THE EFFECTS OF E-PROCUREMENT ON THE PURCHASE OF GOODS IN AN ORGANIZATION: A CASE OF UGANDA CHRISTIAN UNIVERSITY (UCU)

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S21B12/049

A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF BACHELOR OF PROCUREMENT AND LOGISTICS MANAGEMENT OF UGANDA CHRISTIAN UNIVERSITY

May,2025

UGANDA CHRISTIAN UNIVERSITY

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DECLARATION

I Kambarara Winnie hereby declare that this research report has been produced out of my own effort with the guidance of my supervisor and has never been submitted to any other institution for any award.

Signature..... Date.21/5/2025.....

KAMBARARA WINNIE

S21B12/049

APPROVAL

This research report has been supervised and approved by me and is therefore ready for submission to the School of Business in Uganda Christian University.

Signature…… Date……..

21/5/2025

Dr. ISAAC KATONO

(Lecturer)

DEDICATION

With special regard, I wish to dedicate this piece of work to my parents Mr. and Mrs. Kateera Stephen who have always been there to support me in my education. May the Almighty God richly bless you.

ACKNOWLEDGEMENT

I would like to thank the Almighty God for the gift of life and guiding me throughout my education; it has not been easy but it was possible. My heartfelt gratitude goes to my supervisor, Mr. Isaac Katono for the tireless efforts and expertise he rendered to me during his supervision.

Additionally, I acknowledge the employees and management in the selected departments of Uganda Christian University for providing me with the necessary information to complete my research.

Finally, special thanks go to my dear parents Mr. and Mrs. Kateera Stephen and family for their love, moral and financial support during the entire period of my education career.

God bless you all.

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ABSTRACT

The study examined the effects of e-procurement on the purchase of goods in an organization: a case of Uganda Christian University (UCU). It specifically focused on; assessing the extent of e-procurement usage at Uganda Christian University, establishing the challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University and determining the relationship between e-procurement and purchase of goods at Uganda Christian University.The study was carried out using a cross sectional survey research design where both quantitative and qualitative research approaches were also used. The data was collected using questionnaires and interviews and during data collection; both simple random and purposive sampling methods were used. A sample size of 44 respondents who are employees from the selected departments in UCU and the managers of these departments in UCU were also used in the study.The study findings revealed that Uganda Christian University has significantly embraced e-procurement, replacing traditional paper-based systems with electronic processes that enhance efficiency, transparency, and coordination in procurement. However, challenges Zsuch as inadequate ICT infrastructure, limited staff training, system inconsistencies, and supplier unpreparedness hinder full implementation. Despite these hurdles, the findings established a strong and positive relationship between e-procurement and the purchase of goods at UCU, with a statistically significant correlation coefficient ($r = .737^{**}$, $p < .05$), indicating that e-procurement improves delivery timeliness, reduces costs, enhances quality, and strengthens supplier performance.Finally, the study recommended that Uganda Christian University should strengthen its ICT infrastructure, provide continuous staff training, and conduct routine system audits to improve the efficiency and reliability of its e-procurement system. Additionally, the university should enhance real-time technical support to minimize system downtimes and actively engage suppliers to ensure their preparedness and responsiveness to the electronic procurement process.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This study was about examining the effects of e-procurement on the purchase of goods in an organization: a case of Uganda Christian University (UCU). The study's background, problem statement, purpose, aims, research questions, justification, significance, and conceptual framework are all presented in this chapter.

1.1 Background of the Study

E-procurement has revolutionized procurement of goods and services through the use of digital technologies to enable operations to become seamless (Jules, 2022). Electronic tendering, ordering, and materials management are included in e-procurement, which allows organizations to automate procurement as well as enhance transparency and accountability of the procurement processes of an organization (Hallikas *et al*., 2021). The adoption of e-procurement has been influenced by the need of organizations to save costs, enhance supplier relationships, and ensure timely deliveries (Faccia & Petratos, 2021). Consistent with this increasing trend of digitalization, most organizations globally are adopting e-procurement systems that enhance their procurement activities in return (Kuteesa *et al*., 2021).

E-procurement is used by organizations to solve conventional concerns of manual faults, procurement dishonesty, and supply chain wastage (Flechsig *et al*., 2022). With the involvement of data analysis and other tech tools, e-procurement has greatly enhanced decision-making, and organizations now have the facility to optimize their procurement budget (Kosmol *et al*., 2019). Second, e-procurement ensures legality in the context of procurement rules, which is very vital in the case of public institutions under the burden of protecting public assets (Matano *et al*., 2020).

Globally, countries including the United States, Germany, and Japan have, in the recent past, adopted e-procurement as a strategic approach to achieve cost-effectiveness and procurement process efficiency (Ramkumar *et al*., 2019). In the United States, e-procurement systems have enabled public institutions to achieve greater transparency in their procurement process and cut unnecessary expenditure (Siddiqui *et al*., 2022). Similarly, in European countries like Germany

and the Netherlands, robotic process automation is applied with the objective of improving supply chain performance and supplier relations (Flechsig *et al*., 2022). In Asian countries like South Korea and India, e-procurement has been applied to enable accountability in public spending and improve economic growth (Nani & Ali, 2020).

In Africa, the implementation of e-procurement is increasing incrementally, with countries like Kenya, Rwanda, and South Africa leading the way (Jules, 2022). In Kenya, for instance, electronic procurement systems have been established to support improved procurement process efficiency at the National Youth Service; this is aimed at ensuring that goods and services are delivered on time (Matano *et al*., 2020). Similarly, Rwanda's government institutions have used e-procurement to eliminate fraud in buying and obtain value for money in government projects (Jules, 2022). Despite such achievements, sub-Saharan Africa continues to have some limitations, including inadequate infrastructure as well as gaps in technical proficiency, to maximize the use of e-procurement (Muriuki *et al*., 2019).

In Uganda, for instance, e-procurement has evolved and is applied in different public institutions and organizations, including Uganda Christian University (UCU) (Kaugu, 2019). UCU has employed the e-procurement system, which mechanizes the acquisition of goods and services for improved efficiency in resource utilization and ensuring acquisition on time (Bainomugisha *et al*., 2023). UCU has the objective of increasing levels of compliance and responsibility to procurement procedures by the use of e-procurement, alongside eliminating some intrinsic inefficiency in manual procurement systems (Owere, 2021). Despite its progressiveness, among the major hurdles that still persist in place and which have hindered effective utilization of e-procurement at UCU are resistance to change, poor funding, and poor training (Nanono, 2022).

1.2 Problem statement

The procurement of goods in organizations is best expected to be timely, cost-effective, transparent, and of quality to ensure operational efficiency and value for money (Obunde, 2019). However, in the case of Uganda Christian University (UCU), the procurement of goods has been severely impaired in the recent past (Kaugu, 2019). UCU Audit Report (2023) captures delay in procurement, as over 40% of goods were delivered late in accordance with schedule in 2022. Quality is also compromised as 35% of received goods were of poor quality during internal

audits (Kuteesa *et al*., 2021). Transparency issues have been raised, with 30% of stakeholders being discontented with the opaque procurement process (Nanono, 2022). Additionally, procurement costs have risen by 25% over the last three years (UCU Audit Report, 2023). This could be attributed to incorrect use of e-procurement systems, limited technical capacity, and variable organizational policies (Obunde, 2019). If left unaddressed, these inefficiencies could compromise the financial sustainability and operational efficiency of UCU.

In spite of the efforts of management and external consultants within the stakeholders to address these issues through training and some system upgrading, the issues still persist (Jules, 2022). Besides, while previous studies, such as Matano *et al*. (2020) and Siddiqui *et al*. (2022), have taken into account the impact of e-procurement on supply chain management, these have mainly focused on its adoption and technological details without examining its direct effects on specific purchase of goods outcomes like timeliness, quality, transparency, and cost reduction in higher education institutions. Therefore, this study sought to fill this gap by examining the effects of e-procurement on the purchase of goods in UCU.

1.3 Purpose of the study

The purpose of the study was to examine the effects of e-procurement on the purchase of goods in an organization: a case of Uganda Christian University (UCU).

1.4 Objectives of the study

i. To assess the extent of e-procurement usage at Uganda Christian University.
ii. To establish the challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University.
iii. To determine the relationship between e-procurement and purchase of goods at Uganda Christian University.

1.5 Research questions

i. To what extent is e-procurement used at Uganda Christian University?
ii. What are the challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University?

iii. What is the relationship between e-procurement and purchase of goods at Uganda Christian University?

1.6 Scope of the study

The scope of the study covered three dimensions that is; content, geographical and time and these were discussed in detail below.

1.6.1 Content scope

This study specifically focused on; assessing the extent of e-procurement usage at Uganda Christian University, establishing the challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University and determining the relationship between e-procurement and purchase of goods at Uganda Christian University.

