

Volume X, Issue X, October 2024, Pages xx-xx

(if it's 1st article, pagination starts with 7th

page not 1st)

DOI:

URL:

E-Procurement adoption in the public sector

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Abstract: E-Procurement adoption in public financial institutions has emerged as a transformative strategy to enhance transparency, efficiency, and compliance within government procurement systems. However, its implementation remains partial and underexplored. This study investigates the adoption of E-Procurement systems in the public sector, with the aim of identifying the key influencing factors, realized benefits, and persistent barriers to adoption. The study is grounded in the interpretivist paradigm and employs a qualitative case study approach, using data collected through structured open-ended questionnaires from 18 purposively sampled staff members of the Procurement Policy Unit in the public financial sector. Thematic analysis was conducted using ATLAS.ti software to extract patterns and insights. Findings reveal that organizational readiness, top management support, individual attitudes, and technological ease of use significantly influence adoption. Benefits reported include improved transparency, faster processing, cost savings, and enhanced compliance. However, several limiting factors persist, such as managerial inefficiencies, financial constraints, resistance to change, and concerns about system security and stakeholder alignment. The study contributes by proposing a set of strategic recommendations aimed at improving the uptake and sustainability of E-Procurement systems. These include targeted capacity-building, infrastructure investment, change management, and stakeholder engagement strategies. The findings provide actionable insights for policymakers, practitioners, and researchers seeking to strengthen digital procurement reforms in developing country contexts.

Keywords: E-Procurement adoption; public sector procurement; procurement digitalization; implementation barriers; procurement efficiency

1. Introduction

Across the globe, public procurement is undergoing a significant transformation driven by the adoption of digital technologies. At the heart of this transformation is the implementation of E-Procurement systems, which have become vital tools for enhancing efficiency, reducing corruption, and improving compliance in public sector operations. These systems are designed to automate various procurement processes, ranging from requisitioning to payment, thereby reducing human error and streamlining workflows. According to DeConick (2019), features such as automated approval workflows and real-time audit trails provide transparency and accountability, which are essential for good governance. As governments seek to modernise their operations in the digital age, E-Procurement offers a practical solution for improving procurement practices while ensuring that transactions remain compliant with existing regulatory frameworks. Globally, the origins of E-Procurement trace back to the 1980s with the introduction of electronic data interchange (Ageshin, 2001), and since then, it has evolved to encompass a wide range of functions that support the digital transformation of procurement systems. Studies have

shown that the implementation of E-Procurement can support policy compliance through the use of standardised templates, budget controls, and user access management (DeConick, 2019). It also enables public institutions to align procurement activities with modern governance principles by providing timely and accurate data for monitoring and evaluation. Reinartz, Wiegand, and Imschloss (2019) and Samaranayake, Ramanathan, and Laosirihongthong (2017) suggest that this shift to electronic systems does not only improve internal efficiency; it also fosters trust among external stakeholders such as suppliers and the public.

While much of the global literature extols the benefits of E-Procurement, African countries continue to face structural and implementation-related challenges. In many cases, E-Procurement remains an underutilised innovation due to legal, infrastructural, and human capacity constraints. Haimbodi (2012) highlights that implementing E-Procurement in government settings requires substantial restructuring, including changes to procurement processes such as budget definition, demand forecasting, and supply chain monitoring. In Rwanda, Tanzania, and other African nations, efforts to digitise procurement have often included legal reforms and government-led initiatives to promote transparency and accountability (Harelimana, 2018; Leo Sun, 2009). The drive toward E-Procurement adoption reflects a broader recognition of the need for reform. However, the journey toward full implementation has been complex. Despite its potential, the adoption of E-Procurement in developing countries remain partial and uneven. Like many governments in developing countries, Namibia faces the dual challenge of enhancing procurement efficiency while ensuring strict adherence to procurement regulations. This balance is particularly difficult to maintain in environments where institutional inertia, resource constraints, and limited digital infrastructure persist. As Tiago (2014) points out, E-Procurement platforms have the potential to completely transform procurement environments by integrating suppliers, government officials, and oversight bodies into a single transparent digital system.

Despite advancements in other contexts, developing countries continue to lag behind in fully embracing E-Procurement within its public institutions. According to Transparency International (2013), Namibia ranks among the most corrupt countries in the world in terms of public procurement irregularities. While the enactment of the Public Procurement Act of 2015 marked a step forward, gaps in enforcement and loopholes remain (Mugadza, 2018; Haimbodi, 2012). These weaknesses undermine trust in procurement processes and make it more difficult to ensure consistent and fair outcomes. The reality on the ground reflects the urgency of adopting systems that can offer greater transparency, efficiency, and alignment with regulatory frameworks. Against this backdrop, this study focuses on the public financial sector, which plays a central role in shaping public financial governance. The research seeks to unpack the factors that influence E-Procurement adoption, explore the associated benefits, identify limiting challenges, and propose strategies to support sustainable implementation. By adopting a qualitative case study approach, the study aims to fill an empirical gap in the existing literature, as there is currently limited context-specific evidence on how E-Procurement systems function within Namibian public institutions. The ultimate goal is to contribute meaningful insights that can inform public policy, enhance digital procurement reform, and support the the public financial sector and similar entities in delivering more efficient and transparent procurement services.

2. Literature Review

A growing body of literature has explored the transformative potential of E-Procurement in public sector operations, especially in enhancing transparency, operational efficiency, and regulatory compliance. This section reviews the existing literature by unpacking key definitions, examining empirical findings on factors influencing E-Procurement adoption, highlighting benefits and barriers, proposing strategic responses, and outlining the theoretical foundations that inform this study. A clear emphasis is placed on the gaps in the literature, particularly the scarcity of empirical studies within the Namibian context, which justifies the present inquiry.

2.1. Conceptual clarifications

Understanding the conceptual underpinnings of E-Procurement is essential to interpreting the motivations and outcomes associated with its adoption. E-Procurement, or electronic procurement, refers to the use of digital platforms to automate and improve the various stages of the procurement process including requisitioning,

sourcing, ordering, invoicing, and payment (Shatta & Layaa, 2020). It replaces conventional procurement approaches with streamlined electronic systems that minimise human error and enhance operational efficiency. According to Chaffey et al. (2016), the increasing prevalence of internet technologies in procurement is driven by the demand for real-time processing, cost control, and better supplier relationships. In the context of public sector procurement, the importance of compliance cannot be overstated. Procurement compliance describes how well procurement transactions and activities conform to applicable laws, policies, procedures, and industry standards (Alomar & Visscher, 2017). It ensures that public resources are spent transparently and responsibly. E-Procurement supports compliance by embedding procurement rules within the system, thereby reducing discretionary decision-making and increasing auditability (Chaffey et al., 2016; Nautwima & Asa, 2022a). E-Procurement adoption refers to the institutional process of shifting from manual paper-based procurement practices to digital procurement systems. It is a complex process that involves technological integration, change management, capacity development, and alignment with legal frameworks (Altayyar & Beaumont-Kerridge, 2016a; Kabanda, 2019). Successful digital adoption requires organizational readiness, leadership commitment, and stakeholder buy-in (Nautwima & Asa, 2022b).

2.2. Empirical insights on E-Procurement adoption

A considerable volume of empirical literature has explored the adoption of E-Procurement in different national and institutional contexts. The review of global and African studies provides useful insights into both the drivers and limitations of E-Procurement implementation. Altayyar and Beaumont-Kerridge (2016) conducted an extensive study in Saudi Arabia to explore external factors that influence E-Procurement adoption among small and medium-sized enterprises (SMEs). Their findings highlighted nine critical factors including government support, internet connectivity, secure online payments, educational programs, and supplier readiness. These findings emphasize the importance of external environments in shaping the success of E-Procurement initiatives. In a European context, Alomar and Visscher (2017) analyzed adoption determinants across 760 Belgian firms using the Technology Acceptance Model (TAM), Diffusion of Innovation (DOI), and the Technology-Organization-Environment (TOE) framework. The study found that business size, openness to change, pressure from trading partners, and organizational preparedness were key predictors of E-Procurement adoption. Interestingly, the study did not find a significant relationship between perceived relative advantage and adoption, suggesting that awareness of benefits alone is insufficient if structural readiness is lacking. Masudin et al. (2021) focused on the manufacturing sector in Indonesia and found that top management support and quality of information systems significantly influenced E-Procurement adoption, which in turn positively impacted organizational performance. Their findings echo broader calls for leadership engagement as a foundation for successful implementation.

In Africa, Ibem and Laryea (2015) investigated the South African construction sector and identified technologies such as email, static websites, web 2.0 tools, and portals as key platforms used for E-Procurement. A follow-up study by Ibem et al. (2016) in Nigeria revealed that adoption is influenced by awareness levels, the perceived benefits of E-Procurement, and the cost and availability of relevant technologies. Their findings point to the interplay between technological literacy, access to tools, and adoption behavior. In the same Nigerian context, Ibem et al. (2021) surveyed 759 users and found that E-Procurement was commonly used for information exchange and payments but underutilized for material tracking and construction progress monitoring. They attributed this gap to infrastructure constraints, user experience, and limitations in internet access. From East Africa, Ronald and Omwenga (2015) observed that technology, organizational culture, and environmental conditions significantly shaped E-Procurement adoption in Kenya's County Government of Bomet. Tsuma and Kanda (2017) echoed these findings in their study on international NGOs in Nairobi, identifying organizational, innovation-related, and strategic factors as key drivers. Waithaka and Kimani (2021) further added that e-security, staffing, and top management support are among the most important factors influencing E-Procurement uptake. Although the above studies provide valuable insights into how E-Procurement systems are adopted across various sectors and countries, there is very limited evidence from the Namibian public sector, an empirical gap that this study aims to address.

