THE IMPACT OF ELECTRONIC PROCUREMENT PRACTICES ON COST EFFICIENCY IN MANUFACTURING INDUSTRIES: A CASE STUDY OF JESA FARM DAIRY

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A Centre of Excellence in the Heart of Africa

DECLARATION

I MURESUK HELLEN hereby declare that this research entitled The impact of electronic procurement on cost efficiency at Jesa farm dairy is my original work and has never been submitted in this or any other institution of learning for any award.

NAME: MURESUK HELLEN.

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Signed: ……. **Date: …….**

APPROVAL

This is to certify that this research report titled “the impact of electronic procurement systems on cost efficiency in manufacturing industries” has been written by Muresuk Hellen under my supervision and is ready for submission with my approval as the academic supervisor.

Signature: ……..

Date: …….

MRS. MPIIRIRWE COMFORT TUMUHAMYE.

(Supervisor)

DEDICATION

I dedicate this research report to my parents, my two brothers for their financial, spiritual and emotional support given to me throughout my studies. May God bless you abundantly.

ACKNOWLEGDEMENT

I wish to express my sincere gratitude to the almighty God for giving me the opportunity to learn and be part of this education journey inclusive of the strength and spiritual support throughout this exercise.

I also appreciate the management of Uganda Christian University particularly the school of business for giving me this opportunity to carry out this research in my area of study. I wish to express my sincere appreciation to my supervisor MRS. MPIIRIRWE COMFORT TUMUHAMYE for her efforts in guiding me throughout the dissertation. May the good Lord bless you.

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ABSTRACT

The study was about the impact of electronic procurement (E-procurement) systems on cost efficiency in manufacturing industries, using Jesa Dairy Farm in Kampala as an example. It found that switching from traditional methods to E-procurement makes it easier to track and manage purchases and cuts down on administrative work. However, there are some challenges, such as technical problems and inadequate infrastructure that can impact how well E-procurement works. The study aimed to help policymakers, company staff, and researchers understand how to use E-procurement better to save money and improve performance.

The research used a mixed research design approach: qualitative and quantitative approach, collecting data from 35 employees at Jesa Dairy Farm, including those in procurement and IT. It used both primary sources, like interviews and observations, and secondary sources, such as textbooks and journals. The study detailed how data was collected, ensuring its reliability and validity, and mentioned some limitations, such as financial issues and difficulties getting respondents. Solutions included seeking extra funding, being persistent, and creating a thorough research plan.

The results showed that E-procurement systems improved customer service, increased transparency, and helped save costs at Jesa Dairy Farm. However, challenges such as differing company cultures, the need for better employee training, technology compatibility problems, and insufficient infrastructure were also noted. To make the most of E-procurement, it's important to address these issues. Future research could look into how outside support and workplace culture affect the success of these systems. Overall, E-procurement has been beneficial, but overcoming these challenges is key to getting the best results. It was therefore recommended that training of all employees should be done to improve skills with the e-procurement systems, seeking help from experts to and work with industry partners to overcome difficulties, promoting a culture that is receptive to new technology and change to ease transition to e-procurement and finally improving internet and power systems by investing in better infrastructure and choosing compatible systems to overcome technological issues.

CHAPTER ONE

1.0 INTRODUCTION

This chapter contains the background of the study, statement of the problem, objectives of the study, research questions, and scope of the study and the significance of the study.

1.1. BACKGROUND OF THE STUDY.

Improvements in innovations have changed the manner in which providers and purchasers obtain goods and services. It is currently less demanding than any time in recent memory to track and monitor performance contracts, records and tenders in a single focal area through acquirement management portals (Gelderman, Ghijsen Brugman, 2016). Electronic procurement practices advanced out of numerous deficiencies in the manual tender framework, for example, delays in the conclusion of providers for ventures and merchandise for organizational activities that are significant for performance proficiency and conveyance of administration to the natives (Stich, Pause, Blum and Hinrichs, 2016).

According to Lysons and Gillingham (2009), Electronic procurement (E-procurement) is the appropriation of internet innovation in the buying procedure. While according to Croom and Brandon, (2004), Electronic procurement involves the use of internet in communication technologies (ICT) to conduct various procurement operations in business enterprises and organizations.

