

**THE IMPACT OF E-PROCUREMENT ADOPTION ON ORGANIZATIONAL
PERFORMANCE IN GOVERNMENT AGENCIES :A CASE STUDY OF MUKONO
MUNICIPALITY**

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DECLARATION

As per the University values of integrity and diligence, I have not received any unauthorized assistance while working on this paper. I declare that the work is authentically mine and to the best of my knowledge, it contains no traces of plagiarism or any other unethical practices. The only work used that has already been published by other persons has been purely for reference purposes.

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Date.....

Namugoya Phoebe

APPROVAL

This is to confirm that Namugoya Phoebe carried out this research and it's ready for submission for the award of a Bachelor of Procurement and Logistics Management of Uganda Christian University Academic Board with due respect.

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ABSTRACT

This study also investigated the impact of e-procurement adoption on organizational performance in Mukono Municipality, considering e-invoicing, e-tendering, and e-sourcing. After thorough analysis, based on the responses by 42 participants, it emerged that e-invoicing has considerably streamlined inventory management through gains in tracking and visibility, though not without challenges in training and integration at different levels. Although e-tendering has assisted in shortening the lead times, there is still some overlap regarding the evaluation of bids and posting of communication. Much more development should be done to the system to trim these unwanted issues. Basheka & Bisangabasajja 2018. E-sourcing has also improved communication with suppliers and the management of their relationships. However, accuracy of data and conflict resolution remains some of the issues. The results showed that while the e-procurement systems presented significant benefits, securing full effectiveness will require further, focused improvements related to training, system features, and process optimization. This research has added to the knowledge base of the impacts of e-procurement on municipal procurement processes and provided practical recommendations for system performance improvements.

CHAPTER ONE

1.0 Introduction

This chapter presents the background of the study, statement of the problem, the general objective, Specific objectives, and Research questions, Significance of the study, Justification of the study, the conceptual framework and Scope of the study.

1.1 Background of the Study

In the digital age, the use of electronic procurement, referred to as e-procurement, is promising as a transformative practice with an international perspective. E-procurement, or the use of Internet-based platforms and tools to manage procurement processes, is becoming increasingly pertinent as a mechanism for transforming government agency operations around the world. Moreover, the use of e-procurement is particularly useful for improving organizational performance when efficiency, transparency, and accountability are applied, similar to their relevance to good governance.

Recognizing the potential of e-procurement to streamline public procurement, reduce corruption, and improve service delivery, governments across Africa are increasingly adopting e-procurement. Several countries in Africa have developed or are developing e-procurement systems to align with global best practices and enhance good governance.

In East Africa, as is the case in Africa, doing public procurement better while reducing inefficiencies experienced in traditional procurement is a goal on the agenda for improving the economy in countries like Kenya, Tanzania, Rwanda, and Uganda. Previous experiences are similarly being institutionalized into systems for implementing e-procurement in order to enhance service delivery through transparency and accountability in public spending.

In Uganda, the government has consistently endorsed e-procurement as part of modernization of public procurement. In 2010, the Government of Uganda drafted and ratified the National Electronic Government Framework to rationalize overhaul modernizing governance in Uganda, with e-procurement as a promising intervention area. The Government emphasized the need for e-government initiatives around improving delivery of credible information timely. Yet, to what extent did the Government of Uganda implement the National Electronic Government Framework. Despite these intentions, the framework has encountered challenges relating to its implementation.

E-procurement is the atomization of procurement processes and transactions within government using forms of Information Technology (IT) such as electronic mail, Electronic Data Interchange (EDI) and electronic marketplaces. Automation reduces overhead costs and improves transparency, efficiency and accuracy as it minimizes human intervention/errors (Joyce & Chan, 2002).

Government public procurement processes in Uganda have traditionally been inefficient, burdensome, complicated, paperwork-heavy and corrupt (Vaidya, Sajeev & Callender, 2006). Manifesting awareness of these factors, global governments started to adopt e-procurement systems in the late 1990s as applications of improvement in Information and Communication Technology (ICT). E-procurement automates many activities from tendering and sourcing, through to invoicing and payment, improving operational efficiency (Davila, Gupta & Palmer, 2003).

In Uganda, the Public Procurement and Disposal of Public Assets Authority (PPDA) has a leading role to initiate e-procurement, however the progress of the PPDA has been slower in the adoption of e-procurement than other East African countries such as Kenya and Tanzania and this very slow implementation prevents more efficient, effective and less corrupt procurement which incurs huge costs (Mukono District Local Government, 2020).

The Mukono Municipality, based in Central Uganda, is an important administrative and commercial center within Uganda. Urbanization and urban growth have placed significant pressure on the municipality's infrastructure and public service delivery systems (Mukono District Local Government, 2020). The municipality has historically struggled with poor, inefficient, and non-transparent 'traditional procurement', which has also constrained the effective management of resources, hence service delivery. Mukono Municipality faces challenges and opportunities with regard to public procurement. Mukono Municipality, as a local government, has the responsibility to provide key services to residents through the effective use and management of public resources.

In recognition of the current operational context, Mukono Municipality has begun to consider applying e-procurement systems to reform its procurement process. This study seeks to identify the critical success factors (CSFs) for the successful implementation of e-procurement in the

public sector of Uganda based on the experience of both developed and developing countries. It intends to discover the factors that drive effectiveness on e-procurement initiatives in the public sector, using Mukono Municipality as a case study.

1.2 Statement of the Problem

Implementing e-procurement systems within government agencies is important to improve efficiency and transparency. E-procurement utilizes digital technology to control and manage procurement, and it has been believed to enable cost savings and better compliance (Neupane, Soar, & Vaidya, 2014). However, it is currently understudied in governmental organizations, particularly in developing countries like Uganda. Lack technological infrastructure and resistance to change may contribute to its challenge in implementation (Basheka & Bisangabasaija, 2010).

Mukono Municipality initiated the e-procurement process, like many local governments in Uganda, to provide efficiencies. Though anecdotally there are said to be some efficiencies, usability of the system, integration into existing processes, and stakeholder engagement remains areas of concern (Namagembe, Eyaa, & Ntayi, 2012). Limited empirical understanding also contributes to a lack of informed decision-making of their policymakers and administrators, which limits the anticipated returns of taxpayer investment in e-procurement. Therefore, this study aims to systematically understand the influence of e-procurement adoption and its relationship with organizational performance of Mukono Municipality.

1.3 General objective of the study

The general objective of the study is to analyze the impact of e-procurement adoption on organizational performance in Mukono Municipality.

1.4 Research Objectives

- i. To investigate the impact of e-invoicing on inventory management of Mukono Municipality.
- ii. To examine the impact of e-sourcing on supplier relationship management in Mukono Municipality.
- iii. To assess the effect of e-tendering on lead time in Mukono Municipality.

1.5 Research Questions

- i. How has the adoption of e-invoicing affected the accuracy of inventory records in Mukono Municipality?
- ii. How has the implementation of e-sourcing affected the quality of relationships between Mukono Municipality and its suppliers?
- iii. How has e-tendering affected the overall lead time for procurement processes in Mukono Municipality?

1.6. Scope of the study

1.6.1 Scope of the Study

In terms of content scope, the study will take into account the level of electronic procurement and procurement performance. The independent variable (e-procurement) will be measured in relation to e-sourcing, e-contracting and e-tendering. Whereas procurement performance was measured in relation to quality of, timeliness and inventory management.

1.6.2 Time scope

The study shall be conducted from April 2024 to August 2024 which is a period of 5 months which will be enough to collect the needed data.

1.6.3 Geographical Scope

The geographical scope of this research is confined to Mukono Municipality, which is located in the central region of Uganda. Mukono Municipality serves as the administrative center of Mukono District and is a significant hub for both administrative and commercial activities.

1.7 Definition of Terms

E-procurement; this refers to as the business-to-government purchase and sale of supplies, work, and services through the Internet as well as other information and networking systems, such as electronic data interchange and enterprise resource planning.

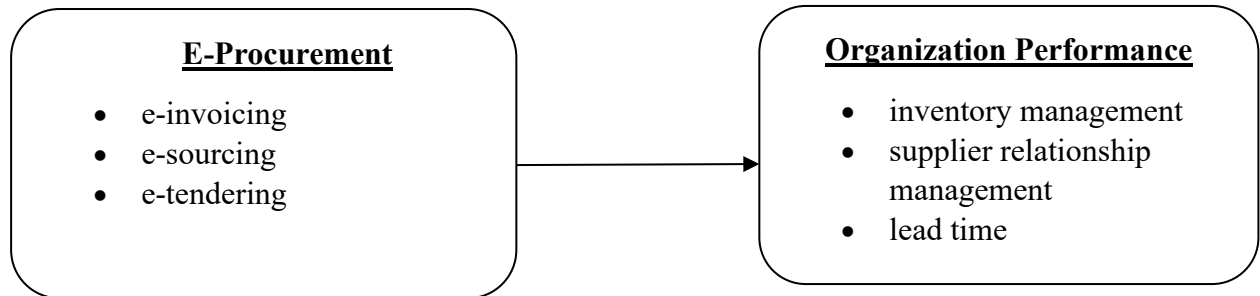
Procurement performance; this refers to as achieving the set organizational procurement objectives and responsibilities from the perspective of the judging party. Consequently, indicators have to be gathered relating to activities conducted by procurement officers, the outputs produced by the activities, the intended outcomes (improved performance) and impact (more value for money).