2.3. Benefits of E-Procurement adoption

The adoption of E-Procurement has been widely associated with improved performance outcomes in both public and private organizations. In Indonesia, Sa'adah (2020) found that E-Procurement reduced fraud and enhanced institutional performance by streamlining operations. Likewise, Rahman et al. (2019) demonstrated that E-Procurement contributed to administrative savings, improved job performance, and better overall productivity. Innocent and Kalaskar (2016) also documented similar benefits, including reduced maverick spending and more efficient inventory and customer service systems. Kabanda (2019) observed that institutions in Lesotho perceived benefits such as enhanced transparency and efficiency as compelling reasons to adopt E-Procurement. These perceptions were reinforced by coercive and normative pressures from regulatory agencies and international partners. In Ghana, Bofo and Ahudey (2020) showed that E-Procurement significantly improved tender evaluations, transparency in supplier selection, and procurement record management. The study found that E-Procurement created opportunities for better supplier relationships and reduced the potential for corruption. These studies collectively confirm that E-Procurement can offer a wide range of benefits when properly implemented. However, the extent to which these benefits are realized depends heavily on contextual readiness, infrastructure quality, and leadership commitment. The absence of national-level studies in Namibia represents a significant gap in the literature, which this research seeks to address.

2.4. Challenges to E-Procurement adoption

Despite its benefits, the adoption of E-Procurement is often accompanied by multiple challenges. Addo (2019) identified employee competency gaps, an underdeveloped legal framework, poor technological infrastructure, and concerns about data security as key barriers in Ghana's public sector. These findings align with broader concerns that E-Procurement cannot thrive without a foundational environment that supports digital engagement. Mohungoo et al. (2020) synthesized findings from a broad range of studies using the TOE framework and categorized the challenges into technological, organizational, and environmental dimensions. Technological challenges included user acceptance, security issues, and system complexity, organizational issues ranged from leadership limitations to resistance to change and lack of training, while environmental challenges included legal inconsistencies, weak regulatory oversight, and inadequate support for small enterprises. These barriers have profound implications for developing countries, where E-Procurement remains underdeveloped and under-researched. Exploring how these challenges manifest within the the public financial sector is therefore crucial to understanding how to tailor interventions that can support successful implementation.

2.5. Strategies for overcoming adoption barriers

Several strategies have been proposed to overcome the limitations of E-Procurement adoption. Waithaka and Kimani (2021) advocate strong top management support, which can help drive institutional reforms and mobilize resources needed for system implementation. Addo (2019) supports legislative reforms that legitimize electronic procurement processes and enable greater integration across government departments. Training and capacity-building have also been widely recommended, where Ronald and Omwenga (2015) and Bofo and Ahudey (2020) emphasize the need to equip staff with ICT skills and foster a culture of digital innovation. Infrastructure development, especially in rural and underserved areas, is equally important. Briefly, Ibem and Laryea (2015) recommend strategic investments in ICT infrastructure, complemented by public awareness campaigns and skill-building initiatives. These recommendations offer useful entry points for governments looking to build resilient and transparent procurement systems. This study examines how such strategies could be adapted to fit Namibia's institutional realities.

2.6. Theoretical foundation

To better understand the dynamics surrounding the adoption of E-Procurement systems in the Namibian public sector, this study is underpinned by two complementary theoretical frameworks, encompassing the Innovation Diffusion Theory (IDT) and Transaction Cost Theory (TCT). These theories provide distinct yet interrelated perspectives that explain how organizations make decisions regarding new technology adoption, and what conditions facilitate or constrain such processes. The Innovation Diffusion Theory, developed by Everett Rogers, is widely used in technology adoption studies to explain how innovations spread within a social system over time. The theory identifies five key attributes that influence the rate of adoption: relative advantage, compatibility,

complexity, trialability, and observability (Githinji & Were, 2018). In the context of E-Procurement, these attributes help to explain how procurement officers and decision-makers within government institutions perceive the benefits of digital procurement tools compared to traditional methods. For example, if E-Procurement is seen as significantly more efficient, easier to use, and compatible with existing workflows, the likelihood of adoption increases. The theory also highlights the role of communication channels, social systems, and the time required for adoption, making it particularly useful in understanding how public sector innovations are diffused through policy, training, and peer learning (Ibem & Laryea, 2015). Furthermore, IDT helps to uncover the behavioural and organizational factors that can either enable or hinder the transition from traditional to digital procurement. In bureaucratic settings like ministries, where change is often met with resistance, understanding how stakeholders perceive and communicate about innovation is essential. The theory draws attention to the importance of opinion leaders, early adopters, and institutional champions who can influence the adoption curve within their agencies.

In complement to the behavioral lens provided by IDT, the Transaction Cost Theory provides an economic rationale for why institutions may seek to adopt E-Procurement systems. First introduced by Ronald Coase and further developed by Oliver Williamson, TCT examines the costs incurred in conducting transactions, which include search and information costs, bargaining and decision costs, and policing and enforcement costs (Suleiman, 2015). Within the context of public procurement, these costs are often substantial due to complex procedures, multiple layers of approval, and risks of corruption or inefficiency. E-Procurement systems aim to minimize these costs through automation, standardization, and real-time tracking mechanisms. TCT also provides insight into how public institutions evaluate the trade-offs between internalizing transactions through manual oversight versus outsourcing these processes to automated systems. When the cost of maintaining traditional procurement structures outweighs the cost of implementing and running an electronic system, organizations are economically incentivized to make the shift. For instance, automated tender evaluation, digital audit trails, and supplier databases reduce the burden on procurement officers, improve compliance, and increase overall operational efficiency (Waithaka & Kimani, 2021). Applying TCT in this study enables the analysis of how institutional arrangements, such as procurement regulations and oversight mechanisms, influence the structure and cost-effectiveness of procurement activities. In many cases, E-Procurement is not adopted simply because it is innovative, but because it reduces the cost and risk associated with public financial management. Moreover, the theory helps to explain why some institutions may hesitate to adopt such systems due to the perceived transaction costs of transitioning from legacy systems to new digital platforms.

Overall, these two theories (IDT and TCT) offer a robust foundation for analyzing E-Procurement adoption in Namibia's public sector. While IDT focuses on the social and organizational aspects of technology uptake, TCT provides a structural and cost-based perspective. Their combined application allows this study to explore whether and how E-Procurement is adopted, as well as why such decisions are made, what incentives exist, and what barriers need to be overcome. This dual-theoretical approach strengthens the analytical framework of the study and ensures that both human behavior and institutional economics are accounted for in assessing the relevance of E-Procurement adoption within the public financial sector. In so doing, the study builds on an extensive review of both global and regional literature on E-Procurement adoption by identifying a notable absence of context-specific evidence from Namibia's public sector, particularly regarding the institutional, technological, and organizational realities that shape the uptake and use of digital procurement systems. Most empirical studies in this domain originate from countries such as Kenya, Ghana, Nigeria, Rwanda, Indonesia, and South Africa. These studies provide valuable insights into the drivers, benefits, and barriers to E-Procurement adoption (Ibem et al., 2016; Innocent & Kalaskar, 2016; Addo, 2019; Masudin et al., 2021). For instance, studies conducted in Ghana and Nigeria underscore the importance of infrastructure, user competence, and leadership support as enablers of E-Procurement implementation. Similarly, research in Kenya has revealed how organizational culture, policy frameworks, and technical readiness significantly affect adoption decisions. Although these findings are informative, they are shaped by institutional arrangements, governance systems, and socio-economic conditions that may differ from those found in Namibia.

In the context of Namibia, literature on public procurement reform and digitization is relatively sparse, with very few peer-reviewed studies examining the adoption of E-Procurement systems at the ministerial level. This

constitutes what Miles (2017) classifies as an empirical research gap, where a particular population, setting, or geographic region has not been adequately studied. The public financial sector represents a critical case for understanding digital transformation in public procurement, given its central role in regulating fiscal discipline, ensuring compliance, and overseeing national expenditure. Yet, scholarly investigations into how this institution has responded to the global shift towards E-Procurement remain limited. Lastly, there is a methodological gap in the form of limited qualitative studies that explore the lived experiences of procurement staff within ministries. While quantitative surveys offer valuable generalizations, they often fail to capture the nuances of policy implementation, internal workflows, and interdepartmental dynamics. This study fills that void by employing a case study approach, allowing for a deeper exploration of how the E-Procurement transition is experienced, understood, and navigated by individuals working within Namibia's public financial sector.

3. Research Methodology - Materials and Methods

This study employed a qualitative case study approach grounded in the interpretivist philosophical paradigm to explore the relevance of adopting E-Procurement systems within Namibia's public sector, with a focus on the Procurement Policy Unit at the Ministry of Finance in Windhoek. The interpretivist orientation was chosen because it emphasizes understanding social phenomena from the perspectives of the individuals involved (Saunders et al., 2019; Creswell & Creswell, 2018), aligning well with the objective of this study to capture context-specific insights into institutional change, digital transformation, and procurement reform. A qualitative approach was adopted to provide an in-depth understanding of the perceptions and experiences of procurement professionals, enabling the emergence of complex themes that may not be adequately captured through quantitative measures. In so doing, the study aimed to uncover detailed, subtle, and in-depth understandings about the factors enabling or hindering the implementation of E-Procurement systems, specifically within the realities and challenges of developing countries like Namibia. A single-case study design was selected to facilitate a detailed investigation of the Ministry of Finance, an institution that plays a central role in public financial management and is among the few in Namibia to have piloted E-Procurement reforms. This design was appropriate for capturing both behavioral and institutional dynamics surrounding system adoption. The case study approach also enabled the researcher to relate empirical findings to theoretical constructions from Innovation Diffusion Theory and Transaction Cost Theory.

