# An Assessment of the Impact of E-Procurement Practices on Organizational Performance in Tanzania

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***Abstract***

*This study examines the impact of e-procurement practices—specifically e-tendering, e-informing, and e-payment—on organizational performance at the National Housing Corporation (NHC) in Tanzania. Utilizing a descriptive research design, data were collected from 45 employees across various departments through structured questionnaires and analyzed using both descriptive and inferential statistical methods, including correlation and regression analyses. The findings reveal that e-procurement practices significantly enhance organizational performance by improving efficiency, transparency, and cost-effectiveness. E-tendering emerged as the most influential factor, demonstrating the importance of secure and efficient tendering processes in achieving organizational objectives. E-informing practices further support performance by enabling timely data backup and information flow, while e-payment fosters financial transparency and strengthens supplier relationships. The study concludes that integrating secure, transparent, and efficient e-procurement systems can optimize organizational operations, reduce costs, and bolster supply chain resilience. Recommendations include ongoing staff training, regular system evaluations, and prioritization of technology upgrades to sustain and enhance the benefits of e-procurement. These insights provide valuable guidance for organizations aiming to leverage digital procurement practices for improved performance and competitive advantage.*

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## 1. Introduction

Electronic procurement, or e-procurement, represents an organizational purchasing system that leverages information technology to streamline supply chain management processes (Presutti, 2003). Over the years, e-procurement has become integral to businesses worldwide, enhancing organizational growth by integrating seamlessly with other business operations (Vaast & Walsham, 2009). Initially explored through global public procurement, e-procurement was designed to refine sourcing and evolve the procurement process, creating a robust framework for organizational efficiency. Today, the internet serves as a crucial enabler, facilitating organization networks, internet-based procurement, and the establishment of procurement communities online. These technological advancements have spurred a gradual but substantial shift from traditional procurement methods to modern, digital processes.

E-procurement's impact on efficiency is widely recognized. By transitioning away from conventional methods, organizations have been able to reduce procurement costs while still meeting quality standards. Through online tendering and streamlined processes, organizations have saved time, effort, and financial resources in procurement and supply chain management (Watuleke, 2017). In developing regions, such as Sub-Saharan Africa, small and medium enterprises (SMEs) are increasingly adopting these digital procurement methods to boost their operational efficiency. Trends like multi-vendor cataloging and decentralized procurement have driven this rapid shift, emphasizing the internet's role as an essential tool for modern procurement (Watuleke, 2017).

In recent years, e-procurement has evolved from a technical function to a strategic organizational asset, offering a transformative approach to supply chain and inventory management. For example, corporations such as Walmart and Mattel have implemented systems that benefit not only their internal operations but also foster stronger partnerships with suppliers and stakeholders (Nelson, Moody, & Stegner, 2002). This shift reflects an understanding of e-procurement's strategic potential in optimizing organizational operations, enhancing partner relations, and ultimately increasing productivity (Johnson, 2002).

However, adopting e-procurement presents challenges, especially in regions where technological infrastructure is underdeveloped. In Tanzania, for instance, the government introduced TANePS (Tanzania National e-Procurement System) in 2019 to address transparency, accountability, and efficiency issues in public procurement. TANePS was created to overcome the challenges associated with the previous system, Procurement Management Information System (PMIS), which was marred by issues like corruption, favoritism, and lack of accountability (Malekia, 2018; Sagile, 2019). By mandating public entities to use TANePS, the government aimed to enhance the public procurement process and ensure equitable, fair, and value-for-money transactions.

Despite the ambitious implementation of TANePS, challenges persist in its application among public entities in Tanzania. Financial constraints, organizational resistance, cybersecurity risks, and gaps in regulatory frameworks complicate its adoption. The National Housing Corporation, for instance, has encountered issues like low system speed, internet connectivity problems, and a complex user interface, making it difficult for local suppliers and procurement officers to effectively navigate the system (Silversther, 2020; Amani, 2018). System downtimes, as announced by PPRA on March 29, 2021, have further highlighted the practical issues affecting TANePS' functionality, indicating that more technical support and user training are needed for a successful transition.

Existing literature, however, has yet to fully explore the direct effects of e-procurement systems on organizational performance, particularly in emerging markets like Tanzania. This study seeks to fill that gap by assessing how e-procurement influences organizational performance, focusing on processes such as online ordering, e-invoicing, e-tendering, and automated workflows. Through these insights, the study aims to determine the potential of e-procurement technologies to streamline processes, enhance visibility, and improve organizational efficiency (Trickman & McCormack, 2010).

## 2. Theoretical framework

This study draws upon three key theories—Diffusion of Innovation Theory, Resource-Based Theory, and the Technology Acceptance Model—to provide a comprehensive understanding of e-procurement adoption and its impact on organizational performance.

Diffusion of Innovation Theory (DIT), developed by Everett Rogers (1962), explains how new ideas, products, or technologies spread across a population over time. The theory suggests that the adoption of innovations, like e-procurement, depends on factors such as relative advantage, compatibility with current practices, complexity, and technological change (Altamini, 2023). In the context of e-procurement, DIT supports the idea that e-payment practices can reduce transaction costs, increase transparency, and improve supplier relationships, all of which are advantageous to supply chain performance. Understanding these dynamics through DIT offers insights into why some organizations succeed more than others in e-procurement adoption and performance enhancement (Yoon, Lim, & Park, 2020).