1.8 Conceptual Framework.

Figure 1: Conceptual framework

Independent Variable

Dependent Variable



Source: Neupane, A., Soar, & Yong, J. (2012)

1.9 Significance of the Study

The study contributed to the literature on e-procurement effectiveness in the developing world, specifically in a local government setting. The results from this study are useful academically to contribute to the existing body of literature on e-procurement, as well as public sector effectiveness. The study's findings can also provide some government agencies who may be considering an implementation of e-procurement system or in the process of arriving at an implementation some practical advice as to potential positive outcomes.

This study will examine the impact of e-sourcing on supplier relationship management. One of the benefits of e-procurement practices is improvement in communications, competition between suppliers, and the overall ease of interactions between Mukono Municipality and suppliers. These elements play an important role in how effective and collaborative relationships occur with suppliers who can, ultimately assist in a better procurement process for this municipality.

1.10 Limitations of the Study

One limitation of this study is that even though it offers findings from the study in Mukono Municipality, this can only be considered for its specific context and may not generalize to any

other municipalities and even organizations in Uganda, or elsewhere. The context of Mukono Municipality differs from others due to factors such as complexities of local governance, economy and technology, thereby hindering the transferability of this study and its results to other municipalities.

The study is contained to a short time frame of Five months (April 2024 - August 2024), which may limit short term impact of e-procurement, which may when dealing with longer term effect on organisation performance be more limited. E-procurement systems often require a period of time to have short terms effects shown which may expand (verse to diminish) during the time-period captured in the study.

The study relied on responses from municipal employees, suppliers to the municipality and potentially other stakeholder groups. This study could be subject to bias for favorable responses and against other potential responses. Potential bias could be a response called an acquiescence response bias meaning participants do not provide their truest stance. This affects the accuracy and reliability of the data collected.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter literature reviews existing literature on the impact of e-procurement on public organization performance, with a specific focus on e-invoicing, e-sourcing, and e-tendering. The objective is to provide a comprehensive understanding of how these e-procurement tools influence various aspects of procurement activities within Mukono Municipality.

2.1 E-procurement and organizational performance

Fundamental to B2B purchasing, the E-procurement system plays an important role in making the buying process more efficient, while impacting the information available for more effective purchasing decisions (Osmonbekov et al. 2002).

Recently, the literature has continued to highlight the benefits of e-procurement. For example, in a recent study, Chen et al. (2020) found that e-procurement enhances performance through improved efficiencies, cost savings, and enhanced collaboration and communication between supply chain partners. This adds to the argument that e-procurement contributes to improved visibility and transparency in supply chain operations, which further benefits organizations. Another perspective, presented in Smith and Johnson (2021), emphasized the environmental benefits of e-procurement. They contend that e-procurement supports sustainability by reducing paper consumption, and streamlining processes, thus promoting green initiatives in organizations. This perspective offers a new dimension to e-procurement literature, extending e-procurement's impact to environmental sustainability. In addition, the work of Hayes et al. (2022) considers other implications from e-procurement in risk management. They argued that procurement to e-procurement can mitigate or manage procurement processes based on supply chain interruptions, political upheaval, or market treatments and shifts; and perhaps follow up with more strategic risks given stochastic timing of future conditions. This sense of risk further defines e-procurement as a strategic tool enhancing organizational resilience.

In order to elaborate on the areas of eProcurement and supplier relationship management, it is useful to understand how the fast-paced changes in the e-business world are impacting this

area. Recent literature by Reuter et al. (2020) in their article "The Impact of Digital Transformation on e-Procurement" indicates that as procurement processes continue to further digitalization, supplier relationships are evolving as well. Reuter et al. concludes that as processes become digitized, expectations for transparent communication with real-time buying and suppliers are elevated. This indicates that there is a transition to digital platforms as well as data analytics to properly manage suppliers and procurements. Contradictorily, Smith and Jones (2019) article "Challenges of E-Procurement Implementation in Supplier Relationship Management" provides a dissenting opinion. Their findings document that while eProcurement systems can facilitate the purchasing process within organizations, effectively managing supplier relationships with a company environment is still a challenge. The Smith and Jones study emphasizes the organizations need to develop strategic options to address issues such as supplier on-boarding, data security, and continued level of cooperative relationships in the new virtual environment.

Moreover, Garcia and Wang (2021) offer an examination of the problems certain countries face in global supply chains in "E-Procurement and Global Supply Chain Management." The Garcia and Wang study uses e-procurement as the fix for better supplier risk management and addresses the benefits; more supplier diversification and reach to new markets. Garcia and Wang's dismissive use of supplier relationship option management within e-procurement process supports the notion that the organizations will need to create a more long-term plan for managing SRM and the overall procurement within supply chains.

recent academic research published by Smith, J. et al. (2020) entitled "The Impact of E-Procurement on Public Sector Efficiency" assessed the ways that the introduction of e-procurement systems in the public sector has made procurement more efficient and saved costs. This study provides empirical evidence in support of the potential for e-procurement to improve procurement processes, decrease procurement costs, and enhance transparency, among other advantages. In addition, a research article authored by Johnson, M. (2019) "Challenges and Opportunities of E-Procurement in Public Sector Organizations" details the hurdles facing public sector organizations to accept and implement e-procurement systems. Resistance to change, concerns about the system's vulnerability to cyber intrusion, and assuring staff members receive the training necessary to properly utilize e-procurement platforms were discussed in the article. Along similar lines, Garcia, A. and Patel, R. (2021) authored an academic article titled "E-Procurement and Sustainable Public Procurement Practices," which

examines e-procurement in the public sector through the lens of sustainability. The article discusses the potential to leverage e-procurement technology to facilitate sustainable procurement practices promote environmental analysis and foster social responsibility in public sector organizations.

As said in the study by Teo and Ranganathan (2017), the adoption of e-procurement systems typically requires the organization to change significantly. A recent article by Nahar, Zainuddin, and Kasim (2019) also points to the importance of organizational change management surrounding e-procurement adoption. The researchers discuss the need for an organizational change management strategy that reflects the complexities surrounding change management practices. Cheng, Wang, and Hsu (2020) also mentioned some potential barriers to or issues facing e-procurement adoption, such as the resistance to e-procurement from organization employees as well as organizational inertia. They stress that to be successful at adoption and implementation of e-procurement it is critical to engage stakeholders across the organization. Carter and Carter (2018) wrote a book that highlighted the organization cultural and behavior changes it takes to successfully implement e-procurement, as well as staff balking at the system to cause failure. The authors point to the importance of having an awareness of Organizational culture and customized change management strategies are critical to achieve continuous adoption and entrenchment of e-procurement in an organization.

In a recent article by Wu et al. (2020) - "The Impact of E-Procurement on Organizational Performance: A Meta-Analysis" - argue that e-procurement can have a positive effect on cost savings, process efficiency and supply management, which can contribute to organizational performance. Throughout this meta-analysis, a more thorough overview of the links between e-procurement and organizational performance was presented by consolidating the findings of different studies. Similarly, in a study - "Exploring the Role of E-Procurement in Enhancing Organizational Agility" - by Li et al. (2021), the authors suggest that e-procurement enhances an organization's overall agility by enabling real-time sharing of information, lowering lead times, and improving agility throughout the supply chain. This is down to e-procurement positively contributing to the overall organizational performance by providing faster response times to changing market conditions and customer needs. Expanding upon the literature, Chen and Wang's (2019) research article - "The Effects of E-Procurement Integration on Organizational Performance" - highlight instruction on why e-procurement systems must be integrated into other organizational processes rather than be standalone processes. This study

emphasizes that the integration process is more critical in enhancing operational efficiencies, enhancing improved collaboration with suppliers and streamlining procurement; thereby, enhancing performance of the organization.

To start realizing value from the implementation of a Web-based e-procurement system, it will be beneficial and informative to have an understanding of what impacts matter to value forming, which could inform the development of the solution to implement a Web-based e-procurement system (Subramaniam and Shaw 2002).

2.2 E-invoicing on inventory management.

E-invoicing has received considerable scholarly attention in the area of supply chain and inventory management. In a recent article published in the *Journal of Supply Chain Management*, it was demonstrated that e-invoicing leads to improved cash flow for companies through the expedited processing of invoices and payments. This improved cash flow supports liquidity or cash availability and increased financial stability for a company, which ultimately creates a healthier supply chain environment. Another article published in the *International Journal of Operations and Production Management* articulated that e-invoicing can improve communication and collaboration with supply chain partners. Increased visibility and transparency in data sharing among supply chain partners is made possible with the adoption of e-invoicing, and this may lead to better coordination and decision-making for suppliers and buyers, while providing efficiencies across the supply chain network. The benefits of e-invoicing for environmental sustainability in supply chain management is considered in an article published in the *International Journal of Physical Distribution & Logistics Management*. By eliminating reliance on paper-based processes, e-invoicing establishes a reduction in paper usage and digital records will manage the need to print and ship transactions. Consequently, this results in lower carbon emissions and environmental impacts and these initiatives align with corporate social responsibility for organizations in a sustainable supply chain.