The E-procurement process initially intended to maintain a strategic distance from human interface specifically the purchaser and provider communication during the pre-bidding stage (World Bank, 2015). There is a variety of E-procurement technologies such as, e-tendering, e-ordering, e-auctioning, and e-invoicing.

Globally, countries like Britain, USA, Germany and France who have employed E-procurement practice are operating efficiently and have been very significant in the management of their enterprises improving organizational performance. The countries in the Asian continent like chain that are achieving progress in practicing E-procurement gaining improvements in performance patterns necessary for achieving greater performance.

In Africa, Panetto and Boudjilida (2013) write that compliance with public procurement legislation is in countries like Ghana, South Africa that have employed a system of E-procurement transforming the business operations for advancement in organizations. Currently, other countries have benchmarked, put in place and implemented E-procurement systems and integrated them into their organizational operations to foster better performance and competitiveness.

In East Africa, procurement practices in manufacturing industries are conducted in different countries which include; Kenya, Tanzania, Uganda, Burundi and Rwanda but with a low E-procurement system functioning that has left most of industries under performing in their operations and the environment of E-procurement system inefficiency can affect the performance for the businesses. (Orio, 2011).

In Uganda, E-procurement apart from being lowly practiced, a lot of complaints have registered in line with E-procurement as most organizations have not been oriented to it and the infrastructure supporting the electronic procurement systems have therefore lead to national performance improvement and productivity growth and later on leading to increase in the Gross Domestic Product (GDP) (Hawking and stein, 2004).

Cost efficiency on the other hand is an essential and important aspect that contributes to the decision making process of any business enterprise. In case of financial uncertainties this becomes more basic and significant. According to Mapakame, (2014), cost control measures have had and need to be used in manufacturing companies to control and reduce costs to such levels which aid profitability.

The effective cost saving of electronic procurement to any manufacturing enterprise is in the reduction of costs and efforts of processing the purchasing order that can be done electronically and reduction in inventory costs including order fulfillment and time management. Eei, KS., W.Husain, and N.Mustafa, (2012), identified four types of cost saving from usage of electronic systems which include; order cost, administrative cost, lease-time order cost and opportunity cost of capital.

In Africa, manufacturing industries have focused on efficiency and tend to make decisions based on cost and return on investment likely hood, while effectiveness focused organizations make decisions based on quality and value rather than cost and productivity.

1.2. STATEMENT OF THE PROBLEM.

Countries are rapidly advancing to technologies to achieve better outcomes and deliver goods and services more efficiently and effectively .E-procurement as an effective tool to ensure efficiency by eliminating paper based processes that involve a high administrative burden, increased transparency by ensuring consistent up-to-date and reliable data and integrity breaches (European Commission 2016). The procurement department of Jesa has adopted new strategies such as e-order processing, e-auctioning, e-invoicing in an attempt to achieve cost effectiveness (Vaidya, Sajeev and Calendar 2016). However, despite these potential benefits, there is still limited empirical evidence on the actual impact of E-procurement on cost efficiency with in manufacturing industries, particularly in terms of realized cost savings, and overall operational efficiency. Additionally, challenges such as technical interoperability, infrastructure availability and organizational readiness may hinder the full adoption and effectiveness of E-procurement systems. This research seeks to address the gap by examining the extent to which E-procurement systems contribute to cost efficiency in manufacturing industries and identifying the key factors that influence their success.

1.3. RESEARCH OBJECTIVES

1.3.1. GENERAL OBJECTIVE

The purpose of the study was to examine the impact of E-procurement systems on cost efficiency in manufacturing industries with a case study of Jesa dairy farm.

1.3.2. SPECIFIC OBJECTIVES.

To examine the role of E-procurement systems at Jesa dairy farm.

To examine the relationship between E-procurement and cost efficiency at Jesa dairy farm.

To examine the challenges faced in implementing E-procurement at Jesa dairy farm.

1.4. RESEARCH QUESTIONS.

What is the role of E-procurement systems at Jesa dairy farm?

What is the relationship between E-procurement and cost efficiency at Jesa dairy farm?

What are the challenges encountered in implementing E-procurement at Jesa farm dairy?

1.5. SCOPE OF THE STUDY.

1.5.1. Content scope.

The study was limited to examining the impact of E-procurement systems on cost efficiency in manufacturing industries with a case study at Jesa farm dairy.