1.6.2 Geographical scope

Geographically, the study was conducted in Uganda Christian University (UCU), P.O Box 4, Plot 67-173, Bishop Tucker Road, Mukono, Uganda. Uganda Christian University (UCU) was chosen as the case for this study due to its active efforts in integrating e-procurement systems to enhance operational efficiency, yet facing persistent challenges in achieving optimal purchase outcomes.

1.6.3 Time scope

The study focused on scholarly material from the period 2020 to 2025. It was also carried out for a period of three month from January to March, 2025.

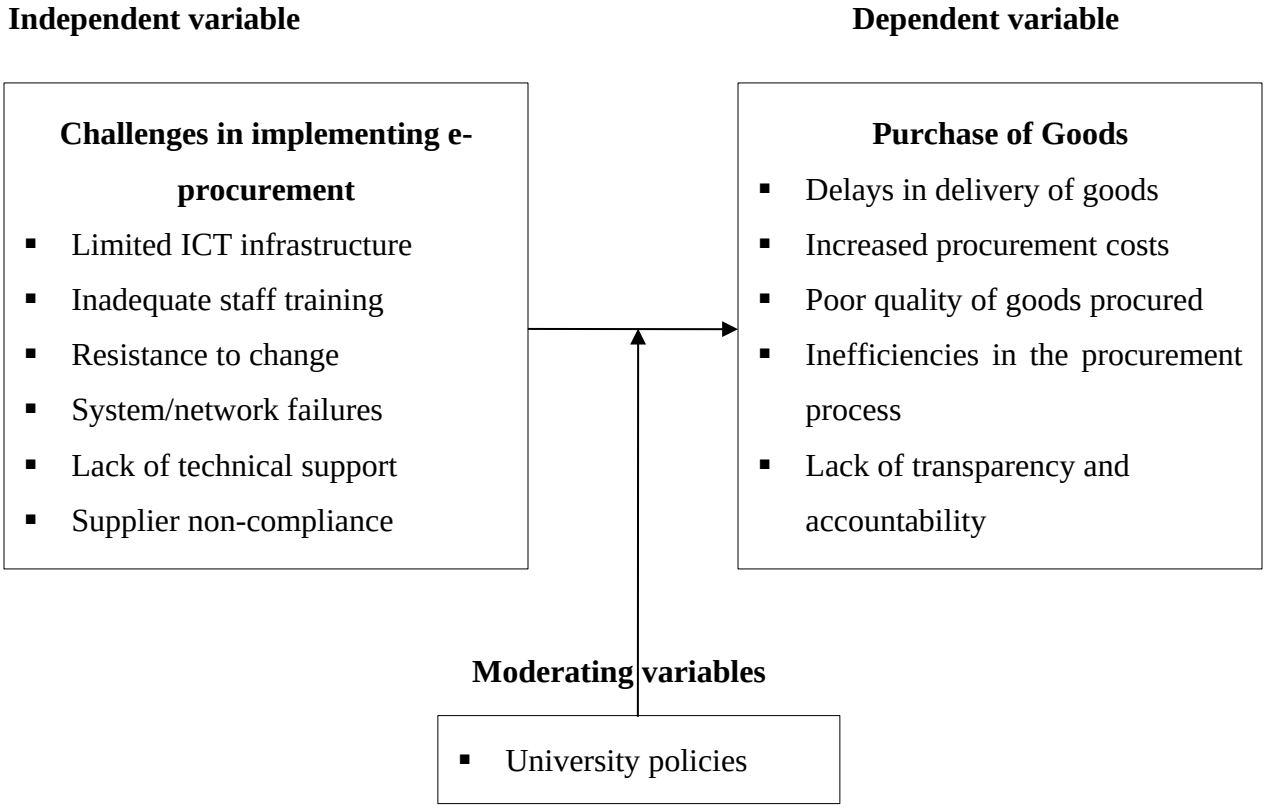
1.7 Justification of the study

The justification for this study came from the need to determine ways of addressing ongoing issues that hamper the procurement of commodities at Uganda Christian University despite the use of an e-procurement system, as experienced through untimeliness, undermined quality assurance, decreased transparency, and escalating expenses. Although various studies have been conducted on the application of e-procurement within various organizations, they have not indeed investigated how this has impacted these aspects of purchase performance within an

academic institution like UCU. This study, therefore, addressed this gap by focusing on the particular case of UCU and provides actionable advice to improve procurement performance.

1.8 Conceptual framework

Figure 1: Conceptual Framework



Source: *Adopted from, Owere (2021) and modified by the researcher (2024)*

The conceptual framework reveals that challenges faced in e-procurement implementation such as poor ICT infrastructure, resistance from staff, lack of training, system breakdowns, poor technical support, and suppliers' non-compliance negatively affect the efficient purchasing of commodities in Uganda Christian University. These challenges lead to delayed delivery, costly procurement, low quality of commodities, inefficiency in procurement and transparency, as well as unstable supplier relations. This interaction between these challenges and the procurement of goods is also affected by university policies, a moderating variable; procurement regulation, budgeting policy, ICT frameworks, staff training, and monitoring systems attenuate or strengthen the influence of these challenges on procurement outcomes.

1.9 Significance of the study

To the management of Uganda Christian University, the study will be instrumental in identifying and addressing specific gaps in the e-procurement system, leading to improved timeliness, cost reduction, transparency, and quality assurance in purchasing processes.

To the procurement professionals, the study will be valuable in offering practical insights into overcoming challenges encountered during the implementation of e-procurement in academic institutions.

To the policy makers, the study will be essential in providing evidence-based recommendations for crafting policies that enhance the efficiency and effectiveness of e-procurement in organizations.

Lastly, to the future researchers/academicians, the study will be significant as a reference point for future studies on e-procurement and its impact, while also identifying unexplored areas within academic institutions.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter examines the body of research on the impact of e-procurement on organizational purchases of commodities, as presented by various academics and notable figures. It also critically evaluates the discrepancies in the explanations to identify research gaps in the variables under investigation. The literature was studied objectively by first defining a concept and then going over the goals. The study's books, encyclopedias, journals, and magazines were among the sources used.

2.1 Definitions and concepts of the variables

2.1.1 Electronic Procurement

Electronic procurement (e-procurement) refers to the use of digital technology to improve and automate the procurement process within an organization (Chan & Owusu, 2022). It entails the electronic handling of all the procurement processes, from the identification of needs and supplier selection to ordering and payment for goods and services. E-procurement systems strive to render procurement operations more efficient, transparent, and accountable through the reduction of paperwork, minimization of errors, and the facilitation of faster transaction times (Albinkhalil & Razzaque, 2021). According to Ramkumar et al. (2019), e-procurement integrates various procurement functions such as e-tendering, e-auctioning, and e-catalog management within a single digital platform, thereby enabling more coherent and successful procurement operations.

Similarly, Nandankar & Sachan (2020) in their study e-procurement as a strategic procurement management practice that leverages internet-based technologies for automating purchasing processes, improving supplier relationships, and realizing cost savings. They highlight how e-procurement facilitates real-time communication and coordination among the stakeholders, leading to increased transparency and better decision-making in procurement processes.

Apart from this, researchers such as Mavidis & Folinas (2022) provide a broader definition to the term e-procurement and encompass a continuum of electronic procurement activities beyond the traditional purchasing functions. They propose that e-procurement encapsulates electronic tendering, electronic catalog management, e-auctions, and supplier relationship management etc. This integrative view of e-procurement highlights the multidimensionality of the term and its potential for changing supply chain management practice. In addition, as Yevu et al. (2023) define, e-procurement extends beyond the intra-organizational functions to cover transactions involving external suppliers and partners, emphasizing the necessity of collaboration and integration along the entire supply chain. This definition emphasizes the strategic function of e-procurement in facilitating supply chain efficiency and competitiveness within today's digitalized economy.

2.1.2 Purchase of Goods

The purchase of goods is a procurement function that involves the purchasing of goods from suppliers to meet an organization’s operational needs. The function frequently involves identifying the required goods, selecting suitable suppliers, and negotiating purchase terms to ensure cost-effectiveness and quality assurance (Hallikas et al., 2021). Companies are increasingly using digital procurement systems to enable the purchasing process to be more effective, reduce errors, and enhance collaboration with suppliers, thus leading to higher supply chain performance (Kosmol et al., 2019).

E-procurement has significantly transformed the procurement of goods by introducing automation, transparency, and compliance capabilities that render procurement more effective (Faccia & Petratos, 2021). Online platforms employed in procurement facilitate supplier evaluation, bidding, and contract management, which reduce procurement risks and enhance accountability (Bainomugisha et al., 2023). Moreover, robotic process automation employed in purchasing minimizes manual errors, decreases procurement cycles, and allows real-time tracking of purchase orders (Flechsig et al., 2022).