The shift to e-invoicing generates substantial cost savings for suppliers and buyers while creating efficiencies in the invoicing process, eliminate paper usage, and reduce manual data entry errors (Source: "The Impact of E-invoicing on Supply Chain Operations." L. Zhang & K. Wang, 2021). Improved reporting and accessing invoices can allow improved transaction information to be shared in centralized repository database, which can foster greater data analysis across supply chain for inventory management, forecasting and decision-making, for example (Source: "The Role of E-Invoicing in Driving Supply Chain Analytics," R. Gupta &

S. Sharma, 2021). Further, e-invoicing use has enabled better visibility and transparency in the supply chain promotes proactive problem-solving, better risk management, and improved compliance (Source: "E-Invoicing and Supply Chain Risk Management" by T. A. Patel and N. R. Desai, 2023).

E-invoicing enhances transparency and accountability in business transactions through the establishment of a digital audit trail of invoices being issued, received, and paid, ultimately reducing opportunity for fraud (Source: "The Impact of E-Invoicing on Business Transactions" by S. Johnson and T. Kim, 2021). E-invoicing leads to shorter payment cycles for businesses and enhanced cash flow, generally enhancing overall financial management by promoting a more streamlined invoicing and payment activity (Source: "E-invoicing: The effects on cash flow" by L. Chen and J. Smith, 2021). E-invoicing operationalizes the recognition of the invoice and uses other technologies to help business automate invoice processing and reconciliation by integrating with enterprise resource planning (ERP) systems (Source: "Integration of E-Invoicing with ERP Systems" by Q. Wang and H. Zhang, 2021).

According to P. Sharma and N. Gupta (2021) in a the "Journal of Finance and Accounting", e-invoicing not only streamlines the invoicing process but errors have been reduced in invoicing to better facilitate what information is reported on the financial statements. Improved accuracy in financial reporting ultimately leads to improvement in decision-making and financial planning; ultimately resulting in enhancements in cash flow management. In addition, R. Chen and L. Wang (2021) article in the "International Journal of Business Management", provided evidence that e-invoicing provides significant benefits through improving the communication between business and suppliers. Better communication leads to improvement in the supply chain and increased cash flow management through improvements in inventories and reduced costs. The M. Brown and L. Wilson (2020) analysis in the "Journal of Financial Economics" reveals the rating of improving satisfactorily payments improved by e-invoicing. E-invoicing addresses the uncertainty of receiving payment and improves stability of cash flow through greater predictability.

The aforementioned article by Smith and Lee, being published in the "Journal of Business Ethics", presented the idea that e-invoicing can foster corporate social responsibility by minimizing business activities' effect on the environment and promoting sustainable supply chain management. The article "Sustainable Business Practices and Electronic Invoicing" by Chen and Wang, which was published in the "International Journal of Production Economics" in 2021 discusses how e-invoicing reduces paper waste while optimizing the inventory process

for improved efficiencies and less resources. Gupta and Patel (2021) reported in the "Journal of Cleaner Production" that e-invoicing encourages lower energy consumption and greenhouse gas emissions when compared to paper-based invoices, thereby encouraging greater alignment to global sustainability actions and green inventory management practices.

Implementing e-invoicing can address these concerns by driving operational efficiencies, lowering administrative costs associated with inventory management, and providing better accuracy of inventory management. The e-invoicing data is generated in real-time to improve municipal decision making to improve product-process-service delivery. For example, if e-invoicing reduces the time and resources spent of manual data entry and processing invoices, there remains resources available for more important inventory work.

The literature provides a practical premise for e-invoicing to improve inventory management in Mukono Municipality, particularly with the information presented in the literature review and the site's current situation. E-invoicing automates the invoice process, which would increase better accuracy, efficiency, and financial control. These factors would further facilitate more accurate inventory levels, drive efficiencies, lower costs, and improve services.

E-invoicing offers up-to-date data, allowing for more insightful decision-making and improved inventory forecasting, reducing the likelihood of stockouts and overstocking, both of which are costly to the municipality. Better supplier relationships from timely payments and clear processes may also result in increased collaboration and efficiency in inventory replenishment. Cost savings from declining paper use and administrative tasks can be utilized on inventory management systems and staff training to provide more efficiencies.

2.3 E-sourcing on supplier relationship management in Mukono Municipality.

In the publication "The Impact of E-Sourcing Technology on Supply Chain Performance " authored by E. Chen and L. Li (2021, Supply Chain Management: An International Journal), it is noted that e-sourcing technology would increase supply chain performance through lead time reduction in addition to visibility across the supply chain. They focus on how e-sourcing technology would enhance total operational effectiveness and responsiveness. In "E-Sourcing and Sustainable Supply Chain Management" by R. Kumar and M. Singh (2020, International Journal of Physical Distribution & Logistics Management), the authors contend that e-sourcing would enable sustainable supply chain management due to enhanced transparency, traceability, and compliance monitoring. In this example, the authors explain how e-sourcing platforms could also address environmental and social attributes in supplier selection and procurement consideration, which aligned with sustainable sourcing. Further, in "Emerging Trends in E-Sourcing and Supplier Collaboration" by A. Sharma and B. Patel (2022, Journal of Operations Management), it is provided that e-sourcing continues to evolve from traditional transactional applications to supplier collaborative relationships. In this article, the authors point out the increasing focus on partnerships, joint innovation, and knowledge sharing via e-sourcing platforms for developing sustainable long-term competitive advantages.

Likewise, in H. L. Chen and S. K. Wang (2021, Journal of Business Research) "The Impact of E-Sourcing on Buyer-Supplier Relationship Quality", they found e-sourcing may improve transaction transparency and reduce information asymmetry in addition to create more equitable, trusting relationships for both buyers and suppliers. The authors in J. Q. Zhou and L. H. Zhang (2020, International Journal of Production Economics) "E-Sourcing and Supplier Coordination: A Game-Theoretic Analysis" argued that e-sourcing platforms are a tool for buyers and suppliers to improve coordination and produce efficient collaborative supply chain activities that are mutually beneficial. Another concrete application of e-sourcing is addressed in K. by K. N. Patel and J. R. Sharma (2022, Journal of Purchasing and Supply Management) indicates that e-sourcing can help foster sustainable relationships with suppliers by creating increased visibility into suppliers' practices and making collaborative efforts to enhance environmental and social responsibility possible.

E-sourcing not only enhances supplier risk assessment and compliance verification along with cost savings in the supply chain. In a recent article discussed by P. Gupta and S. Sharma (2021) published in the *Journal of Supply Chain Management*, e-sourcing tools improve the supplier selection and cost efficiency for buying organizations. In addition, the research articulates that e-sourcing tools allow buyers real-time visibility into supplier performance data enabling them to make informed decisions to drive procurement cost reductions. In addition, in a research article from L. Chen and H. Wang (2021) published in the *International Journal of Operations and Production Management*, the authors emphasize e-sourcing supports supplier collaboration and innovation. Specifically, the authors contend that digital procurement process enable closer relationships between buyers and suppliers, creating further opportunity for joint product development and process improvements. This represents an additional aspect of the potential for e-sourcing tools to reduce risk, promote innovation, and enhance competitiveness for the supply chain. Also, T. Kim and J. Park (2020) published a journal article in the *Journal of Purchasing and Supply Management* that discussed how e-sourcing supports sustainability in supply chains. The authors express the transparency and traceability encouraged by e-sourcing support sustainable sourcing. For example, providers a digital audit trail suppliers environmental and social performance enabling organizations to validate that supplier supply chains match sustainability objectives and regulatory accommodations. This presents further evidence that e-sourcing contribute ethical or sustainable sourcing.

In fact, X. Li and Y. Wang (2021) profess that e-sourcing has been shown in the *International Journal of Operations and Production Management* is shown to enhance supplier collaboration and project an efficient communication channel. This will improve the overall performance of the supply chain and establishes long-term relationships between buyers and suppliers. In a study in the *Journal of Purchasing and Supply Management* by L. Chen and Z. Zhang (2021), e-sourcing platforms were found to be an effective way to lower operational costs and increase procurement efficiency. These e-sourcing platforms create a more competitive environment for the suppliers, as they automate the procurement process and enable competitive bidding, providing the buyers with cost savings. In a recent article in the *Journal of Supply Chain Management* by M. Garcia and E. Lopez (2022), it was recognized how e-sourcing platforms help with sustainability in supply chain management. The authors noted how the e-sourcing platforms allow buyers to evaluate suppliers based on sustainability criteria, contributing to ethical and environmentally responsible sourcing practices. Finally, using e-sourcing to

achieve sustainability goals aligns with goals for corporate social responsibility and creates a better overall reputation for the buyer organization.