Purposive sampling was used to select participants with substantial professional experience in procurement operations. Specifically, the sample comprised 18 employees drawn from the Ministry's Procurement Policy Unit, all of whom had at least five years of experience. This criterion was set to ensure that participants had sufficient exposure to legacy procurement practices and digital transformation initiatives. This sampling strategy prioritized information-rich cases capable of offering diverse perspectives on system adoption challenges, organizational readiness, and compliance requirements as per the notion of Kothari (2020). Moreover, data were collected through a structured online questionnaire containing open-ended questions, administered through Google Forms. This mode of data collection was selected for its flexibility and ability to ensure confidentiality, particularly given the potentially sensitive nature of discussing procurement processes. The link to the questionnaire was distributed through official Ministry email accounts, and respondents were given a three-week window to complete it. Automated reminders were sent weekly to encourage participation. The design of the instrument allowed participants to reflect on their experiences and articulate their views freely, thus enhancing the depth and authenticity of the data collected. Subsequently, the data were analysed using thematic analysis through ATLAS.ti software, following a reflective iterative coding process with direct quotations. Thematic analysis enabled the identification of recurring patterns and contextual insights, while direct quotations were integrated to preserve the semantic integrity of participant responses (Byrne, 2022; Campbell et al., 2021). The analytical process was guided by both data-driven inductive coding and theory-informed interpretation, ensuring a balanced and rigorous examination of the qualitative data.

To establish the trustworthiness of the findings, the study applied the four criteria proposed by Lincoln and Guba (1985), which include credibility, dependability, transferability, and confirmability. Credibility was enhanced through a pilot study involving six participants from a different government ministry to test and refine the research instrument. Dependability was ensured by clearly documenting the methodological procedures followed

throughout the study. Transferability was supported by a detailed description of the research context, including participant selection and organisational setting. Confirmability was addressed through an audit trail and use of ATLAS.ti to systematically code and trace the analytical process. These measures helped reduce researcher bias and enhanced the transparency of the data interpretation process (Nowell et al., 2017; Korstjens & Moser, 2018). Finally, ethical considerations were observed throughout the study. Ethical approval was obtained from the Namibia University of Science and Technology and from the Ministry of Finance. Participants were informed about the aims, procedures, and voluntary nature of the study, and digital informed consent was secured prior to data collection. During the data collection phase, respondents had the option to withdraw at any time. Post-data collection, all information was stored securely on a password-protected Google Drive folder accessible only to the researchers. Data will be retained in accordance with institutional ethical requirements for a minimum of five years.

4. Empirical Results

4.1. Participants' demographics

The demographic profile presented in Table 1 reflects a reasonably balanced gender composition, with 10 male participants (56%) and 8 female participants (44%). Such representation contributes to the credibility and inclusivity of the findings by avoiding gender bias in qualitative data collection (Creswell & Poth, 2018). It supports the argument that diversity among participants enriches the range of perspectives and experiences captured in organizational research (Patton, 2015). In addition to gender balance, the participants represented a variety of roles across the Procurement Policy Unit, including both operational and strategic positions such as Procurement Officers, Financial Analysts, and Directors. This diversity of roles enhances the depth and richness of the data, aligning with arguments by Guest et al., (2013), who note that participant heterogeneity strengthens qualitative inquiry by enabling triangulation across viewpoints. Moreover, the work experience of participants ranged from 5 to 14 years, ensuring that all respondents had long-standing familiarity with the Ministry's procurement practices. This criterion aligns with purposive sampling strategies in qualitative research, which prioritize depth over breadth by selecting participants who are most knowledgeable about the phenomenon under investigation (Palinkas et al., 2015). Experienced professionals are more likely to provide reflective, contextually grounded responses that contribute to the accuracy and practical relevance of the analysis. Collectively, gender inclusivity, role diversity, and depth of experience among the participants affirm the reliability of the data and ensure that the findings are drawn from well-informed and contextually embedded insights.

Table 1: Participants' demographics

Participant	Gender	Position	Experience
Participant 01	Male	Procurement Officer	7 years
Participant 02	Male	Financial Manager	6 years
Participant 03	Female	Administrative Assistant	14 years
Participant 04	Male	Procurement Director	9 years
Participant 05	Female	Senior Compliance Officer	7 years
Participant 06	Male	IT Specialist	6 years
Participant 07	Male	Procurement Manager	11 years
Participant 08	Female	Finance Officer	5 years
Participant 09	Female	Compliance Analyst	6 years
Participant 10	Male	Procurement Specialist	6 years
Participant 11	Male	Budget Analyst	8 years
Participant 12	Female	Procurement Coordinator	9 years
Participant 13	Male	Compliance Manager	11 years
Participant 14	Female	Financial Analyst	8 years
Participant 15	Male	Senior Procurement Officer	10 years
Participant 16	Female	Procurement Assistant	9 years
Participant 17	Female	Capacity and stakeholder Coordinator	5 years
Participant 18	Male	Financial Planner	7 years

Source: Authors' compilation (2024)

4.2. Factors influencing the adoption of E-Procurement systems

This section presents an analysis of qualitative data obtained from 18 employees working within the Procurement Policy Unit. The analysis was guided by the first specific objective of the study, which aimed to investigate the key factors driving the adoption of E-Procurement within the public financial sector. Using reflexive thematic analysis facilitated by ATLAS.ti software, the study generated five major themes reflecting the influential drivers behind system adoption. As illustrated in Figure 1, these themes include organizational, individual, and technological determinants, along with other external factors such as cost implications, internet connectivity, and supplier readiness. The organizational dimension aligns with earlier scholarship that emphasizes structural readiness and policy compliance (Alomar & Visscher, 2017; Hassan et al., 2017; Ronald & Omwenga, 2015; Suleiman, 2015; Waithaka & Kimani, 2021). Similarly, individual-level factors echo findings from previous studies highlighting skills, perceptions, and resistance to change (Alomar & Visscher, 2017; Githinji & Were, 2018; Suleiman, 2015). Technological aspects, such as system usability and compatibility, corroborate earlier evidence from the literature (Afolabi et al., 2019; Daoud & Ibrahim, 2018; Hassan et al., 2017; Suleiman, 2015). Finally, external contextual factors, including infrastructure and vendor capacity, are consistent with previous empirical work (Afolabi et al., 2019; Altayyar & Beaumont-Kerridge, 2016b; Nawi et al., 2016). Each of these themes is examined in detail in the subsequent subsections.

4.2.1. Organizational Factors

The data reveal that organizational factors play a pivotal role in shaping the adoption of e-procurement systems at the public financial sector. This theme comprises four main components, constituting organizational readiness, top management support, training and skills development, and change management. Organizational readiness emerged as the most prominent factor. Participants highlighted the importance of internal systems, staffing capacity, and regulatory alignment in ensuring the Ministry was prepared to implement the system. As one respondent noted:

“Our ministry had to first ensure we had compatible systems and processes in place before introducing e-procurement [...] without that alignment, the transition would have failed” ~ Participant 04.

These findings mirror previous studies that associate institutional preparedness with successful e-procurement adoption (Alomar & Visscher, 2017). Top management support also featured strongly in participant accounts. Leadership commitment, strategic direction, and provision of necessary resources were considered crucial for enabling the transition. One participant reflected:

“The system got off the ground because senior leadership endorsed it and pushed everyone to support its implementation” ~ Participant 11.

This is consistent with existing research that stresses the influence of senior management in driving digital procurement reforms (Masudin et al., 2021; Rouibah et al., 2020). Training and skills development were equally critical. Several respondents emphasised the value of formal training initiatives that helped staff understand and operate the system. One participant stated that:

“The Ministry arranged training sessions to help us understand the system... without that, many of us would have struggled to adapt” ~ Participant 07.

This confirms earlier findings that technical capacity building enhances both user confidence and system utilization (Ibem & Laryea, 2015; Eronde & Muturi, 2018). Although less frequently mentioned, change management surfaced as a relevant factor. Some participants described resistance from colleagues who feared the new system would disrupt their roles.

“Some colleagues were not comfortable with the system at first... there was fear of the unknown and concerns about job security” ~ Participant 14.

Such resistance is commonly cited in literature on digital reforms (Ibem et al., 2021; Mohungoo et al., 2020). Overall, the findings confirm that successful e-procurement adoption depends on a supportive organizational environment, including strategic leadership, institutional readiness, staff capacity, and attention to change dynamics.

4.2.2. Individual Factors

Individual-level factors also played a critical role in influencing the adoption of e-procurement systems in the public financial sector. These include employees' perceptions of the system's benefits, their attitudes towards

digital tools, and their self-confidence in using technology. The most frequently cited factor was the perceived benefit of the system. Participants acknowledged that e-procurement introduced greater efficiency and transparency into daily operations. As one respondent shared:

“What encouraged me most was the fact that this system reduces paperwork and makes everything more traceable” ~ Participant 02.

These reflections echo findings from Afolabi et al. (2019), who observed that when public servants see tangible improvements in work processes, they are more inclined to adopt new technologies. Kabanda et al. (2019) similarly noted that perceived benefits such as cost savings and supplier coordination drive user acceptance in the public sector. Employee attitudes also emerged as a strong influence. Positive mindsets among staff created a sense of readiness for change. One participant observed that:

“Most of us were excited about going digital... we felt it was about time the Ministry caught up with the modern way of doing things” ~ Participant 08

This finding aligns with studies by Eronde and Muturi (2018) and Shatta and Layaa (2020), which show that employees’ openness to innovation is key to successful implementation. However, resistance from some employees was also reported. A participant explained that:

“Some staff initially resisted because they thought the system would make their jobs harder or expose their mistakes” ~ Participant 12,

This confirms concerns raised by Alomar and Visscher (2017) about anxiety and fear of accountability during digital transitions. Computer self-efficacy, or confidence in handling digital systems, was another crucial factor. Participants with prior exposure to similar technologies found the transition smoother. One of the participants stated that:

“It was easy for me because I have used similar systems before [...] but others were frustrated and needed a lot of support” ~ Participant 06.