Additionally, purchasing goods through e-procurement systems realizes cost savings and operational effectiveness through inventory management streamlining and reducing procurement lead times (Matano et al., 2020). Blockchain and enterprise resource planning (ERP) systems

also enable heightened transparency in transactions, fraud prevention, and improved financial controls (Oppong, 2020). As organizations continue to embrace digital procurement, technological innovation and regulatory adherence are crucial to guaranteeing sustainable procurement outcomes (Siddiqui et al., 2022).

2.2 Extent of e-procurement usage in organizations

The use of e-procurement in organizations has been growing enormously worldwide, particularly in developed economies such as the United States, the United Kingdom, and China. In the United States alone, over 90% of large corporations have adopted e-procurement systems in supply chain management, and this resulted in cost savings between 5-10% per transaction (Ramkumar et al., 2019). The United Kingdom also embraced e-procurement, and the government mandated electronic tendering in public procurement, which increased transparency and reduced procurement cycle time by 30% (Hallikas et al., 2021). China, on the other hand, has rolled out e-procurement in the private sector and the public sector, with the government creating online platforms such as China Government Procurement Service to enable purchases and reduce corruption risks (Kosmol et al., 2019).

The application of e-procurement in Africa has been incremental, with uneven adoption rates across the countries. In Rwanda, the use of the Umucyo e-procurement system has enhanced efficiency and transparency in public procurement, reducing the time to process bids by 40% (Jules, 2022). Kenya also has advanced with the take-up of e-procurement, particularly in the energy sector, where state corporations have implemented digital procurement platforms, leading to improved procurement performance and supplier engagement (Muriuki et al., 2019). Similarly, e-procurement is increasingly being incorporated into corporate and government procurement systems in South Africa, with electronic tendering and contract management solutions being significantly on the increase (Obunde, 2019).

Uganda has also made significant progress towards adopting e-procurement, although there are still challenges to completing its complete application. The National Information Technology Authority Uganda (NITA-U) has also been leading the charge towards e-procurement, with efforts to computerize procurement processes in government entities in a bid to improve efficiency and stem leakages (Kaugu, 2019). The Public Procurement and Disposal of Public

Assets Authority (PPDA) also rolled out the e-Government Procurement (e-GP) system, which has been piloted in some government ministries in an attempt to computerize procurement processes and boost transparency (Kuteesa et al., 2021). Despite such initiatives, e-procurement uptake in Uganda remains challenged by inadequate ICT infrastructure, resistance to change, and security issues related to cybersecurity (Oppong, 2020).

Private sector entities in Uganda apply e-procurement to varying degrees depending on organization size and sector. Large organizations, particularly those in the banking and telecommunication sectors, have adopted e-procurement to streamline supplier management, contract negotiation, and payment processing (Faccia & Petratos, 2021). However, small and medium-sized businesses (SMEs) continue to be faced with challenges in implementing e-procurement due to limited resources, a lack of technical capacity, and poor government support (Nanono, 2022). Such a digital gap between large businesses and SMEs has resulted in variations in procurement efficiency and competitiveness within the Ugandan economy (Flechsig et al., 2022).

In the government sector, e-procurement has been given priority as a necessary strategy for improving procurement performance and decreasing procurement-related corruption. Ugandan local councils have been urged to implement e-procurement systems in an effort to enhance budget transparency and accountability, with experiences indicating that districts that have implemented e-procurement software have experienced lower procurement expenses and increased regulatory compliance (Bainomugisha et al., 2023). Owere (2021) finds that despite all these positive effects, the majority of local authorities have technical challenges, procurement officers are inadequately skilled, and there is resistance to changing the traditional procurement methods.

Generally, while Uganda's embracing of e-procurement has been promising in improving procurement efficiency, more policy interventions, capacity development, and investment in ICT infrastructure are required to harness its full potential. The combination of blockchain technology and artificial intelligence in e-procurement procedures may further enhance security and efficiency, allowing organizations to fully enjoy the advantages of digital procurement (Siddiqui et al., 2022). As Uganda's procurement environment continues to go digital, joint initiatives between the government and private sector will be key to overcoming the challenges

that currently face it and streamlining the procurement process for further economic contribution (Matano et al., 2020).

2.3 Challenges encountered in implementing e-procurement for purchase of goods

High upfront adoption costs: Adoption of e-procurement comes with a lot of cost in terms of software, equipment, and training to be incurred, which presents a problem for financially constrained organizations (Matano et al., 2020). The high cost of implementing and sustaining the system tend to discourage the effective rollout of e-procurement, hence being less competitive for small and medium businesses. Companies have to spend tremendous resources on retooling their procurement process, which creates economic pressure and late implementation (Muriuki et al., 2019).

Resistance to change: Resistance from employees and stakeholders to change is also a serious challenge in the implementation of e-procurement because most people are accustomed to the traditional procurement process and would not welcome using new technology (Oppong, 2020). Employees perceive e-procurement as a job threat or a high-level technical system requiring expert technical skills, leading to low usage rates. Without proper change management practices, organizations struggle to achieve acceptance by procurement staff and suppliers, thus preventing the use of e-procurement systems to their optimal level (Nani & Ali, 2020).

Threats to cyber-security and issues of data privacy: E-procurement processes are vulnerable to cyber threats in the form of hacking, data breaches, and fraud, leading to the revelation of sensitive procurement information (Siddiqui et al., 2022). Electronic transactions integrity is of utmost importance as unauthorized procurement record access may cause financial losses as well as a loss of reputation. Organizations are required to incur costs on useful cyber-security implementations to mitigate risk associated with web-based procurement that can be cost-intensive and tricky to maintain (Utama, 2020).

Lack of technical expertise: The successful implementation of e-procurement requires highly skilled human resources who are able to operate and maintain the system easily, but most firms lack staff who possess the desired technical expertise (Bainomugisha et al., 2023). Inefficient operations due to insufficient training programs create inefficiencies, and they instead depend on IT consultants from the outside, making the costs go even higher. Without properly trained labor,

organizations are challenged in resolving technical problems, and hence there are interruptions in the procurement function (Faccia & Petratos, 2021).

Poor system integration with existing processes: Integrating existing ERP and accounting systems with e-procurement systems is typically complex and challenging (Kosmol et al., 2019). Compatibility issues are common among the majority of organizations, requiring additional customizations and upgrades to align new systems with existing organizational frameworks. This renders system adoption sluggish and expensive in terms of software modifications and staff training (Flechsig et al., 2022).

Supplier adoption and readiness: E-procurement's success is dependent on suppliers' participation, but there is no appropriate infrastructure among the majority of suppliers, especially small-scale vendors, to engage in electronic procurement processes (Ramkumar et al., 2019). Lack of internet connectivity, weak digital literacy, and reluctance to embrace electronic invoicing and payment guidelines hinder suppliers' adoption of e-procurement. As such, organizations struggle to become entirely digital with procurement and are forced to maintain hybrid procurement approaches that reduce efficiency (Jules, 2022).

2.4 Relationship between e-procurement and purchase of goods

Hallikas et al. (2021) in their study examined the impact of digital procurement on supply chain performance, observing that e-procurement enhances purchase good efficiency by reducing transactional costs and making supplier selection easier. The findings were in agreement with Kosmol, Reimann, and Kaufmann (2019), who emphasized that best digital procurement practices enhance transparency and coordination between the buyers and the suppliers, leading to improved procurement. Overall, the research indicates that e-procurement systems result in faster procurement cycles and better supplier relationship management.

Faccia & Petratos (2021) explored the intersection of blockchain technology with e-procurement and enterprise resource planning (ERP) systems and demonstrated that secure and automated transactions make the purchasing process easier. Similarly, Flechsig et al. (2022) explored robotic process automation (RPA) in procurement and found that automation removes human error and improves order placement accuracy. These researches suggest that use of sophisticated

digital technology in e-procurement leads to higher reliability and effectiveness in procurement of goods.

Jules (2022) assessed the effect of e-procurement adoption in public institutions in Rwanda and concluded that e-procurement improves compliance with procurement regulations and minimizes fraudulent activities. Consistent with this, Oppong (2020) examined electronic procurement in state corporations and concluded that computerized systems produce more transparent and accountable procurement processes. These conclusions affirm that e-procurement contributes significantly to combating corruption risk and ensuring vendors' equal choice (Jules, 2022; Oppong, 2020).

Matano et al. (2020) focused on the effects of e-procurement implementation on procurement processes in Nairobi's National Youth Service, revealing that it improves procurement cycle times and reduces lead time variability. Similarly, Muriuki et al. (2019) studied the impact of electronic procurement technical support staff in Kenya's energy sector and found that proper technical support enhances procurement efficiency and system usability. These studies reinforce the fact that well-designed e-procurement systems allow faster decision-making and improved responsiveness towards purchasing goods.