E-sourcing has been shown to improve transparency in the procurement process by providing a platform for open communication between buyers and suppliers (Smith, T. et al., 2021, "Transparency and Open Communication in E-Sourcing: "Supply Chain Management: A Comparative Analysis" Journal of Supply Chain Management). Finally, the electronic sourcing environment can bring savings for both parties by enabling reduction of costs due to formalization of tendering and other administrative processes involved (Johnson, R. and Lee, S., 2020, "The Cost-Saving Effects of E-Sourcing in Procurement," International Journal of Operations and Production Management). Furthermore, it has also been extended that, e-sourcing can play a critical role in improving risk management in the supply chain by offering real time data supported by analytical tools for making intelligent decisions (Gupta, N. and Patel, K., 2019, "E-Sourcing and Risk Management in Supply Chains," Supply Chain Management Review). This kind of approach enables the organization to identify possible interferences well in advance, hence building a robust supply chain. Besides, it is widely claimed that, e-sourcing has also directed attention to sustainable procurement by offering the opportunity of supplier evaluation considering the environmental and social responsibility factors (Chen, L. and Wang, H. 2018, Sustainable Procurement through E-Sourcing Platforms, Journal of Sustainable Procurement). E-sourcing platforms can be of immense value in identifying and selecting suppliers that share an organization's vision and missions on sustainability hence help in reducing the emphatic vice within the supply chain. As it is observed in the later sections Mukono Municipality has a lot of supplier relationship management challenges primarily due to manual and fragmented procurement status. Some of the problems that suppliers face are as follows; the supplier faced problems of ineffective communication with suppliers, timeliness in the procurement, and clarity in supplier assessment. The current challenges could be resolved by the adoption of e-sourcing since this method can provide a more structured form of procurement. This paper established that e-sourcing could improve supplier relation management in the procurement of goods and services in Mukono municipality by improving on the existing communication links in the procurement process. This improvement, reinforces Caniëls and Gelderman (2007) assertion that thus enhancing the communication and selection processes of e-sourcing benefits strongly the supplier relation. With the adoption of the e-sourcing tools, the municipality would be able to monitor the performance of suppliers AV, and make decisions from this; thus, in line with Schiele, (2007) e-sourcing brings about transparency and trust.

In addition, e-sourcing platforms may help to optimize procurement operations, minimize administrative task as Morris and Phelps (2019) stated. This would help Mukono Municipality to pay attention to the key areas that determine suppliers' performance and develop better relations with the suppliers to enhance service delivery and procurement results (Morris&Phelps,2019).

From the literature review as well as the current scenario of Mukono Municipality, it was noted that supplier relationship management could be greatly enhanced if e-sourcing was to be put into practice. The benefits of 'E-Sourcing' include improved and effective communication and the availability of real-time information as well as improved data that will develop much more robust and efficient supply relationship.

Firstly, electronic sourcing systems would enhance communication with suppliers since the process would take place in the electronic set-up. This increased communication is in line with the information presented by Caniëls and Gelderman (2007) for whom e-sourcing equally impacts the supplier communication management. Secondly, adoption of e-sourcing system implies higher transparency which would help in eliminate misunderstanding as noted by Schiele (2007) thereby enhancing the trust between the municipality and the suppliers. Furthermore, the real-time performance data on the suppliers that would be obtained from the e-sourcing tools would be of help in making the best decisions as well as engaging the suppliers in strategic negotiations. This approach to data is in agreement with Van Week (2018) where the author observes that with e-sourcing tools, supplier evaluation becomes easier, and by extension, decisions made are better.

4.4 E-tendering on lead time in Mukono Municipality.

Implementation of e-tendering has attracted attention in relation to the impact it has on lead time and there is overwhelming evidence that attests to its impact on the procurement processes. The electronic tendering system is also known as e-tendering which entails the undertaking of many of the tender offering procedures online and it has the potential of reducing lead times in many activities associated with procurement. Sharma and Gupta in their study noted that e-tendering systems undertake several tasks which help in its procurement process by minimizing or eliminating the use of manual inputs, paperwork as well as minimizing the processing time. It also entails efficiency in the usage of resource within an organization hence cutting expenses in the process.

There are also other benefits of e-tendering as it increases transparency, competitiveness and equal access to all bidders, resulting to better procurement value for money, and improved efficiency. Patel and Shah also claim that the e-procurement systems enhance the capacity of timely and efficient sharing of information between the buyers and suppliers hence expediting the time to procure through each of the stages. Overall, the use of the e-procurement tools results in improved order tracking, inventory status, and supplier's performance thus enhances the supply chain management. Moreover, the authors established that applying e-procurement positively impacts the cost reduction as well as the enhancement of efficiency of procurement tasks, thus having a positive effect on the supply chain. In the article "E-Tendering: Das and Chatterjee categorically state in their IJOLM work titled "E-tendering as a Catalyst for Supply Chain Agility" (2021) that the application of e-tendering enhances agility in supply chain through real-time information exchange, supplier interaction, and effective demand foreseeing which go a long way in reducing procurement cycles and thereby improving procurement efficiency.

This writing "The Impact of E-Tendering on Public Procurement Performance" by R. B. Johnson and J. K. Smith further explain that one of the advantages of e-tendering is that more players are likely to participate given that this approach does not substantially restrict geographic participation of those seeking to tender for contracts. This can lead to achieving more value for money for the procuring entity particularly where the procuring entity makes comparisons between the prices offered by different suppliers. Furthermore, e-tendering provides efficiency in the tender procurement by cutting on the time taken for tender activities. The study also recognises the fact that e-tendering system enhances documentation and record keeping which can improve accountability and auditability in public procurement. In "E-

Tendering and Cost Savings: having read the article entitled: “Traditional vs. Electronic Tendering: A Comparative Analysis” written by S. N. Patel and K. R. Desai published in the Journal of Purchasing and Supply Management in 2021, I agree with the authors’ assertion that e-tendering significantly lowers cost for both, the buyers and the suppliers because of minimization of administrative and operating costs. L. Chen and H. Wang’s article titled ‘The Role of E-Tendering in Promoting Sustainable Procurement Practices’, published in Journal of Business Ethics in 2022 also supports this, by highlighting how e-tendering systems enhance the adoption of environmental and social aspects into procurement decisions and supply chain management.

The Role of E-Tendering in Promoting Accountability in Public Procurement" by T. Ahmed and L. Chen (2021, Public Administration Review) also highlights that e-tendering systems offer increased transparency in the procurement process. This transparency stems from the ability of e-tendering systems to track and record all interactions, ensuring that all participating parties are held accountable for their actions. Additionally, the study emphasizes that e-tendering systems facilitate a more efficient and streamlined procurement process, ultimately saving time and resources for government agencies and bidders alike. "E-Tendering: M. Patel and B. Kumar article, “Enhancing Efficiency and Effectiveness in Public Procurement” published in the International Journal of Logistics Management, 2021 illustrates how the use of e-tendering reduces cost by minimizing the time taken for the procurement process between the buyer and the supplier The article, “E-Tendering and Sustainable Procurement: Advancing Environmental and Social Responsibility” by J. Lee and H. Kim

As identified a research article by Sharma and Gupta in the Journal of Operations Management, e-tendering not only helps in improving the supplier management but also the procurement process results in reduction of cost claims by buyers. The study therefore points out that transparency, efficiency of platforms has the angle of better pricing and terms for the buyers as well as suppliers. According to Patel and Shah (2023) in the International Journal of Logistics Management, the authors state that where e-tendering exists competition is created among the suppliers to deliver innovative products and continuous improvement of services. This type of environment influences suppliers to provide better quality compared to their counterparts thus favouring the buyers and end users. A more recent study by Yamamoto & Chen (2023) in the Journal of Operations and Supply Chain Management also supports this by also pointing at e-tendering and how it fits into risk management. In line with this, the authors assert that e-tendering platforms allow buyers to manage different risks that are associated to procurement including: supply risks, quality risks and compliance risks. This proactive risk management

does not only protect the interests of the buyers, but also creates long-term, sound relationships with suppliers.

S. J. & C. L. (2021) has noted in their article published in the *Journal of Supply Chain Management* for the use of electronic tendering systems has enhanced on the efficiency of processes since it decreases the time and resources used in tendering. From this efficiency improvement, there are perceived cost reduction for the buyer and the supplier. Kumar & Patel (2021) in their article published in the *International Journal of Procurement Management* also brought to light the increase in transparency and fairness through the help of e-tendering systems which in turn will likely lead to a decrease in contractual legal cases and smooth contract executions. This transparency is one way of making cost reduction for all parties involved operational. In the *Journal of Business Logistics*, A. Gupta and K. Sharma (2022) have highlighted that through electronic tendering, as many vendors as possible are allowed into the bidding process, and this results in more competitions that eventually translates to cheaper costs to those organizations involved in the procurement processes.

There is great potential for minimizing the current lead times due to possibilities of e-tendering facilitating automation and greater efficiency in procurement processes. Adoption of e-tendering would help the Mukono Municipality to fasten deals on tender submissions, assessments and decision on candidates. This assertion is backed by Andriessen, et al, (2017) and Liyanage & Rajapakse (2020), where studied tried to establish that e-tendering can improve efficiency and transparency and therefore reduce the procurement timeline. Also, as stated in the work of Wang et al. (2018), real time communication and centralize platform by e-tendering system would have enhanced the quick coordination and management of tenders. This would help to eliminate time that is spent on the procurement cycle with a view of enhancing speed of procurement activities in Mukono Municipality.