This finding supports earlier work by Eronde and Muturi (2018), who argue that digital competence positively correlates with system adoption. In a nutshell, these findings show that user-centred approaches are essential for successful implementation. E-procurement reforms must be accompanied by initiatives that address employee concerns, build digital confidence, and highlight the benefits of the system in practical, relatable ways.

4.2.3. Technological Factors

Technological factors emerged as another major theme influencing the adoption of e-procurement in the public financial sector. Participants frequently highlighted aspects such as the system’s ease of use, its perceived usefulness, compatibility with existing processes, and concerns around data security. The system’s ease of use was the most discussed factor. Many respondents appreciated that the interface was relatively intuitive and straightforward, which made it easier to embrace. One participant underscored that:

“The way it was designed made it easy to learn [...] I did not feel overwhelmed navigating through the steps” ~ Participant 09.

Such experiences reflect the argument by Alomar and Visscher (2017) and Ibem et al. (2021), who found that user-friendly interfaces significantly enhance technology acceptance in public procurement systems. When systems are simple and accessible, staff are more likely to adopt them confidently. Perceived usefulness of the e-procurement system was also crucial. Participants described how the platform improved job performance, helped track processes, and enhanced overall procurement efficiency. One of them shared that:

“It really helps keep records clean and improves how we follow up on orders” ~ Participant 10.

These views support earlier studies (Githinji & Were, 2018; Innocent & Kalaskar, 2016), which found that the perceived value of technology in improving work outcomes plays a central role in adoption decisions. When users recognise the system as practically useful, they are more motivated to support its implementation. System compatibility was less frequently mentioned but still meaningful. Several participants explained that if a digital system could fit into existing workflows without too much disruption, it was easier to accept. As one employee explained:

"We already had some basic systems... so it helped that this one could fit in without starting from scratch" ~ Participant 17.

This finding is aligned with Rouibah et al. (2020), who showed that when technology aligns well with current processes, organizational resistance decreases. Lastly, data security was raised by some participants as a concern. A few were cautious about how sensitive procurement data would be protected online. One of the participants reflected that:

"There were concerns at first about hacking or losing confidential documents" ~ Participant 06.

These anxieties are valid and have been echoed in research from other developing countries (Nani & Ali, 2020; Chilunjika et al., 2023). The perceived risk around data breaches can deter system use unless robust cybersecurity measures are communicated and trusted. Briefly, these technological considerations highlight that usability, functionality, and security are foundational for encouraging the uptake of digital procurement platforms in the public sector.

4.2.4. Other Factors

Beyond organizational, individual, and technological considerations, participants also identified additional practical factors that shaped the adoption of e-procurement in the public financial sector. These include the associated cost of implementation, the reliability of internet connectivity, and the efficiency of supply systems. The cost of adopting and maintaining the e-procurement system was the most frequently mentioned concern in this category. Many participants acknowledged that while digital procurement could save money in the long run, the initial setup, training, and maintenance were financially demanding. A participant underlined that:

"There were upfront costs, such as software, training, upgrades, and others, that made some people question if it was worth it" ~ Participant 01.

This perception is supported by earlier findings, such as those by Alomar and Visscher (2017) and Addo (2019), which argue that budgetary constraints can delay or complicate digital transformation efforts, especially in the public sector. Supply efficiency also featured prominently. Employees described how the functionality of the e-procurement system is only as effective as the supply chain it supports. If procurement cycles remain slow or suppliers are not adequately integrated into the platform, the digital system cannot deliver its full value. One employee emphasized that:

"The system is great, but if the suppliers don't respond quickly or do not know how to use it, we still face delays" ~ Participant 15.

This aligns with observations made by Nani and Ali (2020), who point out that e-procurement requires not just internal readiness, but also coordination with external actors in the supply ecosystem. Internet connectivity was another factor, though mentioned by fewer participants. Some respondents shared that the effectiveness of the platform could be compromised in areas or offices with weak or unstable internet connections.

"Sometimes the system lags or disconnects completely when the internet is bad, and it slows everything down" ~ Participant 13.

This echoes various concerns from other studies conducted in developing countries, where digital infrastructure gaps often pose obstacles to technology adoption (Innocent & Kalaskar, 2016; Ronald & Omwenga, 2015). Overall, these other factors illustrate that e-procurement adoption is not solely a matter of institutional will or user readiness. Practical and infrastructural conditions—such as affordability, supplier responsiveness, and reliable connectivity—are equally essential. Addressing these issues can significantly improve system functionality and increase its sustainability in a public sector setting.

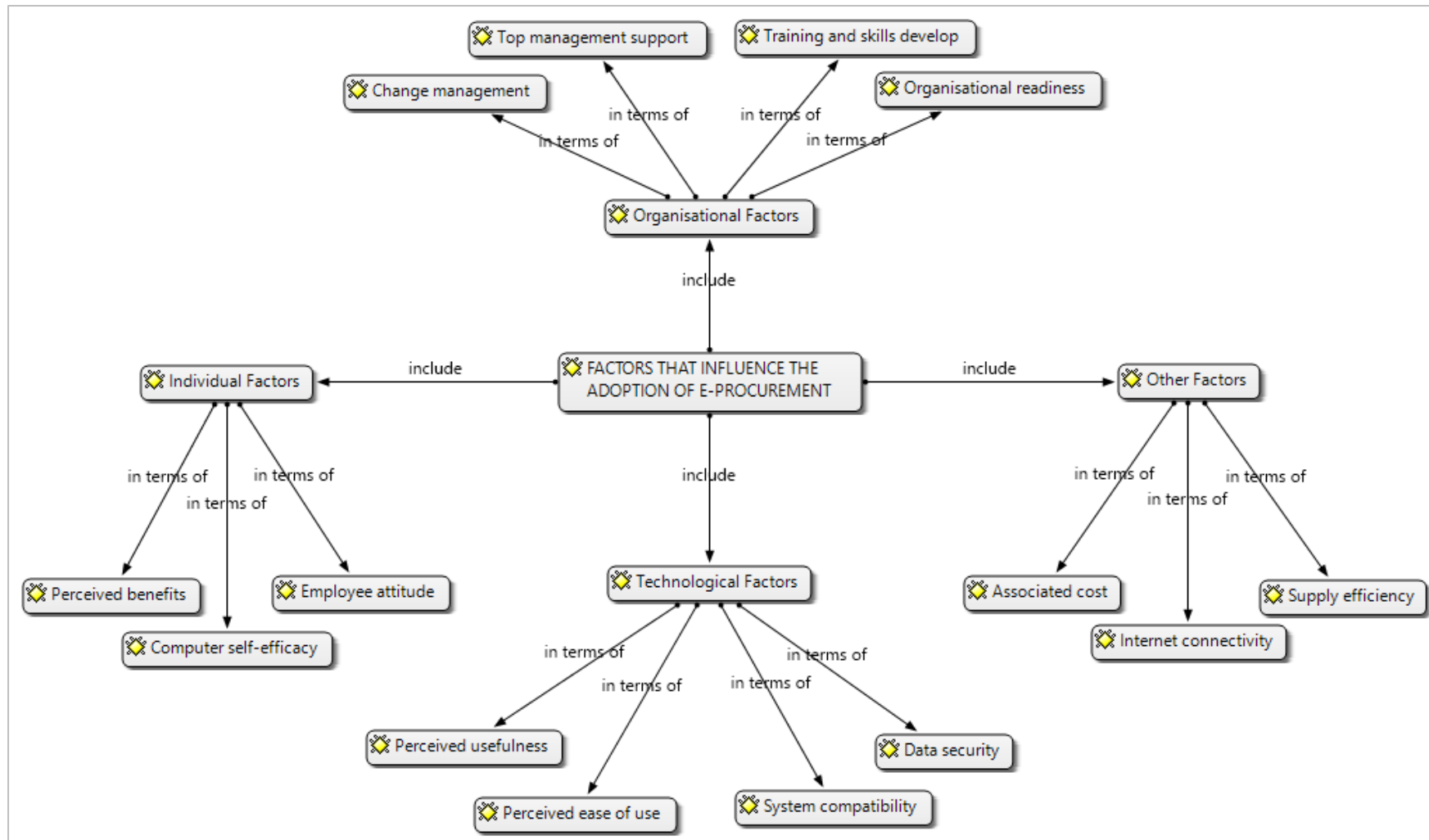


Figure 1: Factors that influence the adoption of E-Procurement
Source: Authors' extraction from the analysis (2024)

4.3. Benefits of adopting the E-Procurement system in the public financial sector

This section explores the perceived benefits of adopting the E-Procurement system in the public financial sector. Drawing on qualitative data collected from 18 employees within the Procurement Policy Unit, the analysis was conducted using reflexive thematic analysis in ATLAS.ti with direct quotations. Five themes emerged from the analysis as presented in Figure 2, revealing both practical and strategic advantages gained from the transition to digital procurement processes. The findings were illustrated using participants' own voices to ground the discussion in lived experiences.

4.3.1. Increased Efficiency

One of the most salient themes was the improvement in operational efficiency brought about by the adoption of E-Procurement. This was expressed in terms of reduced paperwork and faster processing of procurement transactions. Several participants highlighted the cumbersome nature of manual processes that previously dominated procurement workflows. For instance, one of the employees shared that:

"The E-Procurement system really cut down our paperwork... it is easier to track documents, and we no longer have files piling up everywhere" ~ Participant 02.