Bainomugisha et al. (2023) examined the performance of Uganda's local governments statutory boards and discovered that e-procurement contributes to good governance in procurement operations. Alternatively, Nani 7 Ali (2020) provided empirical proof from Indonesia that the effectiveness of an e-procurement system depends on users' training and organizational readiness. These findings demonstrate that e-procurement is capable of enhancing the acquisition of goods but is dependent on organizational capacity and regulation compliance.

Siddiqui et al. (2022) experimented with the effects of e-procurement on supply chain management, demonstrating its improvement over procurement processes utilizing access to actual-time data and analytics. It is underlined by Ramkumar et al. (2019), where a quality technology acceptance model (Q-TAM) was conceptualized and it was established through research that with the higher proportion of e-procurement in an organization, the more an organization attains operational efficiency. The research highlights how leveraging the use of e-procurement and data analytics and predictive models improves procurement performance.

Utama (2020) critiqued the use of e-government procurement in Indonesia based on the reality that centralised e-procurement systems lead to cost savings and improved budget utilisation. Owere (2021) critiqued the application of electronic procurement in Tororo District, Uganda, and determined that adoption is faced with inadequate infrastructure and resistance to change despite the benefits. These critiques show that there are efficiency improvements in commodity purchases through e-procurement but depends on overcoming institutional and technology barriers.

Kuteesa et al. (2021) analyzed the role of ICT in budget transparency and accountability in Ugandan local governments and found that procurement e-platforms enhance financial reporting as well as expenditure tracking. This is in agreement with Obunde (2019), who analyzed the effect of e-procurement on supply chain performance in Busia County and found that electronic systems increase collaboration between suppliers as well as contract management. These studies affirm that e-procurement systems enhance the purchasing process as well as overall procurement governance.

2.5 Summary of literature review and literature gap

The literature review focused on increased use of e-procurement in the rest of the world, where industrialized nations make use of online procurement for reaching efficiency, although developing nations like Uganda are subject to impediments such as ICT infrastructure challenges, resistance, and cyber-security breaches. Despite innovation in public sector uptake, there is still irregular private sector adoption, particularly from SMEs. While there are available studies identifying the benefits of e-procurement in terms of efficiency, cost savings, and transparency, gaps remain in addressing the full-scale integration problems, supplier readiness, and the application of emerging technology like block-chain to enhance the effectiveness of e-procurement in Uganda.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology that was used in conducting the research. It described how this study was conducted. It included the study design, the study setting, study population and the sample size. It also describes the sampling procedure definition of variables, research instruments, data analysis and management, ethical considerations, and the limitations of the study.

3.1 Research Design

This study was conducted using a cross-sectional survey research design. According to Kazdin (2021), a cross-sectional survey design is a kind of research design that allows data to be gathered from several respondents at one particular moment. In order to generalise the study results to the full target population in the shortest amount of time and at the lowest feasible cost, this sort of design was utilised, as it allowed the investigator to gather data simultaneously from only the sample population (Spector, 2019). Because it supported a range of data collection techniques that enable a quantitative knowledge of the studied phenomena, the cross-sectional survey was helpful in this investigation (Nyenje & Nkata, 2016).

This study also adopted a mixed methods research approach, integrating both quantitative and qualitative research methodologies to comprehensively address the research objectives (Mohajan, 2018). Quantitative research involved the collection and analysis of numerical data through structured questionnaires, enabling the measurement of variables and identification of patterns related to the effects of e-procurement on the purchase of goods in UCU (Bhardwaj, 2019). Qualitative research employed in-depth interviews and document reviews to gather rich, descriptive insights into the experiences and perspectives of legislators, capturing the nuances that quantitative data may overlook (Wang & Cheng, 2020). The mixed methods approach was employed to leverage the strengths of both methodologies quantitative data provided generalizable findings, while qualitative insights added depth and context (Mohajan, 2018).

3.2 Study area

This study was conducted in Uganda Christian University (UCU), P.O Box 4, Plot 67-173, Bishop Tucker Road, Mukono, Uganda. Uganda Christian University (UCU) was chosen as the case for this study due to its active efforts in integrating e-procurement systems to enhance operational efficiency, yet facing persistent challenges in achieving optimal purchase outcomes.

3.3 Study population

The target population comprised of the employees of Uganda Christian University particularly those who are in the procurement and logistics department, accounts department, IT department and administration department and the top managers of these departments who have knowledge on the topic. According to the HRM of UCU (2025), the institution has a total of 1,415 employees from the different departments. However, the study focused on employees specifically from the procurement and logistics department, accounts department, IT department and administration department totaling to 50 employees and these were included in the study as the target population. The study also included the managers of these four selected departments who participated in this study as the key informants.

3.4 Sample size determination

The sample size was determined by the sample calculation formula by Yamane, (1970) as follows;

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

“n” is sample size, “N” is population, “e” is error (0.05) or level of confidence 95%

“N” (population) = 50 employees of UCU from the procurement & logistics, accounts, IT and administration departments

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

$$n = \frac{50}{1 + 50(0.0025)}$$

$$n = \frac{50}{1 + (0.125)}$$

$$n = \frac{50}{1.125}$$

n = 44

Therefore the sample size comprised of 44 respondents from the procurement & logistics, accounts, IT and administration departments in Uganda Christian University (UCU). The study also included the top managers of these four selected departments in UCU totaling to 4 and these participated in this study as key informants

These were further distributed in the table below;

Table 1: Population, sample size selection and sampling methods

Departments	**Population**	**Sample size**	**Sampling method**
Lower level employees from the three selected departments in UCU	50	44	Simple random sampling
Managers of these four selected departments in UCU	4	4	Purposive sampling
TOTAL	**54**	**48**	

Source: *UCU (2025)*

3.5 Sampling methods

This research employed both simple random sampling and purposive sampling methods. The 44 employees from the procurement & logistics, accounts, IT and administration departments were selected using simple random sampling method to ensure fairness and representativeness. Simple random sampling entails choosing a sample from a population where each individual has an equal chance of being selected (Noor et al., 2022). Through simple random sampling, each identified employee had an equal opportunity to be part of the study, minimizing bias and allowing for the applicability of the findings to the larger population of the people in the village. This approach was chosen to ensure that the sample is unbiased, effectively captures diverse perspectives across the entire population of the institution (Ben-David et al., 2021).

On the other hand, the 4 key informants who are the managers of these four selected were selected using purposive sampling. Purposive sampling entails choosing participants based on specific criteria crucial to the research, rather than through random chance (Campbell et al., 2020). In this study, these key informants were chosen because they are directly involved in ensuring that e-procurement processes are in place to enhance the smooth purchase of goods in UCU and given their top management roles in the institution. These officers were selected purposively to provide in-depth insights and detailed information relevant to the research objectives. This method was employed to ensure the data collected was comprehensive, relevant, and directly applicable to the study's focus on the topic under study (Bakkalbasioglu, 2020).

3.6 Sources of data

While carrying out the research study, both primary and secondary data were used by the researcher.

3.6.1 Primary source

Primary data are important for all areas of research because they are accurate information about the results of an experiment or observation. Primary data from the field was obtained through personal interviews and self-administered questionnaires to selected respondents in order to get their opinions. Primary data helped the researcher in collecting information for the specific purposes of their study. The researcher collected the data herself, using questionnaires.

3.6.2 Secondary source

Secondary data refers to handling, collecting and possibly processing data by people other than the researcher in question. For the purposes of a historical research project, secondary sources are generally scholarly books and articles. This source was used to collect data from already written literature for example e-books, journals, published articles and periodicals. Documentary resources are classified in order to facilitate the data collection and textual analysis (Mubazi 2008).

3.7 Data collection instruments

Two types of data collection instruments were used in the study. These included questionnaires and interview guides which were briefly explained in the following subsection.

3.7.1 Questionnaires

The researcher used both closed-ended and open-ended questionnaires in the study. Closed-ended questions were used because they are easy and quick to answer and because they help in improved consistence of the responses. Open-ended questions were also used because they do not place any limits on the response which means that the survey respondents were able to tell the researcher anything they felt was relevant and anything they wanted the researcher to know. The questionnaires were administered to the employees from the procurement & logistics, accounts, IT and administration departments in Uganda Christian University. A five (5) Likert scale where; 5 (Strongly Agree), 4 (Agree), 3 (Not Sure), 2 (Disagree), 1 (Strongly Disagree) was used on the self-administered questionnaires;

3.7.2 Interview guide

According to Ahuja (2009), an interview is a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-related information and focused on the content specified by the research objectives of description and explanation. The tool of data collection here was an interview guide which refers to a set of structured questions in which answers were recorded by the interviewer herself (Ahuja 2009). This tool was used to collect information that cannot be directly observed and that is good for the research problem which only depends on documented data and respondents' opinions. It was also good because it gives the research control over the line of questioning hence time saving. Interviews were conducted in a quiet place without noise with the key informants who are the managers of the four selected departments in UCU and then the purpose of the interview was explained followed by addressing the terms of confidentiality. The format of the interview which was an informal conversational interview was established where questions were asked and answers recorded by the interviewer.