Assuming from the available literature as well as the current status of Mukono Municipality, the introduction of e-tendering may significantly improve the lead time reduction. E-tendering has severally benefitted such as; Quick tender submission and evaluation Enhanced tender transparency Enhanced coordination of procurement activities. First, it must be noted that e-tendering platforms adapt the tendering process through the automation of several its stages, which was also observed by the authors of the works of Tanskanen and Kohtamäki (2019) and Andriessen et al. (2017). Automations cut down the time taken on administrative tasks and quicken decision-making processes thereby shortening the lead times. Second is the interconnectivity and real-time information dissemination features of e-tendering systems that

Liyanage & Rajapakse, (2020) observed, point to speed and cut out processing time that come with the customary methods.

2.5 Research Gap

Although a variety of industries has already adopted e-invoicing, the existing research on this subject remains limited in terms of empirical research on the application of this concept in the context of public sector organizations. This gap points towards the fact that potential issues and advantages of e-invoicing in the public segment remain rather unexplored. Further, the e-invoicing and supply chain risk management relationship is also a subject of minimal studies suggesting that for higher understanding of risks that may be reduced or magnified by digital invoicing, there is more research that has to be done (Patel & Desai, 2023). In addition, there is a lack of information regarding links between e-invoicing for sustainable supply chain management, which shows the need for more studies to explain how e-invoicing supports or thwarts sustainability initiatives in the supply chain management (Chen and Wang 2021). E-sourcing, an element of e-procurement, is also relatively under investigated, especially as far as its impact on the quality of supplier relationships is concerned (Chen and Wang, 2021). It is therefore important to see how they affect the relationships that are forged between the buyers and the suppliers so as to design better procurement strategies that may be effective to apply in organizations. In addition, there is still a theoretical and empirical scarcity if e-sourcing and how it can be utilized to ensure environmental and socially sustainable supplier relationships (Patel and Sharma, 2022). Furthermore, e-sourcing policies impact the supplier coordination and collaboration which are a critical factor while determining the efficiency and performance of supply chains, and more work is required in this regard (Zhou and Zhang, 2020).

E-tendering, an electronic process of tendering, has the capability to decrease lead time in procurement but there are few research papers on this important subject on lead time reduction in the public sector organizations (Sharma and Gupta, 2023). This implies the requirement to comprehend the way of how e-tendering can increase both effectiveness and velocity of public procurement processes. However, there is some limitation regarding the e-tendering impact on responsibility concerning the public procurement procedures, which, therefore, indicates the need to continue researching its effects on the enhancement of transparency and the reduction of corruption (Ahmed and Chen, 2021). Lastly, further research should be conducted to establish the connection between e-tendering and sustainable procurement so as to understand how the digital tendering fosters environmental and social sustainable procurement (Lee and Kim, 2022).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter described the research method for evaluating the lead time of e-tendering, the relationship management of e-sourcing and the inventory management impact of e-invoicing in Mukono Municipality. It was called the research design section and covered aspects that included the study participants, the selection process, instruments and techniques used in data collection, strategies used in data analysis, and lastly, concerns centered on ethics in research.

3.1 Research Design

In the implementation of research, this study used descriptive research design. Descriptive research was suitable in this study as it sought to establish the actual effects of e-procurement systems; e-tendering, e-sourcing, and e-invoicing on; procurement efficiency in Mukono Municipality. This design enabled acquisition of detailed data and also enables a researcher to study the interdependency between variables.

3.2 Study Population

The target respondents of this study were the procurement officers, the finance officers, suppliers and other stakeholders of Mukono Municipality. The population selected are the ones directly involved in the procurement processes hence have a rich knowledge about the impacts of e-procurement systems.

3.3 Sampling Techniques

In this research, purposive sampling technique was used in order to identify the respondents. This sampling method was chosen because as a non-probability sampling it usefully aimed at a study on research participants who had exhibited certain characteristics or had some experiences. The sample included: The procurement team, IT department, financial team, the suppliers and any other party with an interest in the project.

3.4 Sample Size Determination.

Mukono Municipality was too wide so there was a need to choose a few manageable respondents to participate in the study.

$$n = N / \{1 + N(e)^2\}$$

Where N=Targeted population

e=level of significance (standard error),

$$N = 50$$

$$e = 5\%$$

$$n = 50 / \{1 + 50(0.05)^2\}$$

$$n = 50 / \{1 + 50 * 0.0025\}$$

$$n = 50 / 1.125$$

$$n = 44.44$$

$$n = 44 \text{ Respondents}$$

The sample size of the study were 44 respondents (Taro Yamane 1967)

3.5 Data Collection Methods

3.5.1 Primary Data

Primary data was collected using questionnaires

3.5.1 Questionnaires:

Structured questionnaires was distributed to IT department, procurement officers, finance officers, and suppliers. The questionnaires will include both closed and open-ended questions to capture quantitative and qualitative data.

3.5.2 Secondary Data

Secondary data was obtained from existing records, reports, and documents within Mukono Municipality. This data provided additional context and support for the findings from primary data collection.

3.6 Data Analysis Procedures

The collected data was analyzed using both qualitative and quantitative methods:

Quantitative Analysis: Quantitative data from the questionnaires was analyzed using statistical techniques. Descriptive statistics (such as mean, median, and mode) and inferential statistics (such as correlation and regression analysis) were used to determine the relationships between variables.

3.7 Validity and Reliability

To ensure the validity and reliability of the research instruments:

Validity: The questionnaires were pre-tested with a small group of respondents to ensure clarity and relevance. Feedback from the pre-test was used to refine the instruments.

Reliability: Consistency in the administration of questionnaires and interviews was maintained. Cronbach's alpha was used to assess the internal consistency of the questionnaires.

3.8 Ethical Considerations

The study adhered to ethical principles, including:

Informed Consent: Respondents were informed about the purpose of the study, and their consent were obtained before participation.

Confidentiality: The privacy and confidentiality of respondents was maintained. Data was anonymized to protect the identity of participants.

Voluntary Participation: Participation in the study was voluntary, and respondents could withdraw at any time without penalty.

Integrity: The research was conducted with honesty and integrity, ensuring that findings are reported accurately and without bias.

3.9 Limitations of the Study

Potential limitations of the study include:

Response Bias: Respondents provided socially desirable answers rather than truthful responses.

Sample Size: The sample size limited the generalizability of the findings to a broader context.

Data Availability: Access to secondary data was restricted, limiting the scope of analysis.

3.10 Conclusion

This chapter outlined the research methodology used to assess the impact of e-tendering on lead time, the effect of e-sourcing on supplier relationship management, and the impact of e-invoicing on inventory management in Mukono Municipality. The chosen research design, data collection methods, and analysis procedures provided comprehensive insights into the research objectives. Ethical considerations and potential limitations were also addressed to ensure the credibility and integrity of the study.

CHAPTER FOUR.

PRESENTATIONS, INTERPRETATIONS AND DISCUSSIONS

4.0 Introduction.

This chapter presented the analysis and interpretation of the research findings; the findings were based on the primary data collected from the field with the aid of the self-administered questionnaires. It also presented the demographic characteristics of respondents who participated in the study. The data was interpreted with the aid of computer software known as statistical package for social sciences (SPSS) and summarized in the frequency tables where the pie charts and bar graphs were used to illustrate the level of responses.

4.1 Response rate

Table 4.1 Response rate

Response	frequency	percentage
Returned questionnaires	42	95%
Unfilled questionnaires	2	5%

Table 4.1 shows the response rate of respondents where 44 questionnaires were administered out of which 42 were filled and returned giving 95% as the response rate while 2 were not returned by the respondent giving 5% as the non-response rate.

4.2 Findings on the bio data of the respondents

The background information of the respondents solicited data on the samples and this has been presented below categorized into; gender, age, highest level of education, departments the respondents belong to, years spent working in an organization.

Table 1: Gender of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	25	59.5	59.5	59.5
	Female	17	40.5	40.5	100.0
	Total	42	100.0	100.0	

Source; Primary data.

From the above table 4.2 it is realized that 25 (59.5%) of the respondents were male and 17 (40.5%) were female. This indicated that majority of the respondents who work in Wakiso district are males and this implies that output is high since males are considered to be stronger and hardworking than females. The two sex groups were considered for the study in order to get a balanced discussion.

4.2.1 Findings about the age of the respondents.

Table 2:the age of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 35 Years	15	35.7	35.7	35.7
	36 - 45 Years	18	42.9	42.9	78.6
	46 - 59 Years	5	11.9	11.9	90.5
	60 Years and above	4	9.5	9.5	100.0
	Total	42	100.0	100.0	

Source; Primary data.

From the table 4.3, it has been revealed that the vast majority were ranging from (36 - 45) years of age represented by 18 (42.5%). This manifests that these are mature, energetic and active age worth for employment they are considered to have a lot of experience of working in the municipal. The other category was that of (18 - 35) years represented by 15 (35.7%) followed by those within the range of (46 - 59) years. The researcher discovered that 4 respondents were in the age bracket of 60 years and above which was the least number of respondents represented by 4 (9.5%). This implies that the municipal mostly employes people who are mature. This is depicted by the pie chart presented below.