Another participant emphasised time gains, stating that:

"Tasks that used to take days are now done in hours. Approvals are faster, and delays are minimized" ~ Participant 10.

These insights are consistent with earlier findings in the literature which demonstrate that automation reduces bureaucratic friction, speeds up transaction cycles, and enhances productivity (Ibem et al., 2016; Sa'adah, 2020; Addo, 2019).

4.3.2. Transparency and Accountability

The second dominant theme was the improvement of transparency and accountability in procurement practices. Participants consistently mentioned that the digital nature of the system made transactions more traceable and less susceptible to manipulation. One participant underscored that:

"With E-Procurement, every transaction leaves a trail [...] it is easier to detect irregularities or inconsistencies" ~ Participant 04.

Others echoed the sentiment that the new system served as a deterrent against unethical practices, with one employee explaining that:

"It is harder to bend the rules now. Everything is visible and that makes people act more responsibly" ~ Participant 07.

These observations align with studies by Belisari et al. (2020) and Chilunjika et al. (2023), which highlight E-Procurement's role in enhancing auditability and reducing opportunities for corruption.

4.3.3. Cost Savings

A third benefit highlighted was cost efficiency, both in terms of internal operations and procurement outcomes. Respondents indicated that the system allowed access to a broader pool of suppliers, enabling competitive pricing and better value for money. A participant shared that:

"We are no longer limited to a few suppliers [...] the platform brings in many bidders, which makes the prices more competitive" ~ Participant 13.

Others stressed reductions in administrative costs, noting that digital communication and document management eliminated many of the expenses associated with paper-based systems. For instance:

"We save on printing, storage, transport [...] everything is online now," observed Participant 09.

These findings support previous studies that found E-Procurement systems can lower transaction costs by streamlining processes and reducing overheads (Afolabi et al., 2019; Ibrahim, 2021; Innocent & Kalaskar, 2016).

4.3.4. Compliance and Standardization

Participants also recognized the system's capacity to enforce regulatory compliance and introduce standardization in procurement processes. The E-Procurement platform was seen as embedding institutional rules into workflows, thus ensuring consistency and adherence to national procurement guidelines. As one employee explained:

"The system does not allow you to skip steps [...] it forces everyone to follow the proper procedures" ~ Participant 01.

Another one noted that:

"The system promotes standardization. Everyone is now doing things the same way, following the same formats" ~ Participant 06.

These perspectives resonate with the findings of Waithaka and Kimani (2021), who argue that embedded regulatory features improve procurement integrity and procedural discipline.

4.3.5. Risk Management

Lastly, the analysis revealed that the system contributes to improved risk management. Participants described how digital procurement enables better forecasting, data analytics, and contingency planning. One employee observed:

"With the reporting tools in the system, we can predict supply chain issues before they happen" ~ Participant 11.

Another participant shared that:

"It gives us backup plans. If one supplier fails, we already have others in the system we can go to" ~ Participant 17.

These capabilities reduce the likelihood of procurement disruptions and enhance resilience, as also supported by Nawi et al. (2016), who note that E-Procurement platforms offer early warning tools and monitoring functions that mitigate both financial and technical risks.

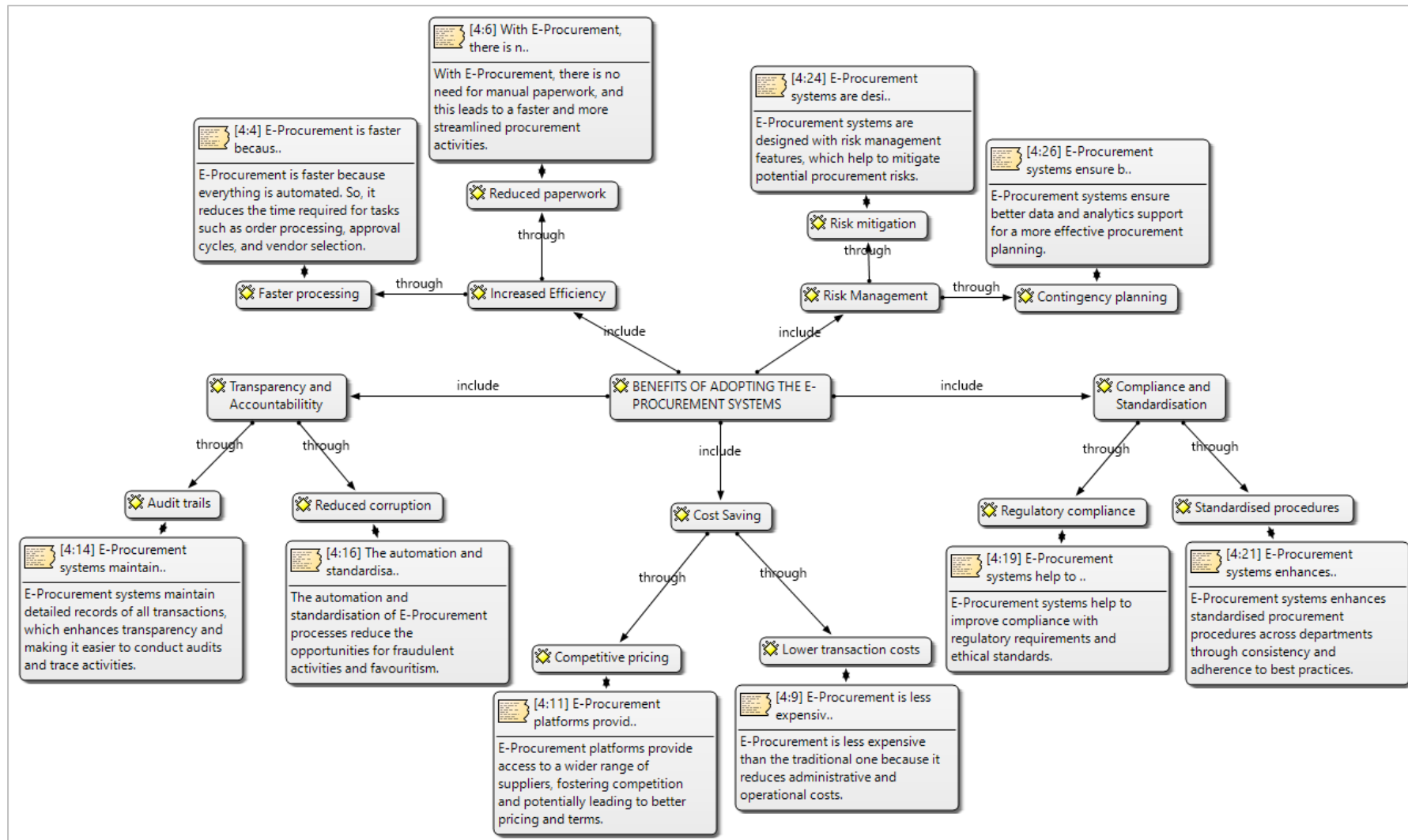


Figure 2: Benefits of E-Procurement systems adoption
Source: Authors' extraction from the analysis (2024)

4.4. Limiting factors of adopting E-Procurement systems in the public financial sector

Despite the recognized benefits of E-Procurement, this study also revealed several constraints hindering its adoption within the public financial sector. Through reflexive thematic analysis of interview data from 18 participants in the Procurement Policy Unit, six core themes were identified, including managerial challenges, financial constraints, implementation difficulties, organizational issues, external stakeholder limitations, and concerns about security and privacy as displayed in Figure 3. Each of these themes was derived from codes and substantiated by direct participant insights.

4.4.1. Managerial Challenges

Participants frequently cited a lack of strategic leadership and inadequate managerial support as key impediments. Several staff members expressed that E-Procurement was not receiving the visible endorsement it needed from senior leadership. One participant observed that:

“It often felt like we were pushing from the bottom [...] top management rarely provided the needed direction or budget for this shift” ~ Participant 05.

Another participant noted that:

“There was no clear roadmap or follow-up [...] it was just introduced, and we were left to figure it out” ~ Participant 11.

These findings echo earlier research emphasizing the importance of management commitment and structured change facilitation (Ibem & Laryea, 2015; Innocent & Kalaskar, 2016).

4.4.2. Financial Constraints

Cost-related concerns emerged as another prominent barrier. Participants mentioned that both the initial setup and ongoing system maintenance placed a considerable burden on the Ministry's limited budget. One employee explained that:

“We needed consultants, training, software upgrades [...] but there just wasn't enough money allocated” ~ Participant 09.

Another employee added that:

“Every small fix or update has a cost. Maintenance is not as straightforward as people think” ~ Participant 02.

These insights align with previous findings indicating that E-Procurement adoption is often derailed by insufficient financial resources (Addo, 2019; Sa'adah, 2020).

4.4.3. Implementation Challenges

The complexity of adopting a digital system within a traditional bureaucratic environment was also a concern. Participants described the implementation process as overly technical and difficult to tailor to their context. As one participant shared that:

“The system came with features that didn't match our procedures, so customization became a nightmare” ~ Participant 04.

Another participant underscored that:

“We underestimated how complex this change would be [...] it wasn't plug and play” ~ Participant 14.

These views are consistent with Belisari et al. (2020), who highlight implementation complexity as a persistent challenge in public sector e-reforms.

4.4.4. Organizational Issues

Within the Ministry itself, several operational issues hindered adoption, particularly outdated IT infrastructure, lack of proper training, and employee resistance. One of the participants underscored that:

“Our internet is too slow for this kind of system [...] sometimes it just crashes when you’re halfway through a task,” reported one participant ~ Participant 13.

Another one shared that:

“We only had one training session when it was launched [...] and that was not enough for everyone to feel confident” ~ Participant 08.

Resistance to change was also prominent, as cited by Participant 10.