Resource-Based Theory (RBT) posits that an organization's competitive advantage is rooted in its unique resources and capabilities (Lambert, 2005). Within the realm of information technology and supply chain management, RBT emphasizes the importance of internal resources—such as skilled human capital, technological infrastructure, and strategic supplier relationships—in supporting e-procurement initiatives (Guinipero, 2008). When applied to e-procurement, RBT suggests that organizations with robust technological and human resources are better equipped to implement and manage e-procurement, leading to improved supply chain performance. Thus, RBT aids in identifying the critical resources and capabilities that drive successful e-procurement adoption and enhance organizational outcomes.

Technology Acceptance Model (TAM), introduced by Fred Davis in 1986, provides a framework for understanding user acceptance of technology. According to TAM, perceived usefulness and ease of use are primary factors influencing a user's decision to adopt new technology. In the context of e-procurement, factors such as vendor support and government policy can impact these perceptions. For example, strong vendor support and favorable government policies can enhance perceived usefulness, motivating users to adopt e-procurement as they see it improving organizational efficiency and compliance with regulations. TAM thus assists in identifying environmental and organizational factors that influence e-procurement adoption, ultimately impacting organizational performance.

By examining e-procurement adoption through these three theoretical lenses, this study seeks to offer a holistic understanding of the factors influencing e-procurement success and the resulting effects on organizational performance.

## 3. Empirical review

Barngetuny and Kimutai (2015) investigated the impact of electronic payment on supply chain management (SCM), finding that 70.4% of respondents agreed that e-payment systems enhance safety and reduce acquisition costs. Their study highlighted the value of e-payment in minimizing invoicing time and protecting data, suggesting that these systems improve operational efficiency by reducing transaction costs and supporting financial control measures. The authors recommended aligning e-payment systems with procurement activities like demand forecasting, sourcing, and invoicing to foster better transparency and accountability.

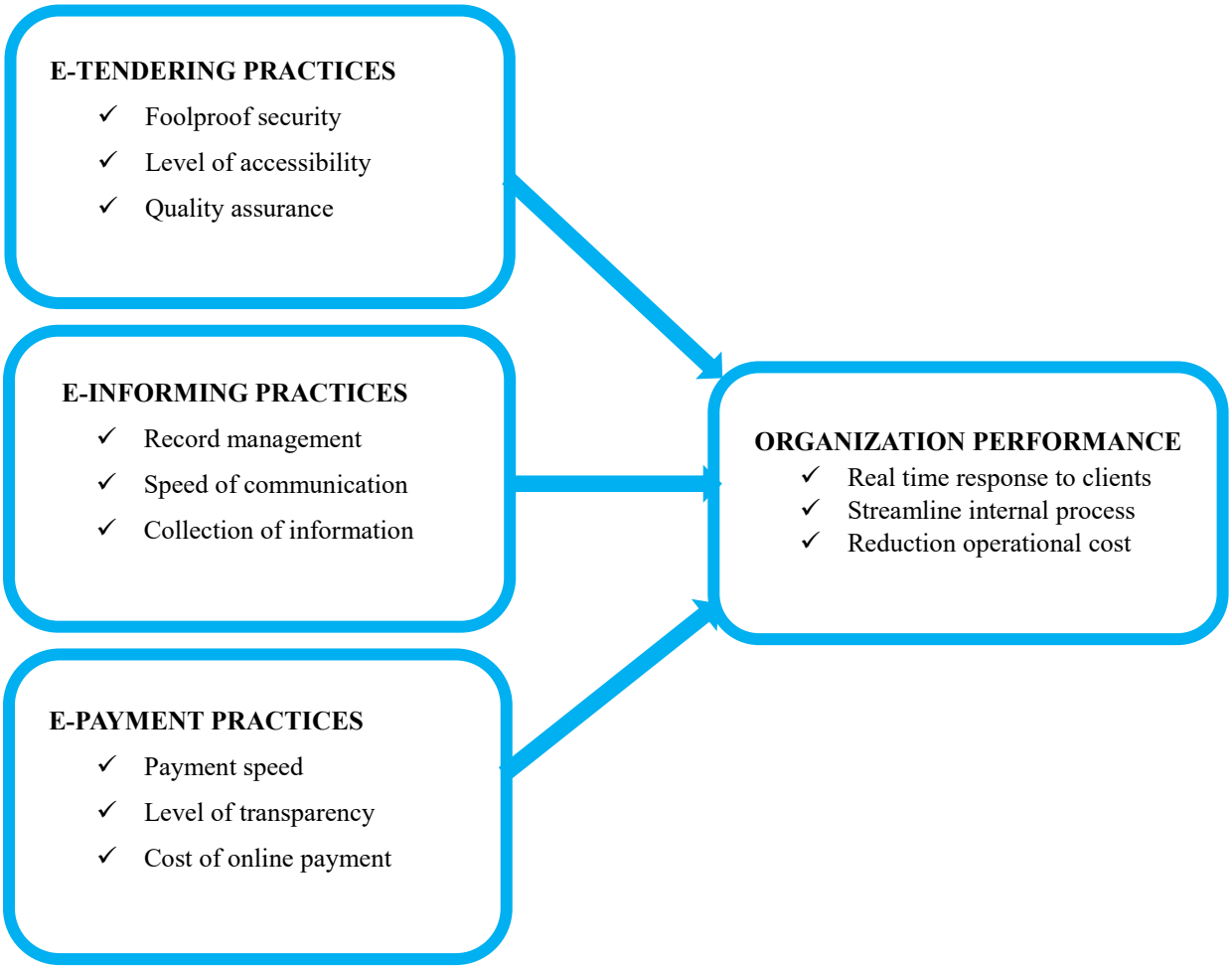
Nepelski (2006) analyzed the effects of e-procurement on financial operations and vendor management, showing that technology impacts firms' tendering processes differently based on factors such as company size and product type. The study emphasized that e-procurement systems promote market transparency and competitiveness but noted that each firm experiences these effects uniquely. Nepelski advocated for further research into the varying impacts of ICT on decision-making, vendor collaboration, and internal organizational processes to develop a comprehensive understanding of e-procurement's role in strategic procurement decisions.