1.5.2. Geographical scope.

The study was carried out with in Kampala at yard opposite portbell road because this is where Jesa farm dairy E-procurement offices are located.

1.5.3. Time scope.

It is hoped that the study was carried out between the periods of March-July 30th. This period was used to conceptualize, collect data, analyze and make a report in line with the subject of study.

1.6. SIGNIFICANCY OF THE STUDY.

- It is hoped that the findings of this study will be of great use to the administration and Human Resource Management of Jesa farm dairy to better their E-procurement practices by identifying outlined gaps and finding solutions thereof for cost efficiency.
- It is anticipated that the research outcomes will be of great use to the respondents in advancing their way of conducting and incorporating E-procurement practices to achieve value for money through cost saving.
- It is hoped that the research outcomes will be of great use to fellow researchers and academicians for reference in order to gain deeper knowledge and insight on the study variables.

CHAPTER TWO

2.0. Introduction.

This chapter looks at literature review on the study topic; the impact of electronic procurement on cost efficiency in manufacturing industries with particular emphasis on the following objectives;

- Examining the role of e-procurement systems at Jesa farm diary.
- Examining the relationship between electronic procurement and cost efficiency at Jesa farm diary.
- Examining the challenges faced in implementing e-procurement at Jesa farm diary.

2.1. Definition of key variables.

2.1.1. Electronic procurement.

According to Logan price, (2024), Electronic procurement refers to the use of electronic systems and technology to carry out procurement activities. It encompasses arrange of digital tools including; online catalogs, electronic bidding platforms and automated workflows. These tools enable organizations to streamline their procurement processes, reduce costs and improve efficiency. The process is used for procurement optimization with the help of digital solutions. It involves using digital services by a business. E-procurement stakeholders include the approver, the purchasing department, the end users and the accounting and finance department. He also emphasizes that e-procurement is a business to business process and does not apply to business to commerce processes. Beroe Inc, (2021).

The digitization of the record-keeping of the procurement process and management is called e-procurement and uses software to replace the manual paperwork and record-keeping functions of procurement. Digital procurement uses data analytics and artificial intelligence (AI) in the management of procurement. Digital procurement not only automates repetitive tasks but also uses data to give new insights into the procurement process. This helps the procurement team boost the cost-effectiveness and efficiency of procurement while the data analytics improves decision making. T Kumar, K., & Hsu, Y. (2008) the use of electronic systems and tools to conduct procurement activities, including the sourcing, purchasing, and payment processes. It aims to streamline these activities through digital means, enhancing efficiency and reducing transaction costs.

E-procurement systems automate traditional procurement processes, offering a range of tools to improve efficiency and lower costs. The integration of digital technologies into the procurement process, which encompasses the entire lifecycle of procurement activities from requisition to payment. It includes tools for electronic sourcing, purchasing, and contract management. Croom, S., & Johnston, R. (2003) the use of internet-based systems and technologies to conduct procurement transactions and manage supplier relationships facilitates electronic interactions between buyers and suppliers, streamlining procurement processes and improving transparency.

2.1.2. Cost efficiency.

According to (https://www.jaggaer.com/blog/what-cost-efficiency), Cost efficiency is the act of saving money by changing a product or process to work in a better way. This is done to improve the organization's bottom line by decreasing procurement costs and improving efficiencies in operations. While cost efficiency isn't the only anchor for decisions making in a business, it is a very important piece of business strategy. The ability to decrease costs and increase the bottom line by making processes more efficient is key to the value that procurement offers organizations.

The reduction in transaction costs through the automation of routine procurement tasks such as purchase order processing and invoice matching. Automating these routine tasks minimizes manual interventions and errors, leading to significant cost savings in the procurement process. This research on how e-procurement systems streamlines operations and reduce the time and effort required for transactional activities, According to Rajkumar, P., Narayanan, S., Suresh, M. (2021**).** Cost efficiency is the measurable reduction in procurement expenses achieved through streamlined processes; faster transaction cycles, and minimized manual interventions, facilitated by e-procurement systems. These systems contribute to cost efficiency by enhancing the speed and accuracy of procurement transactions. They emphasize the tangible cost savings realized from more efficient procurement processes. While according to Bals, L., Laine, J., and Mugurusi, G. (2019), the strategic reduction of procurement-related expenses through enhanced sourcing, supplier collaboration, and competitive bidding processes enabled by e-procurement platforms facilitates strategic sourcing and improved supplier collaboration. These systems increase supplier competition and drive down procurement costs through competitive bidding.