“Some staff still prefer the manual system; they are scared the new one will make their work more visible or take away their control”

These accounts mirror global research on organizational inertia and the need for capacity development during digital transitions (Waithaka & Kimani, 2021; Mohungoo et al., 2020).

4.4.5. External Stakeholder Issues

Challenges were not confined within the Ministry. Several participants explained that suppliers and other external actors were either untrained or unwilling to shift away from traditional procurement processes. For instance, one of the participants highlighted that:

“We work with suppliers who don’t even check their emails [...] expecting them to log into a portal is asking too much,” one participant explained ~ Participant 01.

Another participant reflected that:

“There hasn’t been enough engagement with external stakeholders [...] they’re not on the same page” ~ Participant 06.

These findings reinforce the importance of stakeholder inclusion, as noted by Afolabi et al. (2019) and Altayyar & Beaumont-Kerridge (2016b).

4.4.6. Security and Privacy Concerns

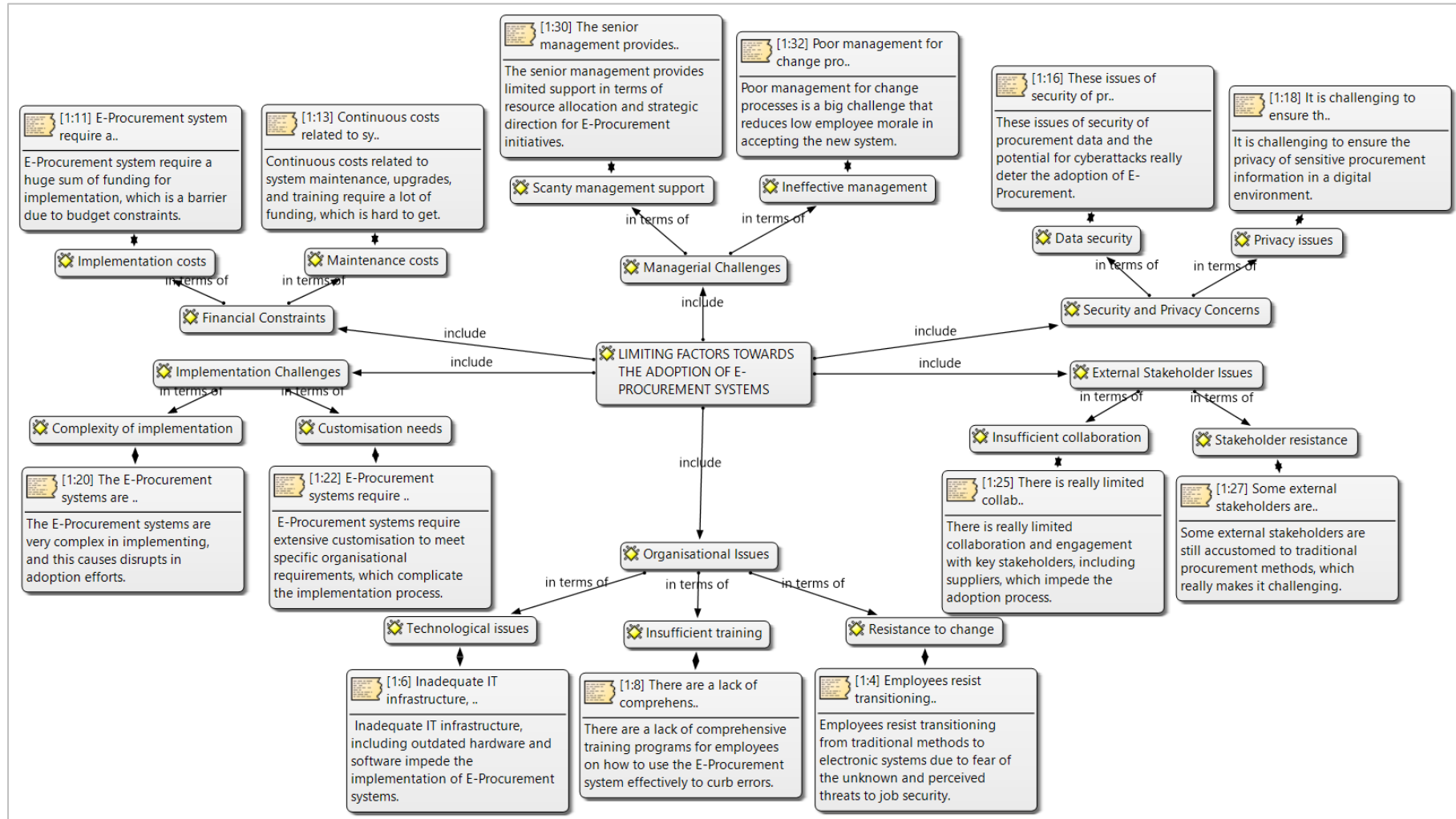
Finally, digital safety emerged as a major concern, highlighting the vulnerability of e-procurement systems to cybersecurity threats and weaknesses in data protection infrastructure. Several participants expressed a persistent unease about the possibility of cyberattacks, particularly given the sensitive nature of financial data involved in government procurement. As one participant remarked:

“There’s always the fear of cyberattacks [...] procurement deals with sensitive financial data,” said Participant 12.

Another employee added that:

“We are not sure who has access to what. It is hard to feel completely secure in a digital environment” ~ Participant 03.

These perspectives confirm findings by Githinji & Were (2018) and Chilunjika et al. (2023), who highlight security risks as a core deterrent in the public sector’s digitalisation agenda.



4.5. Strategies for Addressing Limiting Factors of the Adoption of E-Procurement Systems

Following the identification of key challenges that hinder the adoption of E-Procurement systems, this section presents strategies proposed by participants to overcome these barriers in the public financial sector. Based on a reflexive thematic analysis using ATLAS.ti, six strategic themes emerged, each reflecting pragmatic solutions grounded in institutional realities and professional experience. These include organizational, implementation, stakeholder, managerial, security and privacy, and financial strategies as depicted in Figure 4. Each strategy is supported by direct quotations from participants and situated within existing scholarly literature.

4.5.1. Organizational Strategy

One of the most widely emphasized approaches was the need for internal organizational strategies to tackle resistance, knowledge gaps, and skill shortages among staff. Two main tactics were highlighted: capacity-building through training and development and the launch of awareness programs. As one staff member noted:

“Training must be continuous, not just one workshop at the beginning. We need refresher sessions as the system evolves” ~ Participant 07.

Another one added that:

“Some colleagues fear change because they don’t understand the system. If we show them how it helps, not threatens, they will join in” ~ Participant 10.

These insights reinforce earlier work by Chilunjika et al. (2023) and Altayyar and Beaumont-Kerridge (2016b), who argue that training and awareness are critical for demystifying E-Procurement and nurturing internal buy-in.

4.5.2. Implementation Strategy

Participants also suggested simplifying the implementation process and using expert assistance as part of a broader implementation strategy. They called for minimizing system complexity by using pre-configured, user-friendly solutions and involving professional consultants for setup. For example, one of the participants emphasized that:

“We should go for something simple, something we don’t need to build from scratch,” said one respondent ~ Participant 03.

In addition to that, another employee reflected that:

“Bringing in someone with experience saves time and reduces errors. We don’t need to reinvent the wheel” ~ Participant 13.

These findings mirror the recommendations of Addo (2019) and Belisari et al. (2020), who emphasise the value of expert consultants and low-friction implementation in public ICT reform.

4.5.3. Stakeholder Strategy

Given the importance of external actors in procurement processes, a robust stakeholder strategy was proposed to ensure broader support and smoother adoption. Participants underscored the need for enhanced collaboration and stakeholder training, especially for suppliers. In detail, one of the participants highlighted that:

“Suppliers need to be trained too. If they don’t know how to use the portal, the system will not work,” one participant explained ~ Participant 01.

Participant 06 added that

“We must bring them on board early, through meetings and hands-on support”.

These views support the findings of Shatta and Layaa (2020), and Masudin et al. (2021), who highlight the necessity of inclusive stakeholder engagement in digital transformation initiatives.

4.5.4. Managerial Strategy

Another strategic dimension revolved around improving leadership capacity. Under the managerial strategy, participants called for both strengthened management commitment and effective change management. As one participant stressed:

“Management must lead by example, if they take it seriously, we will too [...] it is not just about announcing a new system. We need proper support through the transition” ~ Participant 11.

These comments align with the recommendations of Masudin et al. (2021), who emphasise the importance of visionary leadership and structured change support for successful e-government adoption.

4.5.5. Security and Privacy Strategy

To mitigate concerns about data integrity and confidentiality, participants proposed a security and privacy strategy anchored in two priorities, comprising the implementation of robust cybersecurity measures and the formulation of clear privacy policies. Briefly, participants expressed that:

“We need firewalls, encryption, real protection, not just passwords,” ~ Participant 09.

“Policies must be clear about who can access what. Procurement data is sensitive” ~ Participant 12.

These calls echo the warnings of Addo (2019) and Chilunjika et al. (2023), who stress that weak digital security measures can undermine trust and derail E-Procurement initiatives.

4.5.6. Financial Strategy

Lastly, participants recommended a financial strategy to address the high costs of E-Procurement implementation and maintenance. Two approaches were identified as securing foreign funding and adopting a phased implementation model. One of the participants remarked that:

“We should explore grants or donor support. Other ministries have done it with help from UNDP or World Bank” ~ Participant 05.

Another one proposed that:

“If we break the process into phases, the costs won’t hit all at once, it becomes manageable” ~ Participant 15.

These strategies are supported by Chilunjika et al. (2023), who documented successful cases where international partnerships and phased rollouts helped overcome financial limitations in similar public sector transitions.