In a study on SCM performance, Jyh-Jeng Wu and Shu-Hua Chien (2016) examined how supplier motivation, process integration, and value-added services affect online procurement. Their findings demonstrated that these factors positively influence online procurement's value, thereby enhancing organizational performance. The study showed that online purchasing resources play a mediating role in streamlining procurement processes, suggesting that well-integrated online procurement can drive significant improvements in SCM efficiency and organizational outcomes.

Nyanamba et al. (2013) explored e-procurement challenges in the public health sector, identifying issues like inadequate funding, insufficient training, and low system acceptance as key barriers. Their study recommended initiatives to address these challenges, such as comprehensive staff training and enhanced vendor support, to facilitate more efficient procurement processes in public health institutions. The findings emphasized the need for tailored interventions to overcome these sector-specific obstacles and enhance procurement efficiency.

Rosli and Songip (2017) examined e-procurement's efficiency within Malaysia's supply chain management, focusing on Group Procurement. Their study identified four crucial components—electronic assessment, procurement, layout, and negotiation—as essential for e-procurement success. Similarly, Padhi and Mohapatra (2017) found that management policy and IT-readiness were crucial for successful e-procurement adoption in India's government departments. These findings suggest that structured e-procurement components, along with supportive policies and IT infrastructure, are necessary for achieving effective procurement practices and enhancing SCM performance in public and private sectors alike.

**Figure 1: Conceptual Framework**




## 4. Methodology

This study adopted a descriptive research design to assess e-procurement practices at a specific point in time, focusing on the National Housing Corporation (NHC) in Dar es Salaam. The NHC was selected as it effectively utilizes e-procurement, making it suitable for generalizing findings to similar organizations. The study analyzed individuals involved directly with e-procurement, including employees from procurement, finance, ICT, sales, and marketing departments. Given the manageable size of the targeted respondents of 45 individuals, the researcher included all relevant personnel without sampling, ensuring comprehensive insights aligned with the study's objectives (Mohajan, 2018; Ruane, 2016).

Primary data were collected through structured questionnaires with open- and closed-ended questions to gather both qualitative and quantitative information efficiently. This tool allowed for standardization and comparability in responses, optimizing data collection within a short period (Mugenda & Mugenda, 2003). Questionnaires were distributed to the relevant departments, ensuring coverage across key units at NHC, such as Procurement, Finance, ICT, and Marketing, with all 45 questionnaires completed and returned. This approach provided a robust dataset directly

aligned with the study's objectives, enabling in-depth analysis of e-procurement's impact on organizational performance (Babin & Zikmund, 2016).

### 4.1 Validity of Data and Reliability

The validity and reliability of data are essential to ensure accurate and consistent results in research. Data validity refers to the degree to which the measurement scale accurately assesses what it is intended to measure. To enhance validity, the researcher incorporated feedback from supervisors and professionals and aligned the research objectives with the observed outcomes, as recommended by Saunders et al. (2013). Reliability, on the other hand, is the consistency of results produced by the research methods. In this study, reliability was assessed using Cronbach's alpha, where a value above 0.7 indicates acceptable reliability. Results showed high reliability across e-tendering (91.3%), e-informing (85.3%), and e-payment (94.2%), with organizational performance scoring 95.1%. The overall Cronbach's alpha for the study was 97.7%, indicating that the data collected reliably represent the National Housing Corporation (NHC) respondents and are suitable for generalization.