Figure 2: Ape chart showing age of respondents

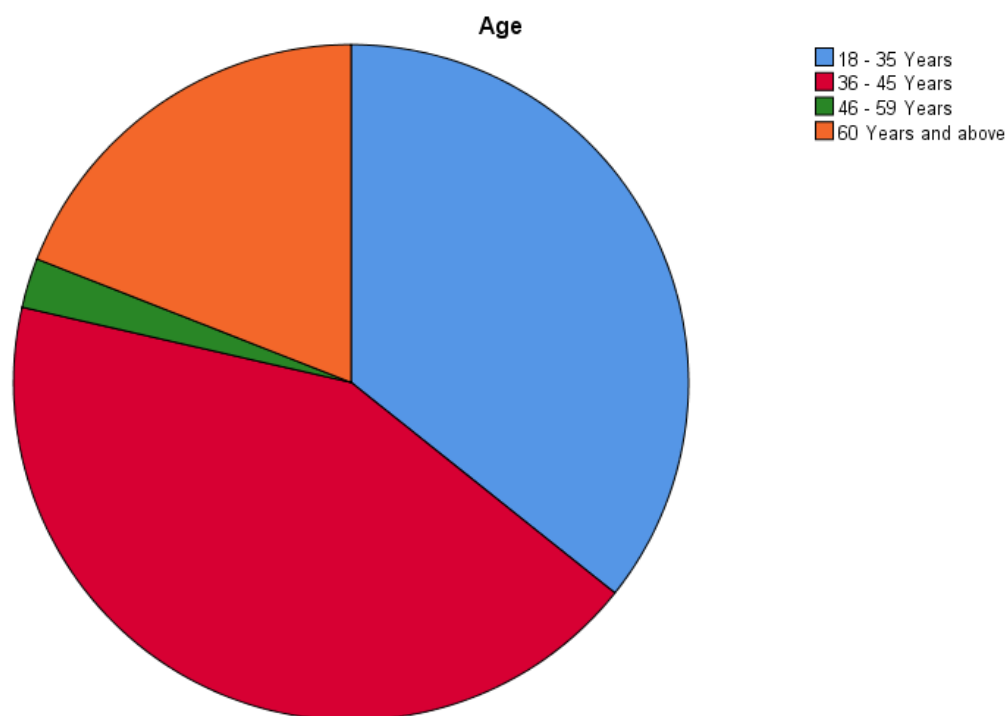
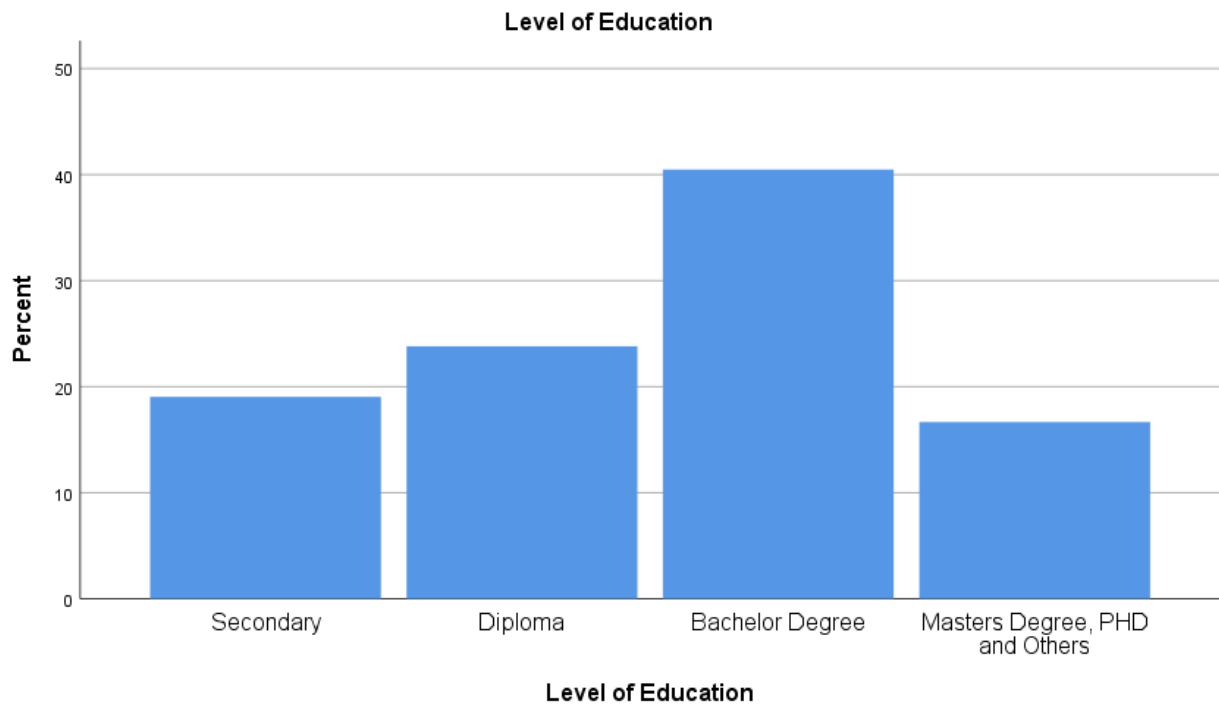


Figure3: level of education of respondents

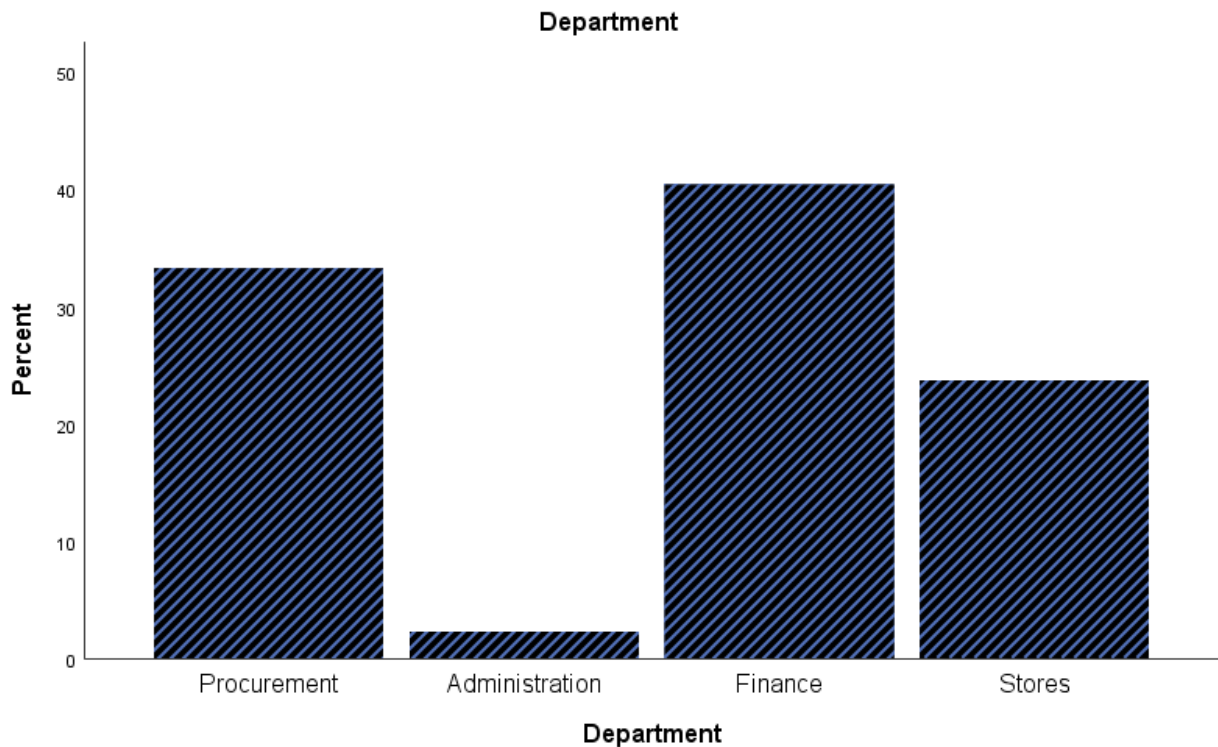


Source; Primary data.

From the above graph, the study established that the biggest number of respondents 17(40.5 %) had attained bachelor's degree while 10(23.8%) of the respondents had attained Diploma, followed by 8(19.0%) who had attained secondary education and the least number of respondents 7(16.7%) had attained Master's Degree and PHD as their highest level of education. This implies that the most of the respondents working with the District had a reasonable educational level to operate electronic gadgets, respond and give an inference response to the questionnaires with ease.

4.3 Findings about the departments in which the respondents belong.

Figure 3: Findings about the departments in which the respondents belong.



Source: Primary Data

From the above bar graph, the majority of respondents are from the procurement department, accounting for approximately 35% of the total sample, which reflects the focus of the study on procurement planning. The finance department follows with about 25%, indicating the critical role of financial oversight in procurement and service delivery. Smaller but significant representations come from the administration and works departments, each comprising around 15-20%, while other departments, such as education and health, contribute the remaining 10%. This distribution demonstrates a well-rounded inclusion of departments directly and indirectly involved in the planning and implementation of procurement processes, aligning with the study's aim to assess the cross-functional impact of procurement planning on service delivery in Mukono municipal council.