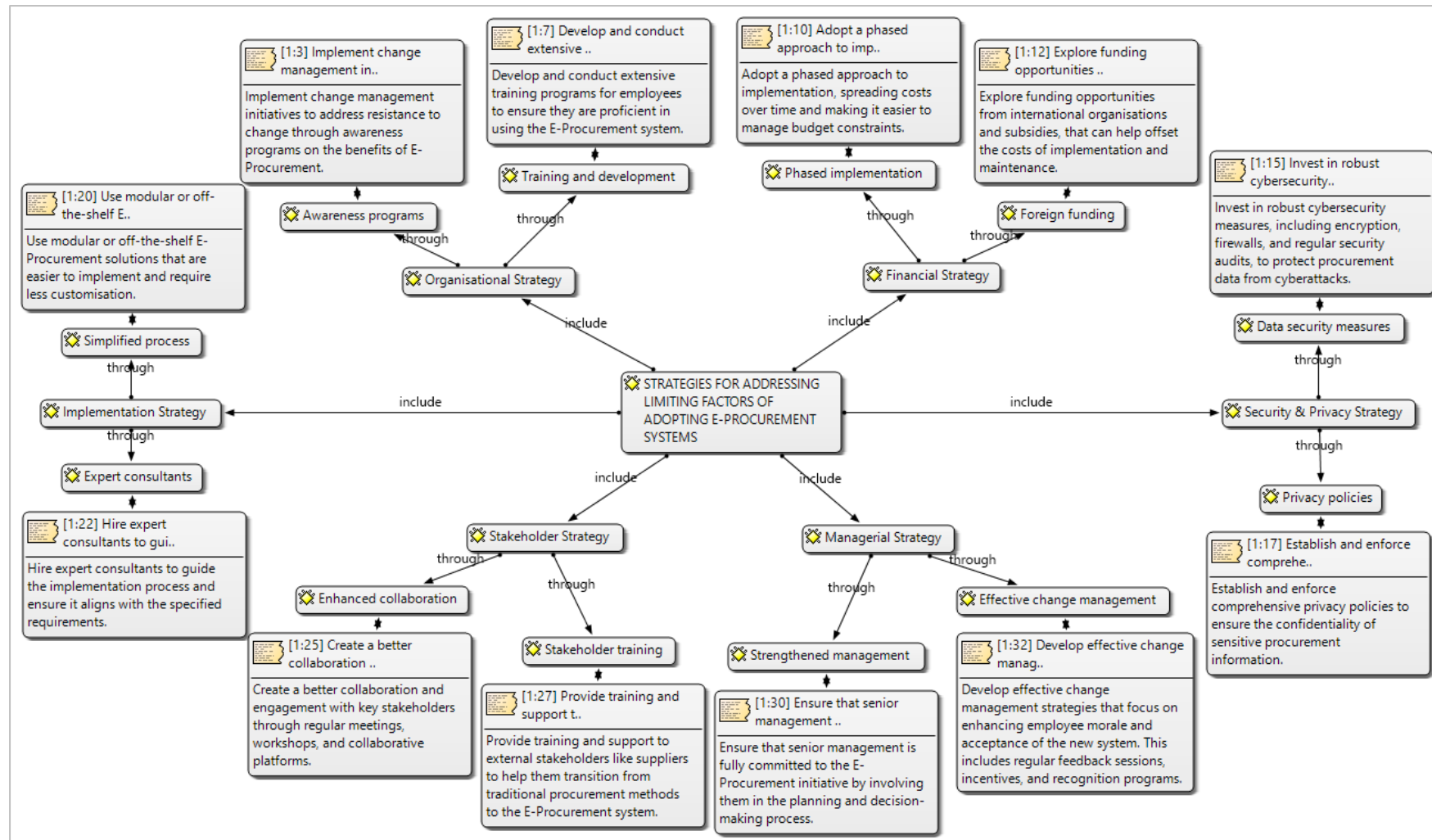


Figure 4: Strategies for addressing the limiting factors of E-Procurement adoption
Source: Authors' extraction from the analysis (2024)

5. Discussion and Conclusion

This study examined the adoption of E-Procurement systems in Namibia's public financial sector, highlighting the factors influencing adoption, the perceived benefits, and the limitations faced, alongside strategies for improvement. The results affirm that successful adoption hinges on organizational readiness, supportive leadership, employee capacity, technological compatibility, and stakeholder inclusion, aligning with previous studies in similar public sector contexts. Organizational factors, such as internal system alignment and top management commitment, emerged as central enablers of adoption. Participants confirmed that leadership endorsement and adequate resourcing were key to overcoming structural inertia, echoing findings by Masudin et al. (2021), Alomar and Visscher (2017), and Rouibah et al. (2020), who argue that institutional preparedness and leadership are essential in public e-procurement reform. At the individual level, perceived benefits such as increased efficiency and transparency encouraged adoption, while resistance stemmed from fear of exposure or job loss. These findings mirror earlier observations by Afolabi et al. (2019), Githinji and Were (2018), and Shatta and Layaa (2020), who emphasise that end-user perceptions, attitudes, and digital confidence significantly influence technology acceptance in government settings. Technological concerns also shaped adoption outcomes. Participants acknowledged the system's usability but raised issues related to data security and integration with legacy systems. This aligns with findings by Chilunjika et al. (2023), Nani and Ali (2020), and Ibem et al. (2021), who highlight the importance of intuitive design and secure data environments in enhancing user trust and long-term utilization. External limitations, including vendor unpreparedness, infrastructure constraints, and funding gaps, were equally critical. As noted by Addo (2019), Ronald and Omwenga (2015), and Innocent and Kalaskar (2016), successful digital procurement requires not only internal readiness but also supplier engagement and adequate internet access. Participants proposed six strategic responses, such as enhanced training, simplified system implementation, active stakeholder engagement, stronger managerial commitment, robust cybersecurity, and phased financing supported by donors. These strategies reinforce findings by Shatta and Layaa (2020), Belisari et al. (2020), and Chilunjika et al. (2023), who document the effectiveness of inclusive, phased, and secure implementation models in the Global South. In conclusion, E-Procurement adoption in Namibia is not merely technical, it demands coordinated institutional change. These findings offer practical insights for other African ministries embarking on digital procurement reforms. Future research may consider cross-country comparative studies or mixed-method evaluations to deepen understanding of implementation dynamics in diverse public settings.

References

- Abu, B. N., Peszynski, K., Azizan, N., Pandiyan, V., & Sundram, K. (2016). Abridgment of traditional procurement and E-Procurement: Definitions, tools and benefits. *Journal of Emerging Economies and Islamic Research*, 4(1), 74. <https://doi.org/10.24191/jeeir.v4i1.9080>
- Addo, S. K. (2019). Challenges of E-Procurement adoption in the Ghana public sector: A survey of in the Ministry of Finance. *Scholarly Journal of Arts & Humanities*, 1(7), 44–80. <https://doi.org/10.15373/22501991>
- Afolabi, A., Ibem, E., Aduwo, E., Tunji-Olayeni, P., & Oluwunmi, O. (2019). Critical success factors (CSFs) for E-Procurement adoption in the Nigerian construction industry. *Buildings*, 9(2). <https://doi.org/10.3390/buildings9020047>
- Akaranga, S. I., & Makau, B. K. (2016). Ethical considerations and their applications to research: A case of the University of Nairobi. *Journal of Educational Policy and Entrepreneurial Research*, 3(12), 1–9. <http://hdl.handle.net/11295/100502>
- Alomar, M. A., & Visscher, C. De. (2017). Which factors can affect E-Public procurement adoption by private firms? The case of Belgium. *Electronic Journal of E-Government*, 15(2), 103–115.
- Altayyar, A., & Beaumont-Kerridge, J. (2016a). An investigation into barriers to the adoption of E-Procurement within selected SMEs in Saudi Arabia. *Journal of Business and Economics*, 7(3), 451–466. <https://doi.org/10.1002/0471667196.ess0661.pub2>
- Altayyar, A., & Beaumont-Kerridge, J. (2016b). External factors affecting the doption of E-procurement in Saudi Arabian's SMEs. *Procedia - Social and Behavioral Sciences*, 229, 363–375. <https://doi.org/10.1016/j.sbspro.2016.07.147>
- Anthony, A. (2018). The use of E-Procurement in South African public procurement law: Challenges and prospects. *Law, Democracy & Development*, 22(1), 39–47.
- Belisari, S., Binci, D., & Appolloni, A. (2020). E-procurement adoption: A case study about the role of two Italian advisory services. *Sustainability (Switzerland)*, 12(18). <https://doi.org/10.3390/SU12187476>
- Boafo, N. D., & Ahudey, E. (2020). Evaluating E-Procurement impact in the public sector. *Archives of Business Research*, 8(5), 235–247. <https://doi.org/10.14738/abr.85.8268>
- Byrne, D. (2022). A worked example of Braun and Clarke's approach to reflexive thematic analysis. *Quality and Quantity*, 56(3), 1391–1412. <https://doi.org/10.1007/s11135-021-01182-y>
- Campbell, K. A., Orr, E., Durepos, P., Nguyen, L., Li, L., Whitmore, C., Gehrke, P., Graham, L., & Jack, S. M. (2021). Reflexive thematic analysis for applied qualitative health research. *Qualitative Report*, 26(6), 2011–2028. <https://doi.org/10.46743/2160-3715/2021.5010>