**Table 1: Reliability test**

| Variable | Number of items | Cronbach's Alpha | Conclusion |
|---|---|---|---|
| e-tendering | 5 | 0.913 | Reliable |
| e-informing | 5 | 0.853 | Reliable |
| e-payment | 5 | 0.942 | Reliable |
| Organization performance | 5 | 0.951 | Reliable |

**Source:** Field data (2024).

### 4.2 Data and ethical consideration

Data were analyzed using a quantitative approach, with data collected through questionnaires and processed using both descriptive and inferential methods via SPSS version 25. Descriptive analysis included the use of simple statistics, such as percentages, tables, and frequency distributions, to summarize the findings. Inferential analysis, specifically correlation and regression analysis, was applied to examine relationships among dependent and independent variables, enabling meaningful conclusions about the study's objectives (Marshall & Rossman, 2016; Mohajan, 2018). Additionally, factor analysis, including rotation matrices and KMO and Bartlett's tests, was used to further interpret findings. Ethical considerations were addressed by obtaining permission from relevant authorities at NHC and securing participant consent. Respondents were informed of the study's purpose, assured of their confidentiality, and guaranteed that the information provided would be used solely for academic purposes.

## 5. Results

### 5.1 Demographic profile of the respondents

The demographic profile of the respondents, shown in Table 2, provides an overview of their characteristics in terms of gender, age, education, work experience, and department. The data reveals that the sample is predominantly male, with 55.6% male respondents compared to 44.4% female respondents, indicating a somewhat balanced gender distribution. Age-wise, the largest group falls between 36 and 45 years (44.4%), followed by those aged 26 to 35 (31.1%). Smaller

groups include respondents below 25 and those between 46 to 55, each at 8.9%, with only 6.7% over the age of 56. This distribution suggests that the majority of respondents are in their mid-career stages, which could reflect substantial experience relevant to e-procurement practices. Regarding educational background, a considerable portion holds a bachelor's degree (40%), followed by diploma holders (26.7%) and certificate holders (17.8%). A smaller proportion has a master's degree (11.1%), and a minimal 4.4% possess a PhD or other advanced qualifications. This educational breakdown indicates that the workforce is primarily well-qualified, with most respondents having achieved post-secondary education.

**Table 2: Respondents characteristics**

| | | Frequency | Percent |
|---|---|---|---|
| Sex | Male | 25 | 55.6 |
| | Female | 20 | 44.4 |
| | **Total** | **45** | **100.0** |
| Age | below 25 | 4 | 8.9 |
| | 26 – 35 | 14 | 31.1 |
| | 36 – 45 | 20 | 44.4 |
| | 46 – 55 | 4 | 8.9 |
| | 56 + | 3 | 6.7 |
| | **Total** | **45** | **100.0** |
| Education | Certificate | 8 | 17.8 |
| | Diploma | 12 | 26.7 |
| | Bachelor's degree | 18 | 40.0 |
| | Master's degree | 5 | 11.1 |
| | PhD and other | 2 | 4.4 |
| | **Total** | **45** | **100.0** |
| Working experience | Below 5 | 15 | 33.3 |
| | 6-10 | 20 | 44.4 |
| | 11-15 | 7 | 15.6 |
| | 16-20 | 3 | 6.7 |
| | **Total** | **45** | **100.0** |
| Departments | Procurement | 12 | 26.7 |
| | Finance and accounting | 10 | 22.2 |
| | Information communication technology | 7 | 15.6 |
| | Marketing and sales | 5 | 11.1 |
| | Others department | 11 | 24.4 |
| | **Total** | **45** | **100.0** |

Source: Field data (2024)

In terms of work experience, the majority of respondents (44.4%) have between 6 to 10 years of experience, followed by 33.3% with less than five years, and a smaller group (15.6%) having between 11 to 15 years of experience. Only 6.7% have 16 to 20 years of experience, which implies that most respondents have mid-level experience, potentially providing a good balance of fresh and experienced perspectives on e-procurement processes. Moreover, Departmental representation among respondents shows that procurement is the most represented department, comprising 26.7% of the sample, followed by finance and accounting (22.2%), other departments (24.4%), information communication technology (15.6%), and marketing and sales (11.1%). This distribution suggests that the survey gathered insights from a cross-section of departments relevant to procurement, finance, ICT, and other functions, providing a holistic perspective on organizational e-procurement practices. Generally, the respondent profile reflects a diverse workforce with a mix of genders, educational backgrounds, career stages, and departmental roles.

This diversity can contribute to a comprehensive understanding of the impact and effectiveness of e-procurement across various organizational functions within NHC.

### 5.2 E-tendering practices on the organization performance

The descriptive analysis of e-tendering practices in relation to organizational performance provides insights into the perceived effectiveness of e-tendering in enhancing various aspects of organizational processes. Respondents rated "foolproof security ensures efficiency in organization performance" highly, with a mean score of 4.44 and a standard deviation of 0.693, indicating a strong agreement that robust security measures contribute to organizational efficiency. This suggests that security is seen as a fundamental aspect of e-tendering that supports streamlined operations and reliable performance.

Similarly, the statement "lack of security during tendering affects performance in organization" also received a high mean score of 4.33 (SD = 0.477), reinforcing the notion that security lapses can significantly hinder organizational performance. The low standard deviation reflects a strong consensus among respondents, indicating that security is widely considered essential for effective e-tendering and its impact on performance.