Cost efficiency refers to the financial savings achieved by increasing process efficiency, reducing cycle times, and lowering administrative costs through the implementation of e-procurement systems. the overall efficiency gains from adopting e-procurement systems, focusing on how these systems streamline procurement processes and reduce both cycle times and administrative overhead, Liu, Y., & Sun, H. (2018). The optimization of procurement spending through advanced data analytics and reporting capabilities helps identify and exploit cost-saving opportunities. According to Chen, H., & Tsai, W. (2020), the role of data analytics in e-procurement systems, emphasizes how these capabilities enable firms to better analyze their spending and identify areas where they can achieve cost savings. Logan et al. (2021) highlights that the ability to achieve cost savings and justify return on investment (ROI) through the implementation of e-procurement systems, which streamlines procurement processes and enhances compliance with procurement policies, leading to better cost control and efficiency.

2.2. The role of e-procurement systems.

E-procurement implementation in different parts of the world has brought benefits such as efficiency, cost reduction, reduced procurement process, minimized corruption, enhanced compliance and standardization of procurement. The availability of internet, power stability, capacity enhancement of procurement officers, availability of infrastructure are important critical factors when it comes to implementation of e-procurement while the mandatory use of e-procurement, technical interoperability budgetary control among others are of less importance, Tutu, S. O., Kissi, E., Osei-Tutu, E., & Desmond, A. (2019). According to Logan Price (2024), Electronic procurement eliminates the need for manual paperwork and reduces the administrative burden associated with managing physical documents. This frees up valuable time and resources that can be redirected towards more strategic tasks.

According to Beroe Inc. (2020), there is increased productivity with e-procurement systems that is to say lesser resources are required as they do away with the manual paperwork, rework and mistakes. The procurement personnel can be freed from regular tasks such as drafting request for quotations (RFQs) and request for proposals (RFPs) and processing low value transactions. These offer more time to focus on strategic sourcing projects and help improve supplier relationships. Digital procurement not only automates repetitive tasks but also uses data to give new

insights into the procurement process. This helps the procurement team boost the cost-effectiveness and efficiency of procurement while the data analytics improves decision making.

E-procurement enables organizations to achieve greater transparency and visibility into their procurement processes, real time tracking and reporting capabilities allowing organizations to monitor the status of their orders, identify bottlenecks and make informed decisions through the use of e-procurement technologies such as cloud based technologies, Big data analytics, and Internet Of Things devices. These devices help to monitor and identify risks in the procurement processes ahead of time thereby reducing the cost burden that comes with dealing with risks, Beroe Inc. (2020).

According to Al-Shammari, M., Al-Zubi, Z., & Awwad, A. (2020) Electronic procurement (e-procurement) systems have emerged as pivotal tools for enhancing cost efficiency in manufacturing industries. He argues that these systems significantly reduce transaction costs by streamlining procurement processes and enhancing supply chain efficiency. By automating routine tasks such as purchase requisitions, approvals, and supplier payments, manufacturers can achieve substantial savings in operational expenses. The integration of e-procurement with enterprise resource planning (ERP) systems allows for better visibility into procurement activities and spending patterns, enabling informed decision-making and strategic sourcing. While according to Logan Price (2021), E-procurement promotes cost savings by facilitating price comparisons and ensuring competitive bidding among suppliers. Organizations can leverage digital platforms to gather multiple quotes quickly and negotiate favorable terms.

Mollenkopf, D., & Closs, D.J. (2005) highlight the trans-formative impact of electronic procurement on supplier relationships within manufacturing industries. They emphasize that e-procurement systems facilitate real-time communication, collaboration, and performance monitoring with suppliers. This capability not only enhances operational efficiency but also strengthens strategic partnerships, leading to improved product quality and reduced lead times. Manufacturers can leverage these systems to track supplier performance metrics, negotiate favorable terms, and mitigate supply chain risks effectively. According to Logan et al (2021), E-procurement enhances collaboration and communication between buyers and suppliers. The digital nature of e-procurement platforms enables seamless interaction enabling faster response times and improved supplier relationships.