3.8 Validity and reliability of the data collection instruments

The legitimacy and validity of data collection instruments that were used were cross checked before the results were processed. This assisted in establishing a reliable tool for collecting data. This was carried out using a questionnaire that was formulated using a sample of 5 respondents and interviews were carried out on the same 5 respondents. This process was helped by correction of mistakes and errors which occurred in the process of collecting data so as to produce significant results from the field.

3.9 Procedure of data collection

The researcher obtained an introductory letter from the School of Business at Uganda Christian University, after which she sought for permission from the different respondents in the selected departments in UCU to use as a case study. The researcher then approached various respondents to administer interviews and distribute the questionnaire guides.

3.10 Data analysis

3.10.1 Quantitative data analysis

Data analysis was done with the aid of the package (SPSS) which besides being user friendly, is appropriate for handling the correlations between the variables plus regressions in the study. All variables were assigned with names and coded for computer entry. Secondly all the responses were coded to facilitate computer data in-put. Thirdly, after data entry was completed, negatively worded scales were recorded and assigned with new values. Fourthly, in order to get composite scores for items on a scale, target variables were computed. Fifthly, data was screened in order to minimize data entry errors. Quantitative data was analyzed using descriptive statistics and Pearson Correlation to examine the relationship between the independent and the dependent variable in the study.

3.10.2 Analysis of qualitative data

This involved content analysis. Thus, qualitative data was edited and reorganized into meaningful phrases. In other words, a thematic approach was used to analyze qualitative data where themes, categories and patterns were identified. The recurrent themes, which emerged in

relation to each guiding question from the interviews, were presented in the results, with selected direct quotations from participants presented as illustrations.

3.11 Ethical considerations

Ethics encompass the guidelines that differentiate between right and wrong conduct. They play a crucial role in delineating acceptable from unacceptable behaviors (Pietilä et al., 2020). The following ethical considerations were upheld;

To uphold privacy, the researcher ensured that all personal data gathered from participants was stored securely and only used for the purposes outlined in the research. No unauthorized individuals had access to the information, and all data was handled with strict adherence to privacy laws and regulations to prevent misuse (Chervenak & McCullough, 2021).

Regarding informed consent, the researcher provided all participants with clear, detailed information about the purpose of the study, what participation entails, and any potential risks involved. Participants were asked to sign a consent form, confirming that they fully understand the study and agree to participate voluntarily (Skinner, 2020).

For anonymity, the researcher ensured that participants' identities were not revealed in any part of the research report. Any identifying information was removed or coded in such a way that individual participants could not be traced or identified by anyone reading the final report (Pietilä et al., 2020).

To maintain confidentiality, the researcher ensured that any personal information collected was only accessible to the research team and was kept secure. Participants' responses were not disclosed to third parties, and data was used solely for research purposes in aggregated or anonymized form (Li & Zhang, 2022).

In order to avoid plagiarism, the researcher ensured that all sources of information, ideas, or data from other researchers or publications are properly credited through accurate citations and references. Any direct quotes were clearly marked and attributed to their original sources to maintain academic integrity (Ruggiano & Perry, 2019).

Finally, throughout the research process, the researcher maintained an ethical approach by following institutional guidelines and upholding principles of respect and fairness, ensuring the protection of participants' rights and the integrity of the research findings (Chervenak & McCullough, 2021).

3.12 Limitations and delimitations of the study

Some respondents were not willing to provide information because of being suspicious of where the information would be taken. This was solved through the nice remarkable reputation in the study context as a learning institution and also obtaining an introductory letter from the university.

The researcher was limited by funds that were needed to facilitate the research such as motivating the respondents, printing fees and even daily transport to the organization to collect data. However the researcher used self-initiatives and strategies to mobilize financial assistance from family.

Some people delayed to bring back the questionnaires which affected the researcher's target time planned to analyze her study. This was solved by issuing more questionnaires beyond the target and this helped her to cover up the gaps for those who failed to return the questionnaires.

CHAPTER FOUR

DATA PRESENTATION, INTERPRETATION AND DISCUSSION

4.0 Introduction

This chapter presents and discusses the results of analysis that has been done to look at the specific objectives of the study and in relation to the reviewed literature. The study was cried out using questionnaires with selected employees of UCU from the procurement & logistics, accounts, IT and managers of the selected departments in UCU. The findings are presented with the help of tables for purposes of clarity and interpretation.

4.1 Response rate

Table 2: Response rate for questionnaires

Category	**Questionnaires issued**	**Questionnaires returned**	**Response rate (%)**
Procurement & Logistics	13	13	100
Accounts	12	12	100
IT	9	9	100
Administration	10	10	100
Overall response rate	**44**	**44**	**100**

Source: *Primary data*

According to table 2 above, the response rate for the questionnaires was 100%, as all 44 questionnaires distributed to employees in the four selected departments of Uganda Christian University were fully completed and returned. This exceptionally high response rate indicates a strong level of engagement and cooperation from the targeted respondents, which enhances the reliability and validity of the data collected. It also suggests that the topic under investigation was relevant and of interest to the participants, thereby contributing to the credibility of the research findings.

4.2 Findings on demographic characteristics of respondents

This section presents the general background information about the respondents in relation to their gender, age, education level, department and period spent working in the respective departments of Uganda Christian University (UCU) as shown in the table below;

Table 3: Background Information about the respondents

Item	Description	Frequency	Percentage (%)
Gender	Male	18	40.9
	Female	26	51.9
	Total	**44**	**100.0**
Age	21-30 years	10	74.2
	31-40 years	14	74.2
	41-50 years	12	74.2
	Above 50 years	8	25.8
	Total	**44**	**100.0**
Education level	Bachelor's degree	14	31.8
	Master's degree	25	56.8
	Others	5	11.4
	Total	**44**	**100.0**
Department	Procurement and Logistics	13	29.5
	Accounts	12	27.3
	IT	9	20.5
	Administration	10	22.7
	Total	**44**	**100.0**
Period spent working in the department in UCU	Less than 1 year	4	9.1
	1-5 years	11	25.0
	6-10 years	19	43.2
	Above 10 years	10	22.7
	Total	**44**	**100.0**

Source: *Primary data*

According to table 3 above, the results indicated that the majority of respondents in the administration department of Uganda Christian University were female, representing 59.1% of the total respondents, while their male counterparts constituted 40.9%. This shows that there is a higher female representation in administrative roles at the university.

With regard to age distribution, the highest percentage of respondents was aged between 31-40 years, accounting for 31.8%, followed closely by those aged 41-50 years who represented 27.3%. Respondents aged 21-30 years made up 22.7%, while the smallest proportion, at 18.2%, and were aged above 50 years. This suggests that the majority of the staff in the selected departments in UCU fall within the youthful to middle-aged category, with relatively fewer older staff members.

In terms of education level, a significant majority of the respondents, 56.8%, held Master's degrees, indicating a well-educated workforce in the selected departments. This was followed by 31.8% of respondents who had attained a Bachelor's degree, while 11.4% had other qualifications such as post graduate diplomas or professional certifications like CIPS, ACCA and CPA. These findings suggest that the university values higher academic qualifications for its personnel.

In addition, the results revealed that most of the respondents are from the procurement and logistics department represented by 29.5%, followed by 27.3% of the respondents who are from the accounts department, followed by 22.7% who are from the administration department, whereas 20.5% are from the IT department. This implies that the researcher was able to get different views from the respondents since employees from different departments involved in the e-procurement process were included in the study.

The findings revealed that majority of the respondents, making up 43.2% have worked in their respective departments for a period of 6-10 years, showing a notable level of experience. This was followed by 25.0% who had worked for 1-5 years, while 22.7% had served for over 10 years. Only 9.1% of the respondents had been with the department for less than one year, indicating that the department is largely composed of experienced and long-serving staff.