**Table 3: Descriptive analysis on e-tendering practice on the organization performance**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Foolproof security ensures efficiency in organization performance. | 45 | 4.44 | 0.693 |
| Lack of security during tendering affect performance in organization. | 45 | 4.33 | 0.477 |
| Simplify access of suppliers during tender process | 45 | 4.09 | 0.468 |
| Access to documents is restricted to authorized staff only. | 45 | 4.44 | 0.503 |
| E-procurement adoption has potential to enhance quality of purchasing products. | 45 | 4.33 | 0.674 |

Source: Field data (2024)

The aspect of simplifying supplier access during the tender process received a mean rating of 4.09 with a standard deviation of 0.468, indicating that respondents largely agree that e-tendering makes it easier for suppliers to participate in the tendering process. This streamlined access likely facilitates more competitive and transparent bidding, which can positively impact procurement outcomes. Moreover, access to documents is restricted to authorized staff only was rated with a mean of 4.44 and a standard deviation of 0.503, showing a high level of agreement on the importance of controlled access. This restricted access ensures data security and confidentiality in e-tendering, which aligns with the emphasis on security as a vital component for organizational performance.

Finally, the adoption of e-procurement is believed to enhance the quality of purchasing products, as reflected by a mean score of 4.33 and a standard deviation of 0.674. This indicates that respondents see e-procurement as beneficial in raising the standards of purchased goods, potentially due to improved selection, transparency, and streamlined processes. Overall, the high

ratings across all statements underscore a positive perception of e-tendering's role in improving organizational performance through enhanced security, efficiency, and access.

### 5.3 E-informing practices on the organization performance

The descriptive analysis on e-informing practices provides insights into respondents' perceptions of the role of electronic information management in enhancing organizational and supply chain performance. The statement "electronic record management enables data backup required in all levels of the supply chain" received a mean score of 4.11 with a standard deviation of 0.573, indicating general agreement among respondents. This reflects the perceived importance of effective record management in maintaining a reliable data backup system throughout the supply chain, which can support continuity and resilience in operations.

Respondents expressed a strong consensus on the impact of poor record management, as indicated by a high mean score of 4.78 (SD = 0.420) for the statement "poor record management affects supply chain performance." This underscores the importance of reliable record-keeping in ensuring smooth supply chain functions, with poor management practices seen as potentially damaging to performance.

**Table 4: Descriptive analysis on e-informing practice on the organization performance**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Electronic record management enable data backup required in all levels of supply chain | 45 | 4.11 | .573 |
| Poor record management affect supply chain performance. | 45 | 4.78 | .420 |
| Higher speed of communication is important for successfully organization performance | 45 | 4.89 | .318 |
| Internet intervention reduces unnecessary cost during transformation of information. | 45 | 4.56 | .503 |
| The flow of information in our organization has improved the performance of supply chain. | 45 | 4.91 | .288 |

Source: Field data (2024)

The statement "higher speed of communication is important for successful organizational performance" received the highest mean score of 4.89 with a low standard deviation of 0.318, reflecting near-unanimous agreement. This suggests that respondents consider rapid communication essential for effective organizational performance, likely due to its role in facilitating timely decision-making and reducing delays in the supply chain. The role of internet intervention in cost efficiency is also acknowledged, with the statement "internet intervention reduces unnecessary costs during information transformation" receiving a mean score of 4.56 and a standard deviation of 0.503. Respondents largely agree that internet-enabled communication reduces costs associated with information transfer, contributing to more efficient and cost-effective operations.

Finally, the statement "the flow of information in our organization has improved the performance of the supply chain" received a mean score of 4.91 with a low standard deviation of 0.288, showing a very high level of agreement. This indicates a strong belief among respondents that improved information flow directly enhances supply chain performance, highlighting the critical role of

effective e-informing practices in organizational success. Overall, the findings emphasize the importance of robust e-informing systems in enhancing communication, reducing costs, and supporting efficient supply chain management.

### 5.4 E-payment practices on the organization performance

The descriptive analysis of e-payment practices highlights respondents' views on how these practices influence organizational performance. The statement "delay of payment affects organization performance" received a high mean score of 4.62 with a standard deviation of 0.490, indicating a strong agreement that payment delays have a negative impact on performance. This suggests that timely payments are considered crucial for maintaining smooth operations and organizational efficiency.

**Table 5: Descriptive analysis on E-payment practices on the organization performance**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Delay of payment affect Organization performance | 45 | 4.62 | 0.490 |
| By using e- payment on time payment has been improved. | 45 | 4.11 | 0.745 |
| Level of transparence during payment has increased | 45 | 4.11 | 0.745 |
| Enhance supplier relationship and hence effectiveness of organization performance | 45 | 4.56 | 0.503 |
| Online payment can be effective tool if risks are carefully assessed | 45 | 4.67 | 0.477 |

Source: Field data (2024)

The use of e-payment has been positively received in terms of improving on-time payments, with a mean score of 4.11 and a standard deviation of 0.745. Although there is general agreement, the relatively higher standard deviation suggests a slight variation in responses, possibly due to different levels of e-payment implementation and experience among respondents. Respondents similarly rated "level of transparency during payment has increased" with a mean score of 4.11 and a standard deviation of 0.745, indicating that e-payment practices are perceived to enhance transparency in payment processes. The variance in responses may reflect differing views on how consistently transparency has improved across the organization.