According to, Klassen, R.D., & Vachon, S. (2003), electronic procurement systems play a crucial role in enhancing strategic procurement management and competitive advantage for manufacturers. These systems enable manufacturers to strategically manage their supply chains by integrating procurement with overall business processes. By leveraging e-procurement for strategic sourcing, manufacturers can achieve cost savings through bulk purchasing, negotiate better terms with suppliers, and improve resource allocation, thereby gaining a competitive edge in the marketplace. Electronic procurement systems enable seamless integration within global supply chains by connecting manufacturers with suppliers across geographical boundaries. This global connectivity allows manufacturers to access a broader pool of suppliers, negotiate better terms, and leverage economies of scale, ultimately enhancing supply chain resilience and responsiveness to market changes.

Giunipero, L.C., & Patterson, J.L. (2008).Effective e-procurement systems contribute to improved customer satisfaction and service levels in manufacturing. By ensuring timely procurement of raw materials and components, manufacturers can meet customer demand more efficiently and reduce lead times for product delivery. This enhances overall customer experience and loyalty, driving competitive advantage in the marketplace. Van Weele, A.J. (2018). According to Caniëls, M.C.J., & Gelderman, C.J. (2007), **e**lectronic procurement systems foster collaboration and innovation within manufacturing supply chains by facilitating real-time communication and information sharing among stakeholders, including suppliers, manufacturers can co-develop new products, improve product designs, and implement innovative solutions more effectively. This collaborative approach enhances product quality, reduces time-to-market, and drives continuous improvement across the supply chain.

2.3. The relationship between e-procurement and cost efficiency.

According to Tutu, S. O., Kissi, E., Osei-Tutu, E., & Desmond, A. (2019). Efficiency, cost reduction, reduced procurement process, minimized corruption, enhanced compliance and standardization of procurement results from the availability of internet, power stability, capacity enhancement of procurement officers, availability of E-procurement implementation in other parts of the world has brought benefits such as infrastructure were important critical factors when it comes to implementation of e-procurement while the mandatory use of e-procurement, technical interoperability budgetary control among others were important as well. Businesses that aim to reduce costs and achieve cost efficiency to be more competitive in the marketplace

Irrespective of the size of the business focus on achieving higher profitability by making procurement an integral part of operations. Cost efficient operations can be achieved by strategic planning and opting for the right tools, among other things. According to (https://www.gep.com/cost-efficiency-guide),

E-procurement systems streamline the procurement process by automating routine tasks such as purchase order processing and invoicing matching, leading to significant reductions in transaction costs resulting from faster and more accurate processing of activities. Wang, C., & Chen, M. (2019) Emphases that e-procurement platforms provide better visibility and control over supplier relationships, enabling more effective negotiation and management, which can result in cost savings by allowing for more strategic sourcing and improved supplier collaboration, Bals, L., Laine, J., & Mugurusi, G. (2019).The automation and standardization provided by e-procurement systems increases process efficiency, reducing the time and resources required for procurement activities, leading to reduced cycle times and lower administrative costs. Zheng, L., Yu, T., (2021).E-procurement systems offer advanced data analytics and reporting capabilities, which can be used to identify and exploit cost-saving opportunities and improve decision-making. Chen, R., & Tsai, W. (2020).

E-procurement systems optimize inventory levels by improving demand forecasting leading to more accurate procurement planning by providing real-time data leading to reduced inventory holding costs. Ahmed, A., & Abdallah, T. (2019).E-procurement systems enforce compliance with procurement policies and standardize procurement processes ensuring better control over spending and cost savings. Gonzalez, R., & Martins, J. (2021).E-procurement platforms increase supplier competition by providing access to a broader supplier base and facilitating competitive bidding driving down prices, which can lead to lower procurement costs. Liu, Y., & Sun, H. (2018).E-procurement systems significantly reduce procurement cycle times by automating various stages of the procurement process, from requisition to payment which leads to quicker order fulfillment and lower operational costs. Liu et al (2018)E-procurement systems provide enhanced visibility into organizational spending, enabling better spend analysis and cost control by offering visibility into spending patterns, allowing for better spend analysis and cost management. Smith, R., & Tran, H. (2020).