4.3 The extent of e-procurement usage at Uganda Christian University

Table 4 summarizes respondents' responses on the extent of e-procurement usage at Uganda Christian University by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

Table 4: The extent of e-procurement usage at Uganda Christian University

Statements	Extent of agreement and disagreement				
	SA	A	NS	D	SDA
	F (%)	F (%)	F (%)	F (%)	F (%)
Uganda Christian University has adopted e-procurement systems for most of its purchasing activities.	19 43.2%	18 40.9%	7 15.9%	00	00
The use of e-procurement has replaced traditional paper-based procurement processes at UCU.	15 34.1%	25 56.8%	00	4 9.1%	00
Employees in the procurement-related departments regularly use electronic platforms to initiate purchase requests.	20 45.5%	15 34.1%	9 20.5%	00	00
Suppliers are required to submit bids or quotations through an online system.	16 36.4%	17 38.6%	2 4.5%	9 20.5%	00
The university maintains a digital database of approved suppliers accessible through the e-procurement system.	11 25.0%	24 54.5%	5 11.4%	4 9.1%	00
Procurement tracking and reporting are mainly done through automated or digital systems.	13 29.5%	21 47.7%	00	9 20.5%	1 2.3%
E-procurement tools are integrated with the university's financial and administrative systems.	17 38.6%	16 36.4%	4 9.1%	7 15.9%	00

Source: *Primary data*

Table 4 represents the descriptive statistics on the extent of e-procurement usage at Uganda Christian University. According to study, 84.1% of the respondents agreed that Uganda Christian

University has adopted e-procurement systems for most of its purchasing activities, while 15.9% were not sure, and none disagreed. This indicates a high level of e-procurement adoption at UCU, implying that the university has shifted significantly towards digital procurement practices, which can enhance efficiency, reduce paperwork, and streamline procurement workflows.

The findings also showed that 90.9% of the respondents agreed that the use of e-procurement has replaced traditional paper-based procurement processes at UCU, whereas 9.1% disagreed with the statement and none were uncertain. This suggests that UCU has made a strong transition from manual to electronic systems, implying increased operational efficiency and a potential reduction in delays and documentation errors in the procurement process.

Furthermore, 79.6% of the respondents agreed that employees in the procurement-related departments regularly use electronic platforms to initiate purchase requests, while 20.5% were not sure. This highlights a widespread use of e-platforms among staff, implying that e-procurement is integrated into daily operations, though some level of unfamiliarity or inconsistency may still exist among a portion of the employees.

In addition, the study revealed that 75.0% of the respondents agreed that suppliers are required to submit bids or quotations through an online system, while 20.5% disagreed and 4.5% were not sure. This demonstrates a moderate level of integration between UCU and its suppliers through digital platforms, implying a shift toward more transparent and standardized procurement interactions, although supplier compliance may still be a challenge.

The findings also indicated that 79.5% of the respondents agreed that the university maintains a digital database of approved suppliers accessible through the e-procurement system, whereas 9.1% disagreed and 11.4% were not sure. This suggests that UCU has established a structured supplier management system, implying better control, monitoring, and faster access to supplier information, which can improve the effectiveness of procurement decisions.

Moreover, 77.2% of the respondents agreed that procurement tracking and reporting are mainly done through automated or digital systems, while 22.8% disagreed. This highlights that digital tracking is a significant component of procurement operations at UCU, implying enhanced

transparency and monitoring of procurement progress, though there is still a minority experiencing challenges or gaps in the system.

Lastly, the findings show that 75.0% of the respondents agreed that e-procurement tools are integrated with the university's financial and administrative systems, whereas 15.9% disagreed and 9.1% were not sure. This indicates that integration exists between procurement and core institutional systems, implying improved coordination, data accuracy, and streamlined processing of transactions across departments.

Overall, the findings indicated that e-procurement is widely adopted and actively used at Uganda Christian University, with most respondents affirming the integration of digital systems across procurement functions. This suggests that UCU has made significant strides in transitioning from manual to electronic procurement processes, implying enhanced efficiency, transparency, and coordination in the purchasing of goods.

The findings are in line with the literature by Ramkumar et al. (2019) who assert that he adoption of e-procurement in organizations has been growing significantly across the globe, particularly in developed economies such as the United States, the United Kingdom, and China. In the United States, over 90% of large corporations have integrated e-procurement systems into their supply chain operations, leading to cost reductions of approximately 5-10% per transaction. The United Kingdom has also embraced e-procurement, with the government mandating electronic tendering for public procurement, which has improved transparency and reduced procurement cycle times by 30%.

The findings also relate with the literature by Jules (2022) who noted that in Africa, the adoption of e-procurement has been more gradual, with varying levels of implementation across different countries. In Rwanda, the introduction of the Umucyo e-procurement system has enhanced efficiency and accountability in public procurement, reducing bid processing times by 40%. Similarly, Muriuki et al. (2019) also argued that Kenya has also made strides in e-procurement adoption, particularly within the energy sector, where state corporations have implemented digital procurement platforms, leading to improved procurement performance and supplier engagement.

4.4 Challenges encountered in implementing e-procurement for purchase of goods at UCU

Table 5 summarizes respondents' responses on the challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

Table 5: Challenges encountered in implementing e-procurement for purchase of goods at UCU

Statements	Extent of agreement and disagreement				
	SA	A	NS	D	SDA
	F (%)	F (%)	F (%)	F (%)	F (%)
There is limited ICT infrastructure to fully support e-procurement implementation at UCU.	15 34.1%	25 56.8%	00	1 2.3%	3 6.8%
Some staff lack adequate training to effectively use the e-procurement system.	19 43.2%	14 31.8%	00	10 22.7%	1 2.3%
There is resistance from staff toward transitioning from manual to digital procurement systems.	14 31.8%	20 45.5%	00	4 9.1%	6 13.6%
Frequent system/network failures disrupt the e-procurement process.	21 47.7%	18 40.9%	00	3 6.8%	2 4.5%
There is limited technical support available to resolve system-related issues in real-time.	13 29.5%	16 36.4%	10 22.7%	3 6.8%	2 4.5%
Some suppliers lack the capacity or willingness to participate in electronic procurement processes.	14 31.8%	22 50.0%	00	2 4.5%	6 13.6%
Inconsistencies in the e-procurement system affect accuracy and transparency in the procurement process.	16 36.4%	13 29.5%	00	12 27.3%	3 6.8%

Source: *Primary data*

Table 5 represents the descriptive statistics on the challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University. According to study, 90.9% of the respondents agreed that there is limited ICT infrastructure to fully support e-procurement

implementation at UCU, whereas 9.1% of the respondents disagreed with the statement. This indicates that inadequate ICT infrastructure is a major challenge in the implementation of e-procurement at UCU, implying that without robust technological systems, the university may struggle to operate an efficient and reliable electronic procurement process.

The findings also revealed that 75.0% of the respondents agreed that some staff lack adequate training to effectively use the e-procurement system, while 25.0% disagreed, and none were uncertain. This suggests that lack of technical knowledge and system-related skills among staff significantly hinders the effective use of the e-procurement platform, implying a need for continuous training and capacity-building initiatives to improve staff competence and system utilization.

Furthermore, the findings showed that 77.3% of the respondents agreed that there is resistance from staff toward transitioning from manual to digital procurement systems, whereas 22.7% disagreed with the statement. This reveals a notable resistance to change among employees, implying that organizational change management strategies are required to facilitate smoother adoption of e-procurement technologies and overcome internal opposition.

More so, the findings established that 88.6% of the respondents agreed that frequent system/network failures disrupt the e-procurement process, whereas 11.3% disagreed. This highlights that system instability is a significant obstacle to effective e-procurement, implying that investments in improving internet connectivity and maintaining system uptime are essential for ensuring uninterrupted procurement activities.

In addition, the findings indicated that 65.9% of the respondents agreed that there is limited technical support available to resolve system-related issues in real-time, 11.3% disagreed, and 22.7% were not sure. This suggests that insufficient technical assistance undermines the system's effectiveness, implying that UCU needs to strengthen its IT support teams to provide prompt help and enhance user confidence in the platform.

The findings also revealed that 81.8% of the respondents agreed that some suppliers lack the capacity or willingness to participate in electronic procurement processes, while 18.1% disagreed. This shows that external stakeholder readiness is another barrier to successful e-

procurement implementation, implying that UCU should engage and support suppliers in building their capacity to interact with digital procurement systems.

Lastly, the findings showed that 65.9% of the respondents agreed that inconsistencies in the e-procurement system affect accuracy and transparency in the procurement process, whereas 34.1% disagreed. This indicates that system errors or irregularities compromise the integrity of the procurement process, implying that system upgrades and routine audits are necessary to maintain reliability, accuracy, and trust in the procurement function.

Overall, the findings indicated that UCU faces several critical challenges in implementing e-procurement, including inadequate infrastructure, limited staff capacity, resistance to change, and unreliable systems. These barriers suggest that for e-procurement to be fully effective, the university must address both technical and human resource gaps while fostering greater system stability and stakeholder engagement.

The findings are in line with the literature by Matano et al. (2020) who argued that the adoption of e-procurement requires significant financial investment in software, hardware, and training, which poses a challenge, especially for organizations with limited budgets. The high costs associated with system integration and maintenance often hinders the successful adoption of e-procurement, making it less attractive to small and medium-sized enterprises. Organizations must allocate substantial resources to upgrade their procurement processes, which may lead to financial strain and delays in implementation.