The statement "enhance supplier relationship and hence effectiveness of organization performance" received a mean of 4.56 and a standard deviation of 0.503, indicating strong agreement that e-payment strengthens supplier relationships, which is viewed as beneficial for organizational performance. This underscores the value placed on e-payment as a tool for fostering positive supplier relationships, which contribute to operational effectiveness. Finally, "online payment can be an effective tool if risks are carefully assessed" received a high mean score of 4.67 with a standard deviation of 0.477, highlighting the consensus that e-payment is beneficial when risk management is prioritized. This response underscores the importance of assessing potential risks associated with online payments to maximize their effectiveness in supporting organizational performance. Overall, the findings reflect a positive perception of e-payment practices in enhancing timely payments, transparency, supplier relationships, and risk-aware operations, all of which contribute to improved organizational outcomes.

**Table 6: Descriptive Statistics on e-Procurement practice organization Performance**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Timing is among the key performance measurement in organization | 45 | 4.67 | 0.477 |
| Delivery of the requirements to destination on time entails organization performance | 45 | 4.53 | 0.505 |
| E-procurement constitutes a well-set cost reliable for organization performance | 45 | 4.44 | 0.503 |
| A well-set cost on procurement activities guarantees organization performance. | 45 | 4.38 | 0.614 |
| E-procurement reduces the cost of the product needed by organization | 45 | 4.47 | 0.548 |

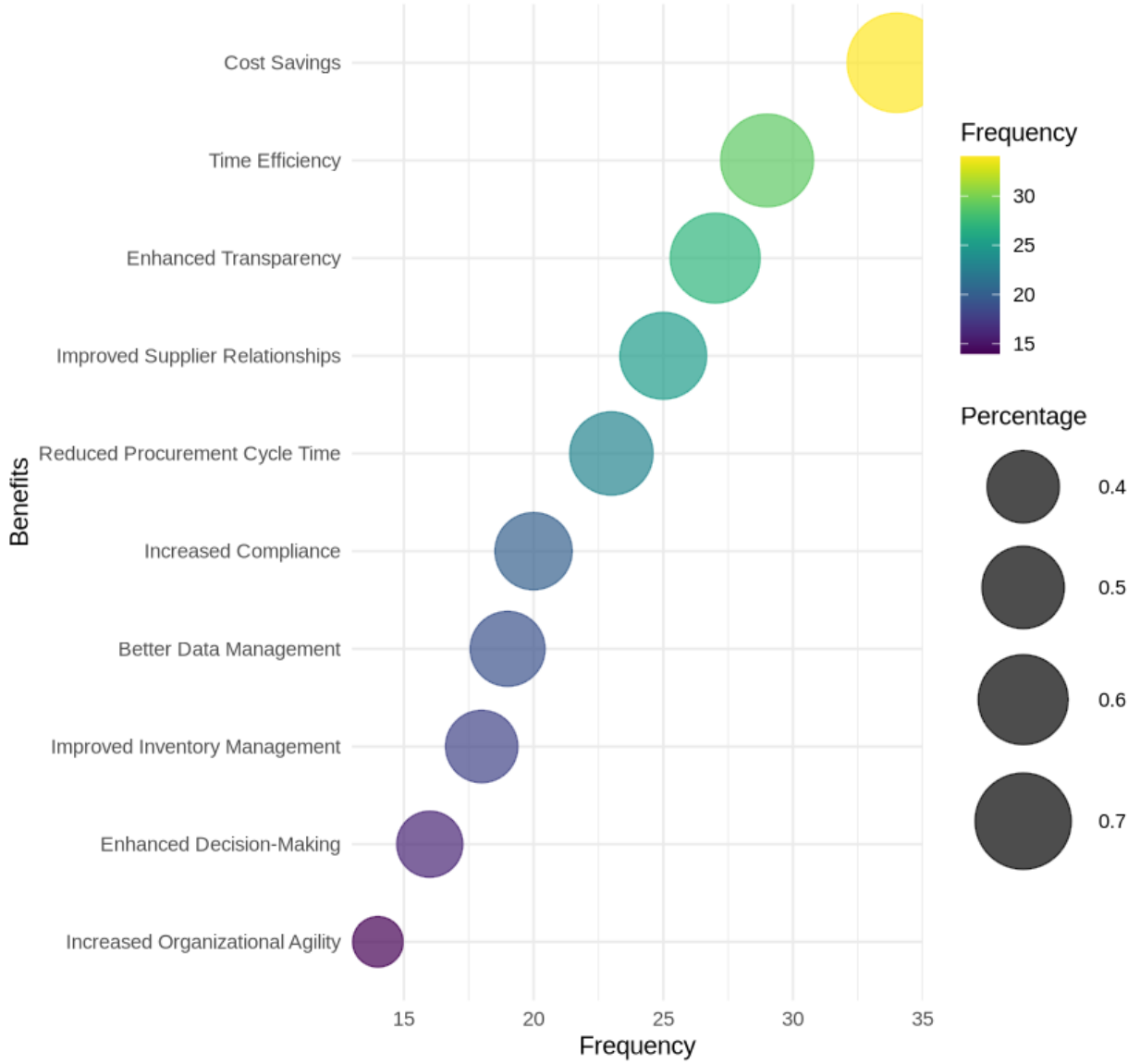
Source: Field data (2024)