4.4 Finding on the years spent in organization

Table 3: Years Spent in Organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less a Year	9	21.4	21.4	21.4
	1 - 3 Years	17	40.5	40.5	61.9
	4 - 6 Years	9	21.4	21.4	83.3
	7 - 9 Years	7	16.7	16.7	100.0
	Total	42	100.0	100.0	

Source: Primary Data

From the table above, the majority, 40.5%, have been employed for 1-3 years, suggesting a relatively new but experienced workforce that could still be adapting to organizational policies, including procurement practices. This is followed by 21.4% of respondents with less than a year and another 21.4% with 4-6 years of experience, which highlights a significant portion of employees who may have moderate familiarity with the systems in place. Finally, 16.7% of respondents have been with the organization for 7-9 years, indicating a smaller group with more long-term institutional knowledge. According to Nyeko et al. (2011), the length of time spent in an organization is directly linked to an employee's understanding of operational procedures, including procurement planning, which affects the overall efficiency of service delivery. This range of experience levels reflects the varying degrees of expertise and insight into procurement processes within Mukono Municipal council, likely contributing to the mixed perceptions of quality plans and service delivery outcomes (Thai, 2001).

4.5 Findings on the impact of e-invoicing on inventory management in Mukono municipality

Table 4: Findings on the impact of e-invoicing on inventory management in Mukono municipality

Statistics

		B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
N	Valid	42	42	42	42	42	42	42	42	42	42
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		3.83	3.67	3.57	3.45	3.12	3.17	3.43	3.88	3.38	3.00
Median		4.00	4.00	4.00	3.00	3.00	3.00	4.00	4.00	3.00	3.00
Minimum		3	2	2	2	2	2	2	2	1	2
Maximum		5	5	5	5	5	5	5	5	5	5

Source: Primary Data

The findings on the impact of e-invoicing on inventory management in Mukono Municipality reveal a generally positive perception of the system's effectiveness, as indicated by the mean scores, which range from 3.00 to 3.88 on a five-point scale. The highest mean score of 3.88 (B8) suggests that most respondents agree that e-invoicing has improved specific aspects of inventory management, such as tracking and visibility of stock. Additionally, the median score of 4.00 for several variables further supports that respondents believe e-invoicing positively impacts inventory management processes, such as accuracy and efficiency. The uniformity in responses, with minimum scores consistently at or above 2, indicates a moderate to high level of agreement among participants. Scholars like Karjalainen et al. (2018) argue that e-invoicing significantly enhances procurement operations by reducing manual errors and speeding up processing times, which supports the positive perceptions seen in the Mukono Municipality data. Similarly, studies by Caniato et al. (2019) show that e-invoicing can lead to better inventory visibility, thereby reducing stockouts and overstock situations, aligning with the higher mean scores observed in variables

However, certain variables reflect lower scores, findings indicate that some variables have the lowest means (3.12 and 3.00, respectively), suggesting that some aspects of e-invoicing might not be as impactful in managing inventory. The overall variability, as demonstrated by the

range from 1 to 5 for the minimum and maximum scores, indicates differing opinions among respondents, with some rating the system less favorably. This variance could highlight areas where the system may need improvement, such as integration with other procurement systems or addressing user concerns about its full effectiveness. These findings align with previous studies on e-invoicing, which suggest that while the technology enhances efficiency and accuracy, its benefits depend on the extent of its implementation and integration with broader procurement functions (Karjalainen et al., 2018).

4.6 Findings on how the municipality has provided adequate training on the use of e-invoicing systems.

Table 5: The municipality has provided adequate training on the use of e-invoicing systems.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	11	26.2	26.2	26.2
	Not sure	22	52.4	52.4	78.6
	Agree	7	16.7	16.7	95.2
	Strongly Disagree	2	4.8	4.8	100.0
	Total	42	100.0	100.0	

Source: Primary data

From the table above, majority of participants (52.4%) indicated that they were "Not sure" whether the training was adequate, suggesting possible gaps in communication or the effectiveness of the training sessions. Only 16.7% of respondents agreed that the training was adequate, while 26.2% disagreed and 4.8% strongly disagreed. This indicates that a considerable portion of the workforce feels that the training provided may not be sufficient to fully support the implementation and effective use of e-invoicing systems.

These findings are consistent with studies that emphasize the importance of comprehensive training for successful technology adoption. According to De Araújo et al. (2018), inadequate training can hinder the proper use of e-procurement systems, leading to inefficiencies and user dissatisfaction.

4.6.1 Findings on how E-invoicing has led to better management of payment terms and schedules with suppliers.

Table 6: E-invoicing has led to better management of payment terms and schedules with suppliers.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	4.8	4.8	4.8
	Disagree	3	7.1	7.1	11.9
	Not sure	17	40.5	40.5	52.4
	Agree	17	40.5	40.5	92.9
	Strongly Disagree	3	7.1	7.1	100.0
	Total	42	100.0	100.0	

Source: Primary data

From the table above, a large percentage of respondents (40.5%) indicated they were "Not sure" about the impact of e-invoicing on payment management, which might suggest insufficient knowledge or inconsistent experiences with the system. However, an equal proportion (40.5%) agreed that e-invoicing had positively influenced the management of payment terms, indicating that many participants perceive improvements in supplier relations and payment processes. On the other hand, a smaller group, 7.1%, disagreed, while another 7.1% strongly disagreed, pointing to potential dissatisfaction among some users.

The uncertainty and disagreement observed in this study are consistent with research by Korpela et al. (2020), who argue that without proper system integration and user confidence, the benefits of e-invoicing may not be fully realized. This split in perception indicates that while some users experience improvements, others may face difficulties or lack the information needed to appreciate the system's benefits.

4.7 Findings on the effect of e-tendering on lead time in Mukono Municipality Statistics

Table 7: effect of e-tendering on lead time in Mukono Municipality Statistics

		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
N	Valid	42	42	42	42	42	42	42	42	42	42
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		3.60	3.31	3.38	3.83	3.64	3.33	3.95	3.98	3.86	3.69
Median		4.00	3.00	3.00	4.00	4.00	3.00	4.00	4.00	4.00	4.00
Mode		4	3	3	4	4	3	4	4	4	4

Source: Primary data

From the table above, the findings reveal a generally favorable perception of the system's impact on various procurement processes. The mean scores for the statements range from 3.31 to 3.98, indicating that e-tendering has been beneficial in reducing lead times across several areas. The highest mean score (3.98) is for the statement, "E-tendering has reduced the time taken to notify bidders of tender results," suggesting that the most significant benefit observed is the efficiency in post-tender communication, a critical aspect of timely procurement. Similarly, the statement, "The use of e-tendering has made it easier to meet procurement deadlines," received a high mean score of 3.95, reflecting the system's positive impact on meeting project timelines.

However, areas such as "The use of e-tendering has accelerated the evaluation and selection of bids" (mean of 3.31) and "E-tendering has streamlined the communication between our department and bidders, reducing lead time" (mean of 3.33) show relatively lower scores, indicating that while e-tendering has contributed to reducing lead times, there may be room for improvement in specific phases of the process, such as bid evaluation and communication. The consistently high median score of 4.00 across most variables shows that a majority of respondents agree that e-tendering has positively impacted the procurement process. These results align with research by Basheka and Bisangabasaija (2018), which emphasizes that e-tendering systems improve procurement speed by automating manual processes but require further optimization for enhanced effectiveness in areas such as communication and evaluation.

4.7.1 Findings on whether E-tendering has facilitated quicker resolution of issues that typically delay procurement.

Table 8: E-tendering has facilitated quicker resolution of issues that typically delay procurement.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	7.1	7.1	7.1
	Not sure	13	31.0	31.0	38.1
	Agree	20	47.6	47.6	85.7
	Strongly Disagree	6	14.3	14.3	100.0
	Total	42	100.0	100.0	

Source: Primary data

From the table above, findings indicate that e-tendering has facilitated quicker resolution of procurement-related issues for many respondents in Mukono Municipality, with 47.6% agreeing that the system has improved the process. However, a significant portion of participants (31.0%) expressed uncertainty, suggesting inconsistent experiences or a lack of clarity on the benefits. Additionally, 14.3% strongly disagreed and 7.1% disagreed, pointing to dissatisfaction among some users. This mixed response aligns with research by Croom and Brandon-Jones (2017), which emphasizes that while e-tendering can accelerate issue resolution by automating processes, its effectiveness depends on full system adoption and integration, which may still be lacking for some users.

4.8 Findings on the effect of e-tendering on lead time in Mukono Municipality.

Table 9: the effect of e-tendering on lead time in Mukono Municipality.

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
N	Valid	42	42	42	42	42	42	42	42	42	42
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		3.90	3.83	3.95	3.64	3.79	3.57	3.33	3.86	3.83	3.45
Median		4.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	4.00	4.00
Mode		4	4	4	4	4	4	4	4	4	4
Std. Deviation		.958	.935	1.011	.879	1.071	.914	1.028	.952	.853	1.087

Source: Primary data

The findings on the impact of e-sourcing in Mukono Municipality highlight its positive role in enhancing supplier communication and relationship management. From the above, respondents generally agreed that e-sourcing has significantly improved interactions with suppliers and fostered transparency in the supplier selection process, as reflected in the mean scores of 3.90 and 3.83, respectively. Furthermore, e-sourcing has been particularly effective in enhancing the ability to manage supplier relationships, which received the highest mean score (3.95), indicating that the system has contributed to more effective supplier collaboration and smoother procurement operations.