- Candra S. & Gunawan F. E., (2017). The impact of E-Procurement practice in Indonesia government: A preliminary study (The case of electronic procurement service at Bekasi District). *Journal of Physics: Conference Series*.
- Chaffey, D., Chadwick, F., & Johnston, K. (2016). *Digital marketing*. New York Times.
- Chilunjika, S. R. T., Chilunjika, A., & Uwizeyimana, D. E. (2023). Implementing E-Procurement at Zimbabwe's National Pharmaceutical Company (NatPharm): Challenges and prospects. *EJournal of EDemocracy and Open Government*, 15(1), 124–143. <https://doi.org/10.29379/jedem.v15i1.761>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approach*. Sage.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches* (4th ed.). Sage Publications.
- Daoud, L., & Ibrahim, M. (2018). The factors affecting on E-procurement Usage: The moderating role of power. *Journal of Physics: Conference Series*, 1019(1). <https://doi.org/10.1088/1742-6596/1019/1/012076>
- DeConick, J. (2019). The globe of procurement and where it is headed. Yale.
- Eronde, M. M., & Muturi, P. W. (2018). Factors affecting the adoption of e- procurement in Kisumu county, Kenya. *International Journal of Social Sciences and Information Technology*, 4(4), 217–227.
- Githinji, R. M., & Were, S. (2018). Challenges of implementing E-Procurement in the Ministry of Transport, Infrastructure, Housing and Urban Development in Nairobi, Kenya. *Journal of Procurement & Supply Chain*, 2(1), 1–13. <https://stratfordjournals.org/journals/index.php/journal-of-procurement-supply/article/view/114>
- Guest, G., Namey, E. E., & Mitchell, M. L. (2013). *Collecting Qualitative Data: A Field Manual for Applied Research*. Sage Publications.
- Harelima, J.B., (2018). The impact of E-Procurement on the performance of public institutions in Rwanda. *Global Journal of Business Management and Business Research*, 18(2), 66–78
- Hassan, H., Tretiakov, A., & Whiddett, D. (2017). Factors affecting the breadth and depth of e-procurement use in small and medium enterprises. *Journal of Organizational Computing and Electronic Commerce*, 27(4), 304–324. <https://doi.org/10.1080/10919392.2017.1363584>
- Ibem, Eziyi O, Aduwo, E. B., Afolabi, A. O., Oluwunmi, A. O., Tunji-Olayeni, P. F., Ayo-Vaughan, E. A., & Uwakonye, U. O. (2021). Electronic (e-) Procurement adoption and users' experience in the Nigerian construction sector. *International Journal of Construction Education and Research*, 17(3), 258–276. <https://doi.org/10.1080/15578771.2020.1730527>
- Ibem, Eziyi O, & Laryea, S. (2015). E-Procurement use in the South African construction industry. *Journal of Information Technology in Construction*, 20(January), 364–384.
- Ibem, Eziyi Offia, Aduwo, E. B., Tunji-Olayeni, P., Adekunle, E. A.-V., & Obioha, U. U. (2016). Factors influencing e-procurement adoption in the Nigerian building industry. *Construction Economics and Building*, 16(4), 54–67. <https://doi.org/10.5130/AJCEB.v16i4.4984>
- Ibrahim, S. Z. (2021). Benefits e-Procurement system. *Advances in Business Research International Journal*, 7(1), 142. <https://doi.org/10.24191/abrij.v7i1.13207>
- Innocent, R., & Kalaskar, P. B. (2016). The adoption of E-Procurement and its impact on the procurement performance of selected telecommunication companies in Rwanda. *European Journal of Business and Management*, 8(15), 125–133. www.iiste.org
- Kabanda, S. (2019). *The Role of Institutional Pressures in the Adoption of e- Procurement in Public Institutions in Developing Countries : The Case of Lesotho The Role of Institutional Pressures in the Adoption of e- Procurement in Public Institutions in Developing Countries* . 11(3).
- Kabanda, S., Kapepo, M. I., & Pitso, N. (2019). The role of institutional pressures in the adoption of e- procurement in public institutions in developing countries : The case of Lesotho. *The African Journal of Information Sysstems*, 11(3).
- Korstjens, I., & Moser, A. (2018). Series : Practical guidance to qualitative research . Part 4 : Trustworthiness and publishing. *European Journal of General Practice*, 0(0), 120–124. <https://doi.org/10.1080/13814788.2017.1375092>
- Kothari, C. R. (2020). *Research methodology: Methods and techniques* (2nd ed., Vol. 21, Issue 1). New Age International (P) Limited Publishers. <http://journal.um-surabaya.ac.id/index.php/JKM/article/view/2203>
- Masudin, I., Aprilia, G. D., Nugraha, A., & Restuputri, D. P. (2021). Impact of E-Procurement adoption on company performance: Evidence from Indonesian manufacturing industry. *Logistics*, 5(1). <https://doi.org/10.3390/logistics5010016>
- Miles, D. A. (2017). A taxonomy of research gaps: Identifying and defining the seven research gaps methodological gap. *Journal of Research Methods and Strategies*, August, 1–15. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=qY7Y2BYAAAAAJ&citation_for_view=qY7Y2BYAAAAAJ:8k81kl-MbHgC
- Mohungoo, I., Brown, I., & Kabanda, S. (2020). A systematic review of implementation challenges in public E-Procurement. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics): Vol. 12067 LNCS*. Springer International Publishing. https://doi.org/10.1007/978-3-030-45002-1_5
- Munhall, P. L. (1988). Ethical considerations in qualitative research. *Western Journal of Nursing Research*, 10(2), 150–162. <https://doi.org/10.1177/019394598801000204>

-
- Nani, D. A., & Ali, S. (2020). Determinants of effective E-procurement system: Empirical evidence from Indonesian local governments. *Jurnal Dinamika Akuntansi Dan Bisnis*, 7(1), 33–50. <https://doi.org/10.24815/jdab.v7i1.15671>
- Nasrun Mohd Nawi, M., Roslan, S., Azita Salleh, N., Zulhumadi, F., Nahar Harun, A., Malaysia, T., Sultan Yahya Petra, J., & Lumpur, K. (2016). The benefits and challenges of E-procurement implementation: A case study of Malaysian company. *International Journal of Economics and Financial Issues*, 6(S7), 329–332. <http://www.econjournals.com>
- Nautwima, J. P., & Asa, A. R. (2022a). The impact of quality service on customer satisfaction in the banking sector amidst Covid-19 pandemic: A literature review for the state of current knowledge. *The International Journal of Management Science and Business Administration*, 8(3), 31–38. <https://doi.org/10.18775/ijmsba.1849-5664-5419.2014.83.1004>
- Nautwima, J. P., & Asa, A. R. (2022b). The impact of quality service on customer satisfaction in the banking sector amidst Covid-19 pandemic: A literature review for the state of current knowledge. *The International Journal of Management Science and Business Administration*, 8(3), 31–38. <https://doi.org/10.18775/ijmsba.1849-5664-5419.2014.83.1004>
- Nawi, M. M. N., Roslan, S., Salleh, N. A., Zulhumadi, F., & Harun, A. N. (2016). The benefits and challenges of E-procurement implementation: A case study of Malaysian company. *International Journal of Economics and Financial Issues*, 6(7Special Issue), 329–332.
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1–13. <https://doi.org/10.1177/1609406917733847>
- Ozuem, W., Willis, M., & Howell, K. (2022). Thematic analysis without paradox: sensemaking and context. *Qualitative Market Research*, 25(1), 143–157. <https://doi.org/10.1108/QMR-07-2021-0092>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. <https://doi.org/10.1007/s10488-013-0528-y>
- Panda, D., Sahu, G. P., & Gupta, P. (2011). E-Government Procurement Implementation: Necessity of National Procurement Law.
- Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods* (4th ed.). Sage Publications.
- Rahman, S. N. M. A., Radzai, M. D. M. S., Hamdan, N. S., & Musa, H. (2019). A review: Adoption implementation of E-Procurement in organization. *International Journal of Human and Technology Interaction*, 3(2), 11–15. <http://journal.utem.edu.my/index.php/ijhati/article/view/5240>
- Ronald, N. K., & Omwenga, J. Q. (2015). Factors contributing to adoption of E-Procurement in County Governments: A case study of County Government of Bomet. *International Journal of Academic Research in Business and Social Sciences*, 5(10), 233–239. <https://doi.org/10.6007/ijarbss/v5-i10/1871>
- Rouibah, K., Dihani, A., & Al-Qirim, N. (2020). Critical success factors affecting information system satisfaction in public sector organizations. *Journal of Global Information Management*, 28(3), 77–98. <https://doi.org/10.4018/jgim.2020070105>
- Sa'adah, N. (2020). The implementation of E-Procurement in Indonesia: benefits, risks, and problems. *Jurnal Penelitian Sosial Keagamaan*, 14(2), 283–304. <https://doi.org/10.18326/infsl3.v14i2.283-304>
- Samaranayake, P., Ramanathan, K., & Laosirihongthong, T. (2017, December). Implementing industry 4.0—A technological readiness perspective. In *2017 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM)* (pp. 529– 533). IEEE.
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2019). *Research methods for business students* (8th ed.). Pearson.
- Shatta, D. N., & Layaa, J. N. (2020). Determinants of E-Procurement adoption model for green procurement in developing countries: Experience from Tanzania. *International Academic Journal of Procurement and Supply Chain Management*, 3(2), 1–18.
- Suleiman, M. (2015). Adoption of E-procurement and value addition: Tanzanian context. *European Journal of Business and Management Wwww.Iiste.Org ISSN*, 7(14), 145–153. www.iiste.org
- Tiago, F. B. (2014). *Factors affecting internet sophistication on the basis of E-Procurement*. Zebra Publishing.
- Tsuma, V. I., & Kanda, M. (2017). Factors affecting the adoption of E-Procurement systems among international non-governmental organisations in Kenya. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 7(2), 164–176. <https://doi.org/10.6007/ijarafms/v7-i2/2927>
- Waithaka, R. K., & Kimani, J. G. (2021). Determinants of adoption of E-Procurement practices: A critique of literature review. *Global Journal of Purchasing and Procurement Management*, 1(1), 22–31. <https://doi.org/10.47604/gjppm.1199>