E-procurement systems reduce the need for paperwork and manual administrative tasks which are key elements of e-procurement implementation, leading to significant savings in administrative costs. Nguyen, T., & Hoang, P. (2021).E-procurement systems facilitate better communication and collaboration with suppliers, leading to more favorable terms and cost savings. Better supplier relationships fostered by e-procurement systems contribute to cost savings through collaborative planning and joint cost reduction initiatives. Kumar, V., & Mishra, A. (2020).The transparency and control provided by e-procurement systems reduce the likelihood of procurement errors and fraud by increasing transparency and control, which can result in significant E-procurement systems streamline the procurement process by automating routine tasks such as purchase order processing and invoicing matching, leading to significant reductions in transaction costs resulting from faster and more accurate processing of activities. Wang, C., & Chen, M. (2019).

E-procurement platforms provide better visibility and control over supplier relationships, enabling more effective negotiation and management, which can result in cost savings by allowing for more strategic sourcing and improved supplier collaboration, Bals, L., Laine, J., & Mugurusi, G. (2019).The automation and standardization provided by e-procurement systems increase process efficiency, reducing the time and resources required for procurement activities, leading to reduced cycle times and lower administrative costs. Zheng, L., Yu, T., (2021).E-procurement systems offer advanced data analytics and reporting capabilities, which can be used to identify and exploit cost-saving opportunities and improve decision-making. Chen, R., & Tsai, W. (2020)

2.4. The challenges faced in implementing e-procurement.

According to Shahin, A., Balouei Jamkhaneh, H., & Shahin, R. (2022), E-procurement systems implementation is hard due to its barriers by various technologies, varied organizational culture and changing users' interacting skills with Information systems/technologies. E-procurement is a complex system in firms and firms' staffs are the main contributors of the technology. E-procurement activities should be categorized right from highest to lowest priority activity for quantitative decision making for the supplier selection in the e-procurement process. We found that all of the CSFs are not crucial in all of the firms and indicators for performance should be categorized into firms' structures, managerial criteria, and key activities to streamline procurement operations for proper management.

However according to Mohungoo, I., Brown, I., & Kabanda, S. (2020), The challenges in implementation of e-procurement are categorized using the Technology-Organization-Environment (TOE) framework as follows (1) Technological challenges: e-procurement acceptance and usage, disruptive innovation characteristic of e-procurement, use of digital signatures, security and privacy of technology and technical aspects of e-procurement (2) Organizational challenges: stakeholders' behavior, leaders' behavior, shortcomings in leadership, lack of training and skilled personnel, resistance to change, organizational power and politics and the creation of public value underlying e-procurement (3) Environmental/Contextual challenges: regulatory framework for public procurement, Small-and-Medium-Size Enterprise issues, and context of the country. Key e-procurement implementation challenges are grounded in human and contextual issues. So we recommend more case studies on public e-procurement implementation in the future.

Tutu, S. O., Kissi, E., Osei-Tutu, E., & Desmond, A. (2019)E-procurement implementation in other parts of the world has brought benefits such as efficiency, cost reduction, reduced procurement process, minimized corruption, enhanced compliance and standardization of procurement. The results revealed that absence of internet, power stability, capacity enhancement of procurement officers, absence of infrastructure slow down progress when it comes to implementation of e-procurement while the mandatory use of e-procurement, technical interoperability budgetary control among others were of less importance. while e-procurement implementation has a significant effect on company performance. According to the researchers' findings, recommendations from a management perspective are discussed for example training employees to avail them with necessary skills to run the systems and information flow management. Thus absence of such negatively impacts organizational implementation of e-procurement. Masudin, I., Aprilia, G. D., Nugraha, A., & Restuputri, D. P. (2021).

E-procurement systems implementation is hard due to its barriers by various technologies, varied organizational culture and changing users' interacting skills with Information systems/technologies. E-procurement is a complex system in firms and firms' staffs are the main contributors of the technology. Indicators for performance should be categorized into firms' structures, managerial criteria, and key activities to streamline efficiency. Shahin, A., Balouei Jamkhaneh, H., & Shahin, R. (2022).