The descriptive statistics on e-procurement practices provide insights into how these practices are perceived to influence organizational performance. "Timing is among the key performance measurement in organization" received a high mean score of 4.67 with a standard deviation of 0.477, indicating strong consensus among respondents that efficient timing is crucial for organizational performance. This suggests that timely operations are viewed as a core metric in assessing overall effectiveness. The statement "delivery of the requirements to destination on time entails organization performance" was also rated highly, with a mean of 4.53 and a standard deviation of 0.505. This finding underscores the importance placed on timely delivery, as respondents consider it a critical component of organizational performance. Effective delivery is seen as essential to meeting organizational needs and ensuring smooth operations.

Respondents rated "e-procurement constitutes a well-set cost reliable for organization performance" with a mean score of 4.44 and a standard deviation of 0.503, suggesting agreement that e-procurement practices provide a reliable cost structure, which positively impacts organizational performance. The consistency in responses reflects a shared belief that e-procurement helps in maintaining cost control, which is vital for sustaining organizational efficiency. Also, a well-set cost on procurement activities guarantees organization performance received a mean score of 4.38 with a slightly higher standard deviation of 0.614, indicating general agreement but with some variability in responses. This may reflect differences in organizational experiences with cost management in procurement, though there is overall agreement on the importance of cost control for performance.

Lastly, "e-procurement reduces the cost of the product needed by organization" was rated with a mean of 4.47 and a standard deviation of 0.548. This finding highlights that respondents perceive e-procurement as beneficial in reducing product costs, which can directly enhance organizational performance. Overall, these results reflect a positive view of e-procurement's role in improving timing, delivery efficiency, and cost management, all of which contribute to stronger organizational outcomes.

**Figure 2: Benefits of E- Procurement**




Results in Figure 2 revealed that the most prominent benefit of e-procurement practices is cost savings, with 75.6% (34 respondents) acknowledging its impact. This high percentage indicates that organizations in Tanzania experience significant reductions in operational costs through streamlined purchasing processes, bulk buying, and minimized manual interventions. Following closely, time efficiency was recognized by 64.4% (29 respondents), highlighting how e-procurement systems accelerate procurement cycles and enhance overall productivity by reducing the time from requisition to purchase.

Enhanced transparency and improved supplier relationships were also notable benefits, identified by 60.0% (27 respondents) and 55.6% (25 respondents) respectively. E-procurement platforms provide greater visibility into procurement transactions, promoting accountability and reducing opportunities for fraud. Additionally, automated communication channels and standardized procedures foster better collaboration and stronger partnerships with suppliers, leading to more

reliable supply chains and favorable negotiation terms. These benefits collectively contribute to better governance and sustained business success.

Mid-level benefits such as reduced procurement cycle time (51.1%, 23 respondents), increased compliance (44.4%, 20 respondents), and better data management (42.2%, 19 respondents) were also significant. E-procurement systems streamline workflows, ensuring that procurement activities adhere to regulatory requirements and internal policies, thereby mitigating the risk of non-compliance. Improved data handling and reporting capabilities enable organizations to maintain accurate procurement records and make informed decisions based on comprehensive analytics. Additionally, improved inventory management (40.0%, 18 respondents) and enhanced decision-making (35.6%, 16 respondents) further support operational efficiency and strategic planning.

Lastly, increased organizational agility was the least cited benefit, recognized by 31.1% (14 respondents). While fewer respondents identified this advantage, it underscores the potential of e-procurement systems to enhance an organization's flexibility and responsiveness to market changes and internal needs. Overall, the survey indicates that e-procurement practices significantly contribute to organizational performance in Tanzania by delivering substantial cost and time efficiencies, enhancing transparency, and strengthening supplier relationships. These benefits not only improve operational effectiveness but also foster sustainable growth and competitiveness in the dynamic business environment.

### 5.5 Correlation Analysis

The correlation analysis table shows the strength and significance of relationships between e-tendering, e-informing, e-payment, and organization performance. Each e-procurement practice (e-tendering, e-informing, and e-payment) exhibits a strong positive correlation with organizational performance, suggesting that these practices are perceived to significantly enhance performance. Therefore, results show that E-tendering has the highest correlation with organizational performance, with a Pearson correlation coefficient of 0.947 ($p < 0.001$), indicating a very strong and statistically significant positive relationship. This implies that as e-tendering practices improve, organizational performance is likely to increase, underscoring the critical role of secure, efficient tendering in achieving organizational objectives.

