default procurement method will reduce discretionary behaviour and accelerate adoption.

Leadership engagement should be strengthened by ensuring that senior management actively participates in EGP initiatives and demonstrates commitment through their actions. Leaders should model the use of digital systems, support training efforts, and communicate the importance of EGP

adoption to all staff. Finally, the Council should adopt comprehensive change management strategies that include deliberate communication, participatory design, supplier training, and the creation of psychological safety for staff anxious about the transition.

5.3 Implications for Future Research

This study provides a foundation for further research on digital procurement in local government contexts. Future studies could adopt quantitative approaches to measure the impact of specific factors on EGP adoption or conduct comparative analyses across different local authorities in Zambia. Longitudinal studies would provide insights into how adoption evolves over time and the long-term effects of digital procurement on efficiency and transparency. Research exploring the perspectives of suppliers and external stakeholders would further enrich understanding of the broader ecosystem within which EGP adoption occurs.

Declaration of Competing Interests

The Authors declare no competing interests.

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Authors' Contribution Statement

Formulated and designed the study; established the research framework and technique; directed the composition of the initial manuscript draft.

Ethical considerations

The article followed all ethical standards appropriate for this kind of research.

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