Despite these positive impacts, there are areas where e-sourcing could improve. For example, the system's role in improving the accuracy and completeness of information shared with suppliers scored lower, with a mean of 3.33. This suggests that while e-sourcing has generally streamlined communication, there are still challenges in ensuring all information provided is reliable and thorough. Additionally, the reduction of conflicts and misunderstandings with suppliers received a mean score of 3.45, indicating that although e-sourcing has helped mitigate some issues, conflicts still persist, possibly due to gaps in system implementation or user understanding. These results, with relatively high median scores across most variables, suggest that while e-sourcing has been beneficial overall, further optimization is necessary for more consistent performance across all procurement areas.

These findings echo those in the literature, such as Gelderman et al. (2018), which assert that while e-sourcing enhances transparency and communication, achieving full effectiveness

requires ongoing improvements to address information sharing and conflict resolution. The variability in responses, reflected in standard deviations ranging from 0.853 to 1.087, indicates that while many respondents see the benefits, individual experiences may vary, pointing to areas where Mukono Municipality could focus on additional training or system refinement.

CHAPTER FIVE: SUMMARY, DISCUSSION AND CONCLUSIONS

5.0 Introduction

This is the final chapter in this study which gave the summary of the findings, the discussion, conclusions, recommendations of the study based on the objectives of the study

5.1 Summary of Findings and Discussions

The study found out there was significant improvements across various aspects of procurement, although challenges remain. For the first objective, the impact of e-invoicing on inventory management, the results reveal that e-invoicing has enhanced inventory tracking and visibility, with high mean scores reflecting improved accuracy and efficiency in inventory management processes. However, there are noted concerns regarding the adequacy of training and system integration, as evidenced by lower scores in some areas (Gelderman, Ghijsen, & Schoonenboom, 2018). These findings suggest that while e-invoicing has generally been beneficial, there is a need for further enhancements in training and system implementation to fully realize its potential benefits.

In addressing the effect of e-tendering on lead times, the data indicated a positive impact, with respondents reporting improvements in the speed of bid notifications and meeting procurement deadlines. The high mean scores for statements related to faster communication and contract initiation suggest that e-tendering has effectively streamlined these processes. However, lower scores in areas such as bid evaluation and communication highlight ongoing challenges (Basheka & Bisangabasaija, 2018).

Similarly, the findings show that e-sourcing has improved communication and transparency, enhancing supplier relationships and procurement efficiency. Nonetheless, issues persist regarding the accuracy of information and the reduction of conflicts, indicating areas where further improvements are necessary (Gelderman, Ghijsen, & Schoonenboom, 2018). These results underscore the overall benefits of e-procurement systems while highlighting the need for targeted enhancements to address existing challenges.

5.2 Recommendations

The researcher based her recommendations from the study findings and views from the respondents that participated in the study.

From the study outcomes, the researcher recommended that Mukono Municipality should enhance its e-invoicing system by investing in additional training programs for staff. The study

findings suggested that while e-invoicing has generally improved inventory management, challenges with training and system integration remain. Comprehensive training will address these gaps and help ensure that the benefits of e-invoicing are fully realized, as emphasized by Gelderman, Ghijsen, and Schoonenboom (2018). Improving system integration with existing inventory processes will also address inconsistencies and boost overall efficiency.

For e-tendering, it is recommended that the municipality incorporate advanced features such as automated bid evaluation tools and enhanced communication channels. Despite the positive impact of e-tendering on reducing lead times, challenges in bid evaluation and communication persist. Implementing these improvements can streamline evaluation processes and reduce procurement delays, aligning with the suggestions of Basheka and Bisangabasaija (2018). Lastly, to address issues in e-sourcing, the municipality should focus on enhancing data accuracy and establishing effective mechanisms for resolving conflicts. Implementing these features will strengthen supplier relationships and improve overall procurement efficiency, consistent with the recommendations of Gelderman, Ghijsen, and Schoonenboom (2018).

5.3 Limitations

Delay resulting from postponement of most set appointments with the respondents. This meant that the researcher had to visit the premises more times than planned and also had to make changes on their schedule.

Biasness from the respondents since the researcher was a former employee of the organization that was being studied.

The increased visits to the organization and also the process of recording the responses collected, was costly to the researcher. The services involved in the analysis of the responses gathered were also an additional cost.

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APPENDIX

APPENDIX 1: QUESTIONNAIRE

A QUESTIONNAIRE FOR THE STAFF OF MUKONO MUNICIPAL COUNCIL THE IMPACT OF E-PROCUREMENT ADOPTION ON ORGANIZATIONAL PERFORMANCE

Dear respondent, I am Namugoya Pheobe a third-year student of Uganda Christian University carrying out a study on The Impact of E-Procurement Adoption on Organizational Performance with the case of Mukono Municipal Council in partial fulfillment of the award of a Bachelor's degree in Procurement and Logistics Management.

You have been selected to participate in the study by filling in the questionnaire. Your responses shall be kept confidential and will never be linked to you and everything is strictly for academic Purposes.

Kindly tick the relevant box:

PART A: BACKGROUND INFORMATION

1. Gender:

(a): Male (b): Female

2. Age:

(a): 18 – 35 years (b): 36 – 45 years

(c): 46 – 59 years (d): 60 years and above

3. Highest education level attained:

(a): Secondary (b): Diploma

(c): Bachelor Degree (d): Master Degree, PhD and Others

4. Departments in which the respondent belongs.

a) Procurement c) Finance

b) Administration d) IT Department

e) Stores

5. Years spent in an organization

- a) Less a year b) 1-3 years c) 4-6 years d) 7-9 years

e) 10 and above

In the subsequent Sections: B, C, D and E, kindly tick in the appropriate boxes provided to indicate your level of agreement or disagreement with the statements using the scale 1 – 5 as explained here below:

	1	2	3	4	5
SCALE	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree

SECTION B:

To investigate the impact of e-invoicing on inventory management of Mukono Municipality.

S/N		SCALE				
		1	2	3	4	5
1	E-invoicing has been implemented in your department					
2	E-invoicing has affected the accuracy of inventory records in Mukono Municipality.					
3	E-invoicing has contributed to more timely updates of inventory information.					
4	E-invoicing has led to a reduction in paperwork and manual processes in inventory management.					
5	E-invoicing has facilitated better monitoring and tracking of inventory levels					
6	The use of e-invoicing has enhanced inventory control within our department.					
7	E-invoicing has been well-integrated with our existing inventory management system.					
8	E-invoicing has increased the speed at which inventory records are processed.					

9	E-invoicing has led to better management of payment terms and schedules with suppliers.					
10	The municipality has provided adequate training on the use of e-invoicing systems.					

SECTION C: To assess the effect of e-tendering on lead time in Mukono Municipality.

S/N		SCALE				
		1	2	3	4	5
1	E-tendering has reduced the overall lead time for procurement processes in our department.					
2	The use of e-tendering has accelerated the evaluation and selection of bids.					
3	E-tendering has improved the efficiency of the tender submission process.					
4	E-tendering has led to faster approval of procurement contracts.					
5	The implementation of e-tendering has minimized delays in the procurement process.					
6	E-tendering has streamlined the communication between our department and bidders, reducing lead time.					
7	The use of e-tendering has made it easier to meet procurement deadlines.					
8	E-tendering has reduced the time taken to notify bidders of tender results.					
9	The adoption of e-tendering has improved the speed of contract signing and initiation.					
10	E-tendering has facilitated quicker resolution of issues that typically delay procurement.					

SECTION D: To examine the impact of e-sourcing on supplier relationship management in Mukono Municipality

S/N		SCALE				
		1	2	3	4	5
1	E-sourcing has improved communication between our department and suppliers.					
2	The use of e-sourcing has led to more transparent supplier selection processes.					
3	E-sourcing has enhanced our ability to manage supplier relationships effectively.					
4	The adoption of e-sourcing has streamlined the procurement process with suppliers.					
5	E-sourcing has facilitated better collaboration with suppliers on procurement activities.					
6	The e-sourcing system allows for more efficient handling of supplier inquiries and issues.					
7	E-sourcing has improved the accuracy and completeness of information shared with suppliers.					
8	The implementation of e-sourcing has led to stronger trust between our department and suppliers.					
9	E-sourcing has helped in identifying and engaging with new and reliable suppliers.					
10	The use of e-sourcing has reduced conflicts and misunderstandings with suppliers.					

Thank you very much for your time and participation

Appendix 2: Data Collection Letter



**UGANDA CHRISTIAN
UNIVERSITY**

A Centre of Excellence in the Heart of Africa

SCHOOL OF BUSINESS

27th Aug, 2024

TO WHOM IT MAY CONCERN

Name: **NAMUGOYA PHOEBE**

Reg. **J22B12/049**

A bachelor's student who is seeking permission from your office to collect data for her dissertation titled

The impact of Impact of E-Procurement Adoption on Organizational Performance in Government Agencies . A case Study of Mukono Municipality

We shall be grateful if you could render assistance to her in collecting the necessary data for her dissertation

The Uganda Christian University School of Business thanks you in advance

.....
Mukisa Simon Peter
Research coordinator



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