**Table 7: Correlation analysis**

| | | E-Tendering | E-Informing | E-Payment | Organization performance |
|---|---|---|---|---|---|
| E-Tendering | Pearson Correlation | 1 | | | |
| | Sig. (2-tailed) | | | | |
| | N | 45 | | | |
| E-Informing | Pearson Correlation | 0.891** | 1 | | |
| | Sig. (2-tailed) | 0.000 | | | |
| | N | 45 | 45 | | |
| E-Payment | Pearson Correlation | 0.909** | 0.874** | 1 | |
| | Sig. (2-tailed) | 0.000 | 0.000 | | |
| | N | 45 | 45 | 45 | |
| Organization performance | Pearson Correlation | 0.947** | 0.814** | 0.919** | 1 |
| | Sig. (2-tailed) | 0.000 | 0.000 | 0.000 | |
| | N | 45 | 45 | 45 | 45 |

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field data (2024)

E-payment also shows a strong positive correlation with organizational performance, with a Pearson correlation of 0.919 ($p < 0.001$). This suggests that timely and transparent e-payment processes contribute greatly to organizational efficiency, likely by fostering better supplier relationships and reducing transaction costs. Moreover, E-informing has a correlation coefficient of 0.814 ($p < 0.001$) with organizational performance, showing a strong and statistically significant positive relationship. This indicates that effective e-informing practices, such as improved communication speed and electronic record management, positively impact the organization's ability to operate efficiently.

The intercorrelations among the e-procurement practices are also high: e-tendering and e-informing ($r = 0.891$), e-tendering and e-payment ($r = 0.909$), and e-informing and e-payment ($r = 0.874$). These significant correlations suggest that these e-procurement practices are closely linked and may complement each other in enhancing organizational performance. Overall, the findings underscore the importance of integrating secure, efficient, and transparent e-procurement practices to optimize organizational outcomes.

## 6. Discussion

The findings of this study provide important insights into the positive impacts of e-procurement practices—e-tendering, e-informing, and e-payment—on organizational performance, aligning with previous research that highlights the potential of digital procurement to streamline operations, reduce costs, and improve transparency and efficiency. For example, Amani (2018) asserts that e-procurement improves project performance in Tanzania's private sector by enhancing efficiency and transparency, a view reinforced by the strong correlations between e-procurement practices and organizational performance found in this study.

E-tendering practices were found to have the highest positive impact on performance, consistent with Croom and Brandon-Jones (2004), who emphasize e-tendering's ability to foster secure, transparent, and efficient tender processes. By simplifying supplier access and maintaining authorized staff controls, e-tendering reduces risks and streamlines procurement, supporting timely and effective project execution (Barngetuny & Kimutai, 2015). Such practices resonate with Baily et al. (2008), who advocate for secure systems that enhance the reliability of procurement processes, aligning with our findings that secure e-tendering significantly boosts performance.

Similarly, e-informing practices showed a strong association with performance improvement. This supports Gunasekaran and Ngai's (2004) findings that effective information systems enable quick and efficient data backup and management, which are essential for responsive supply chain operations. The high agreement among respondents on the role of fast and transparent information flow suggests that e-informing facilitates operational transparency, echoing Johnson's (2002) assertion that timely information sharing is fundamental to an agile supply chain.

The role of e-payment in improving organizational performance through timely payments, cost reductions, and strengthened supplier relationships aligns with Croom and Brandon-Jones' (2017) study in the UK public sector. E-payment's ability to mitigate delays and promote financial transparency in our study corresponds to similar findings by Ruzindana and Kalaskar (2016) on e-procurement's impact on procurement performance in Rwanda, emphasizing that timely payments are key to maintaining supplier confidence and operational efficiency.

Lastly, these results affirm that e-procurement enhances performance by fostering integration and collaboration among supply chain stakeholders, reducing costs, and improving transaction

transparency. This is consistent with Wiengarten et al. (2010), who highlight e-procurement's capacity to add value along the supply chain. The findings collectively underscore that adopting secure, transparent, and integrated e-procurement practices is essential for optimizing organizational performance and ensuring long-term sustainability in the procurement process.

## 7. Conclusion and recommendations

The findings of this study reveal that e-procurement practices—e-tendering, e-informing, and e-payment—significantly enhance organizational performance by improving efficiency, reducing costs, and fostering transparency. E-tendering was identified as the most impactful practice, underlining the importance of secure and efficient tendering processes in supporting organizational objectives. E-informing practices enable timely information flow and data management, which are essential for responsive supply chain operations, while e-payment practices promote financial transparency and strengthen supplier relationships.

To maximize the benefits of e-procurement, organizations should prioritize the development of secure and user-friendly e-tendering platforms, which can streamline procurement processes and ensure authorized access. Additionally, improving the speed and reliability of communication systems is critical to ensuring that information flows seamlessly across departments, facilitating informed decision-making. Investing in robust e-payment systems that minimize payment delays and enhance transparency is also essential for sustaining strong supplier relationships and operational efficiency.

It is recommended that organizations provide continuous training for staff on e-procurement systems to ensure consistent and effective usage across all departments. Organizations should also conduct regular evaluations of their e-procurement systems to identify areas for improvement and adapt to technological advancements. By embracing secure, transparent, and integrated e-procurement practices, organizations can enhance supply chain resilience, maintain competitive advantage, and achieve long-term operational success.

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