The findings also relate with the literature by Flechsig et al. (2022) who pointed out that the effectiveness of e-procurement is dependent on supplier participation, yet many suppliers, especially small-scale vendors, lack the necessary infrastructure to engage in digital procurement processes. Limited access to internet connectivity, lack of digital literacy, and reluctance to comply with electronic invoicing and payment methods hinder supplier adoption of e-procurement. As a result, organizations face difficulties in fully transitioning to digital procurement, forcing them to maintain hybrid procurement approaches that reduce efficiency

4.5 The relationship between e-procurement and purchase of goods at UCU

Table 6 summarizes respondents' responses on the relationship between e-procurement and purchase of goods at Uganda Christian University by using a Likert scale where SA (Strongly Agree), A (Agree), NS (Not Sure), D (Disagree) and SD (Strongly Disagree).

Table 6: The relationship between e-procurement and purchase of goods at UCU

Statements	Extent of agreement and disagreement				
	SA	A	NS	D	SDA
	F (%)	F (%)	F (%)	F (%)	F (%)
The adoption of e-procurement has improved the timeliness of goods delivery at UCU.	13 29.5%	19 43.2%	8 18.2%	2 4.5%	2 4.5%
E-procurement has helped the university reduce overall procurement costs.	20 45.5%	10 22.7%	7 15.9%	4 9.1%	3 6.8%
The quality of goods procured has improved since the introduction of e-procurement.	24 54.5%	10 22.7%	00	8 18.2%	2 4.5%
E-procurement has made the procurement process more efficient and less prone to delays.	23 52.3%	13 29.5%	00	3 6.8%	5 11.4%
The university has experienced greater transparency and accountability in procurement due to e-procurement.	12 27.3%	15 34.1%	3 6.8%	13 29.5%	1 2.3%
E-procurement has enhanced supplier performance and reliability.	23 52.3%	18 40.9%	00	3 6.8%	00
There is a positive impact of e-procurement on the university's ability to make cost-effective and timely purchases.	18 40.9%	15 34.1%	00	6 13.6%	5 11.4%

Source: *Primary data*

Table 6 represents the descriptive statistics on the relationship between e-procurement and purchase of goods at Uganda Christian University. According to study, 72.7% of the respondents agreed that the adoption of e-procurement has improved the timeliness of goods delivery at UCU, while 9.0% disagreed, and 18.2% were not sure about the statement put across. This indicates that the majority of the respondents perceive e-procurement as a useful tool in enhancing the speed of goods delivery, implying that the system has likely streamlined procurement procedures, reduced unnecessary delays, and promoted timely availability of supplies at the university.

The findings also revealed that 68.2% of the respondents agreed that e-procurement has helped the university reduce overall procurement costs, whereas 15.9% disagreed, and 15.9% were not sure. This suggests that the implementation of e-procurement is viewed as a cost-saving measure by most respondents, implying that it may have contributed to eliminating middlemen, reducing paperwork, and improving price competitiveness among suppliers at UCU.

Furthermore, the findings showed that 77.2% of the respondents agreed that the quality of goods procured has improved since the introduction of e-procurement, while 22.7% disagreed with the statement, and no respondents were unsure. This highlights the perception that e-procurement has enabled the university to access better-quality goods, implying that the system may have improved supplier selection, reduced fraudulent practices, and enhanced accountability in the procurement of quality goods.

More so, the findings established that 81.8% of the respondents agreed that e-procurement has made the procurement process more efficient and less prone to delays, whereas 18.2% disagreed, and none were unsure. This underscores the effectiveness of e-procurement in promoting process efficiency, implying that automation and digitization have minimized manual errors, improved data accuracy, and enhanced workflow coordination within UCU’s procurement system.

In addition, the findings indicated that 61.4% of the respondents agreed that the university has experienced greater transparency and accountability in procurement due to e-procurement, whereas 31.8% disagreed, and 6.8% were not sure about the statement put across. This demonstrates that while the majority recognize improvements in transparency, a significant

proportion remains skeptical, implying a need for continuous system audits and awareness to further build trust in the digital procurement system.

The findings also revealed that 93.2% of the respondents agreed that e-procurement has enhanced supplier performance and reliability, while only 6.8% disagreed, and none were unsure. This highlights strong confidence in the ability of e-procurement to foster dependable supplier relationships, implying that the system has helped track supplier performance, ensure timely deliveries, and promote consistent service standards.

Lastly, the findings showed that 75.0% of the respondents agreed that there is a positive impact of e-procurement on the university's ability to make cost-effective and timely purchases, whereas 25.0% disagreed, and none were unsure. This confirms the perception that e-procurement enhances both economic and operational efficiencies, implying that its use has likely enabled better planning, budgeting, and strategic sourcing at Uganda Christian University.

Overall, the findings established that e-procurement has had a significant and positive impact on various aspects of purchasing at UCU, including efficiency, cost-effectiveness, supplier performance, and quality assurance. The findings of the study concerning the relationship between e-procurement and purchase of goods at Uganda Christian University were further determined using Pearson's correlation that was conducted as shown below;

Table 7: Pearson's correlation statistics on e-procurement and purchase of goods at UCU

Correlations

		E-procurement	Purchase of goods
E-procurement	Pearson Correlation	1	.737**
	Sig. (2-tailed)		.000
	N	44	44
Purchase of goods	Pearson Correlation	.737**	1
	Sig. (2-tailed)	.000	
	N	44	44

**. Correlation is significant at the 0.05 level (2-tailed).

Source: *Primary data*

The findings indicated in table above shows that there is a significant positive relationship between e-procurement and purchase of goods at Uganda Christian University. This relationship is affirmed by r-values of 0.737** with significant p-values of 0.000 at the level of 0.05 (2-tailed) (r =.737**, p <.05). This implies that there is a statistically significant positive relationship between e-procurement and the purchase of goods at Uganda Christian University, suggesting that improvements in e-procurement are associated with enhancements in the efficiency, cost-effectiveness, and quality of purchased goods.

The findings are in line with the literature by Hallikas et al. (2021) in their study examined the impact of digital procurement on supply chain performance, highlighting that e-procurement enhances efficiency in the purchase of goods by reducing transaction costs and streamlining supplier selection. Similarly, the findings align with Kosmol et al. (2019), who emphasized that digital procurement practices improve transparency and coordination between suppliers and buyers, leading to better procurement outcomes. The studies collectively indicate that e-procurement systems contribute to faster procurement cycles and improved supplier relationship management.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter summarizes all findings reported in chapter four according to questions of the study, draws conclusions, suggests recommendations and also proposes some areas for further study.

5.1 Summary of findings

5.1.1 The extent of e-procurement usage at Uganda Christian University

The findings revealed that e-procurement is highly adopted and vigorously utilized in Uganda Christian University because most of the respondents indicated a replacement of traditional paper-based systems with electronic systems. Respondents indicated that the university has adopted e-procurement for most procurement transactions, employees constantly utilize electronic systems when initiating purchase requests, and suppliers are required to submit bids or quotations through an online system. It was also noted that the university maintains an electronic list of approved suppliers, conducts procurement tracking and reporting through computerized systems, and integrates e-procurement systems with financial and administrative systems. These observations show that UCU has greatly adopted e-procurement, leading to increased efficiency, transparency, and coordination in procurement processes.

5.1.2 Challenges encountered in implementing e-procurement for purchase of goods

The study findings revealed that Uganda Christian University encounters numerous hurdles in the application of e-procurement for procuring goods. The major problems are insufficient ICT infrastructure, poor staff training, and significant employee resistance to moving from manual to electronic systems. Regular system and network breakdowns, inadequate on-site technical support in real-time and limited supplier preparedness were other major hindrances. Further,

inconsistency in the e-procurement system reportedly weakened accuracy and transparency in the procurement process. Such problems point towards the relevance of enhanced infrastructure, continuous building of capacity, increased system dependability, and the active engagement of internal buyers and external vendors to ensure smooth e-procurement implementation.

5.1.3 The relationship between e-procurement and purchase of goods at UCU

The study findings revealed that there is a positive and strong relationship between e-procurement and the procurement of goods at Uganda Christian University, with (r =.737**, p <.05), which was statistically significant. The descriptive results showed that the majority of the respondents confirmed that e-procurement has improved the delivery timeliness of goods, reduced the procurement cost, improved the quality of procured goods, and enhanced process efficiency. Furthermore, the majority noted improvements in transparency and accountability, and most corroborated improved supplier performance and reliability. Most also concurred that e-procurement positively affects cost-effective and timely procurement. The foregoing findings indicate that e-procurement has significantly streamlined procurement procedures, enhanced accountability, and improved supplier relations in UCU.

5.2 Conclusion

In conclusion, the findings established that Uganda Christian University has largely embraced the use of e-procurement, effectively replacing traditional paper-based systems with electronic systems for the majority of the procurement transactions. This has assisted in raising efficiency, transparency, and coordination in the procurement processes, with employees actively using electronic systems to place purchase requests, while suppliers place bids and quotations online. Integration of e-procurement with administrative and financial systems is an additional indicator of the university's drive to automate its procurement process and improve operational efficiency.

Nonetheless, even though noticeable progress has been made, introducing e-procurement at UCU is not without setbacks. The research indicated some major barriers such as insufficient ICT infrastructure, insufficient training of personnel, and resistance from staff in shifting from paper-based to electronic systems. In addition, issues such as high system breakdowns, lack of technical support, and inadequate supplier preparedness were found to hinder the optimal potential of e-procurement. These issues point towards the need for enhanced infrastructure,

continuous staff capacity building, and a concerted effort towards enhancing the reliability and engagement of internal users and external suppliers in the system.

Overall, the study revealed a very positive correlation between e-procurement and goods procurement at Uganda Christian University, with significant improvements in delivery timeliness, cost savings, quality, and efficiency. The respondents agreed that e-procurement has improved transparency, accountability, and supplier performance, which further contributed to the cost-effectiveness and timeliness of procurement. The research shows that e-procurement has transformed the procurement activity at UCU through increased operational efficiency, improved relationships with suppliers, and overall procurement performance despite the need for further watchfulness in handling the observed challenges in order to sustain the benefits in the long run.

5.3 Recommendations

Based on the results of the study, the following recommendations are provided towards examining the effects of e-procurement on the purchase of goods in an organization: a case of Uganda Christian University (UCU).

The study recommends the need for investment by Uganda Christian University in enhancing its ICT infrastructure for the ease of operation of the e-procurement system to experience less system failure and greater reliability.

The study also recommends the need for continuous training and staff capacity building to upgrade staff competence in the use of e-procurement systems and reduce resistance in transitioning from manual to electronic systems.

Furthermore, the study recommends the need for routine system audits and upgrades to repair the inconsistencies established in the e-procurement system to enable procurement processes to be more precise, transparent, and efficient.

In addition, the study recommends the need for increased technical support to prevent any issues within the e-procurement system from occurring too late, in order to avert delays and system downtime.

Lastly, the study recommends the need for more engagement with suppliers in order to prepare and make them responsive to the e-procurement system to facilitate easy transactions and reliable relations with suppliers.

5.4 Areas for further research

This study aimed at examining the effects of e-procurement on the purchase of goods in an organization: a case of Uganda Christian University (UCU). Therefore, the study recommends the following areas of further research;

- Further research can examine the long-term impact of e-procurement on the financial performance of an organization in terms of cost savings and return on investment at Uganda Christian University.
- Further research can also examine the impact of supplier participation and preparedness in the successful use of e-procurement systems and the challenges faced by other institutions in Uganda and beyond.
- Finally, further research would also investigate the relationship between e-procurement and sustainable procurement practice, i.e., how e-procurement is linked to reducing waste and maximizing environmental responsibility.

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APPENDICES

Appendix 1: Questionnaire

For selected employees from the procurement & logistics, accounts, IT and administration departments in UCU

Introduction and Purpose of Study

Dear Respondent,

I am Kambarara Winnie, a student pursuing a Bachelor of Procurement and Logistics Management at Uganda Christian University. I am working on a study titled ***"the effects of e-procurement on the purchase of goods in an organization: a case of Uganda Christian University (UCU)"*** Your contribution is essential to the type of data needed for this study, which is why you were chosen to take part. Your submitted information will be kept completely secret and used only for academic purposes.

Consent/Agreement

I voluntarily agree to participate in this research program; Tick appropriately
Yes ……No……..
Name of Participant (Optional): ……
Signature: …… Date: …….
Name of Researcher: …….
Signature: ……. Date: ……
Kindly spare some few minutes to respond to the following questions.

SECTION A: BACKGROUND DATA

Please TICK the numbers representing the most appropriate responses for you in respect of the following items:

1. Gender

a) Male ☐ b) Female ☐

2. Age

a) 21-30 years ☐ b) 31-40 years ☐

c) 41-50 years ☐ d) Above 50 years ☐

3. Education level

a) Certificate ☐ b) Diploma ☐

c) Degree ☐ d) Masters ☐

e) Others specify……

4. Department

a) Procurement & Logistics ☐

b) Accounts ☐

c) IT ☐

d) Administration ☐

5. How long have you spent working in this department?

a) Less than 1 year ☐ b) 1-5 years ☐

c) 6-10 years ☐ d) Above 10 years ☐

Section B: The extent of e-procurement usage at Uganda Christian University

Rate your degree of agreement on the extent of e-procurement usage at Uganda Christian University using a scale of 5(Strongly Agree), 4(Agree), 3(Not sure), 2(Disagree) and 1(Strongly Disagree).

s. no	Statements	5	4	3	2	1

1	Uganda Christian University has adopted e-procurement systems for most of its purchasing activities.					
2	The use of e-procurement has replaced traditional paper-based procurement processes at UCU.					
3	Employees in the procurement-related departments regularly use electronic platforms to initiate purchase requests.					
4	Suppliers are required to submit bids or quotations through an online system.					
5	The university maintains a digital database of approved suppliers accessible through the e-procurement system.					
6	Procurement tracking and reporting are mainly done through automated or digital systems.					
7	E-procurement tools are integrated with the university's financial and administrative systems.					

Section C: The challenges encountered in implementing e-procurement for purchase of goods at UCU

Rate your degree of agreement on the challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University using a scale of 5(Strongly Agree), 4(Agree), 3(Not sure), 2(Disagree) and 1(Strongly Disagree).

s. no	Statements	5	4	3	2	1
1	There is limited ICT infrastructure to fully support e-procurement implementation at UCU.					
2	Some staff lack adequate training to effectively use the e-procurement system.					
3	There is resistance from staff toward transitioning from manual to digital procurement systems.					
4	Frequent system/network failures disrupt the e-procurement process.					

5	There is limited technical support available to resolve system-related issues in real-time.					
6	Some suppliers lack the capacity or willingness to participate in electronic procurement processes.					
7	Inconsistencies in the e-procurement system affect accuracy and transparency in the procurement process.					

Suggest any other challenges encountered in implementing e-procurement for purchase of goods at Uganda Christian University other than the ones mentioned above?

……

……

Section D: The relationship between e-procurement and purchase of goods at Uganda Christian University

Rate your degree of agreement on the relationship between e-procurement and purchase of goods at Uganda Christian University using a scale of 5(Strongly Agree), 4(Agree), 3(Not sure), 2(Disagree) and 1(Strongly Disagree).

s. no	Statements	5	4	3	2	1
1	The adoption of e-procurement has improved the timeliness of goods delivery at UCU.					
2	E-procurement has helped the university reduce overall procurement costs.					
3	The quality of goods procured has improved since the introduction of e-procurement.					
4	E-procurement has made the procurement process more efficient and less prone to delays.					
5	The university has experienced greater transparency and accountability in procurement due to e-procurement.					
6	E-procurement has enhanced supplier performance and reliability.					

7	There is a positive impact of e-procurement on the university's ability to make cost-effective and timely purchases.					

How else does e-procurement relate with the purchase of goods at Uganda Christian University other than the ones mentioned above?

……

……

Thank you very much for your cooperation

Appendix 2: Interview Guide

For the key informants (Managers of the four selected departments in UCU)

Introduction

Dear Respondent,

I am Kambarara Winnie, a student pursuing a Bachelor of Procurement and Logistics Management at Uganda Christian University. I am working on a study titled ***"the effects of e-procurement on the purchase of goods in an organization: a case of Uganda Christian University (UCU)"*** Your contribution is essential to the type of data needed for this study, which is why you were chosen to take part. Your submitted information will be kept completely secret and used only for academic purposes.

Consent/Agreement

I voluntarily agree to participate in this research program; Tick appropriately
Yes ……No……..
Name of Participant (Optional): ……
Signature: …… Date: …….
Name of Researcher: …….
Signature: ……. Date: ……
Kindly spare some few minutes to respond to the following questions.

Section A: Introduction

1. Tell me about yourself.
2. What position do you hold in UCU?
3. How long have you been working with UCU?

Section B: The extent of e-procurement usage at Uganda Christian University

4. To what extent has UCU adopted e-procurement in its purchasing processes?
5. How frequently do staff in your department use e-procurement systems for purchases?
6. What e-procurement tools or systems are currently in use at UCU?

Section C: The challenges encountered in implementing e-procurement for purchase of goods at UCU

7. What challenges has your department faced in using e-procurement systems?
8. How would you rate the technical support available for handling e-procurement issues?
9. Are there any barriers from suppliers when engaging them through e-procurement platforms?

Section D: The relationship between e-procurement and purchase of goods at UCU

10. In your view, how has e-procurement impacted the timeliness of goods delivery?
11. Has the use of e-procurement improved cost-efficiency in purchasing goods?
12. What changes in the quality or efficiency of procurement have you observed since implementing e-procurement?

Thank you for your cooperation