External factors from the industry such as market, government, and technological interoperability are beyond the control of organizations. The technology barriers to suppliers include understanding and commitment to specialist software and the start-up fee required by the vendors that is usually the financial capabilities of Small and Medium size Enterprises or that they do not want to commit to such a high-priced system as the wide spread use of e-procurement systems also depends on the availability of supporting infrastructures such as sufficient broadband coverage. Nawi, M. N. M., Roslan, S., Salleh, N. A., Zulhumadi, F., & Harun, A. N. (2016).

Inadequacies in government policies and legislation are areas to be worked upon in the system. The lack of standard procedure for tendering process which mandates the buying of printed tender documents in physical offices by interested parties in person is one of the examples which prohibits the use of e-tendering system and presents a huge setback for the organizations attempting to establish electronic procurement systems. Lack of standards in the development of e-procurement systems results in users of one system being unable to communicate electronically with users of other different systems, creating but fragmented e-procurement environment. Nawi, M. N. M., Roslan, S., Salleh, N. A., Zulhumadi, F., & Harun, A. N. (2016).Existing gaps on the factors that influence the success of e-procurement adoption among manufacturing firms especially in developing countries such as lagging behind in terms of technology and infrastructural inadequacy. Implementing e-procurement is a very expensive undertaking and requires heavy investments by organizations. Equipments in the manufacturing sector are also very expensive to automate to make it possible for adoption of e-procurement. Mose, J. M., Njihia, J. M., & Magutu, P. O. (2013).

CHAPTER THREE
RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter includes data collection, data sources, data collection instruments, data collection procedures, reliability and validity of data, sampling techniques and limitations of the study, research design, sample size.

3.1 Research design.

A research design is a frame work that has been created to find answers to research questions. This design was useful as it is the most appropriate way to gather data. A mixed research method that is: qualitative and quantitative methods were used because they provided a detailed overview of the steps and procedures the researcher plans to execute in the collection and analysis of data as well as interpretation of research outputs.

3.2 Sampling technique.

A random sampling technique was used. This is because it ensured each member of a population got an equal chance of being selected, enhancing the representativeness of the sample. This minimizes bias and allows for generalization of findings to the larger population.

3.3 Data collection sources.

Both primary and secondary sources of data were used when collecting data. This is because using both data sources enabled the researcher to gain an overview of the research problem. Hox, J.J., & Boeije, H.R. (2005).

Primary sources of data are original materials on which other research is based including original written works, recordings, or other media directly produced by the subject of the study.

Secondary sources are documents or recordings that relate or discuss information originally presented elsewhere such as text books, journals, news articles and so on. This was used to inform and update my research.

3.4 Sample size.

The study was targeting a number of 35 employees at Jesa farm dairy limited both in the department of procurement and department of IT. A population size of 35 respondents were selected to represent the whole population.

Population size

= 35

= N/ 1+N(e^2)

= 35/1+35(0.0025)

= 35/ 1.0875

= 32.

3.5 DATA COLLECTION INSTRUMENTS

3.5.1 Interviews

Interviews are a method of data collection in which one person that is to say an interviewer asks questions of another person that is to say a respondent. Interviews can be structured, semi-structured, or unstructured, depending on the nature and goals of the research. This method is particularly useful for obtaining detailed information about personal experiences, attitudes, and perceptions.

Interviews were used to collect data. This is because they give an opportunity to obtain detailed information on the issue as well as helping to collect data from respondents with less time and those who could hardly write and read.

3.5.2. Questionnaires.

Data from the study was collected through well structured questionnaires which will allow respondents to give out the intended information as per the study objectives. Question statements are preferred for primary data collection because employees provide detailed responses and it is advantageous in terms of time management.

3.5.3 Observations.

The observation method involves systematically watching, listening to, and recording behaviors of events as they occur in their natural setting. This approach allows researchers to gather empirical data that reflect real-time scenarios, contributing to the accuracy and authenticity of the findings. Observation was used as a method to gather information and data by directly watching and recording events or behaviors. Observations provide valuable insights that may not be easily captured through surveys or experiments.

3.6 Data collection procedures.

A letter of introduction shall be collected from the school of business as permission to collect data.

3.7. RELIABILITY AND VALIDITY OF DATA.

Reliability refers to how consistently a method measures something.

Validity refers to the accuracy of the measurement.

The researcher coded the information, used pie charts, bar graphs to ensure reliability and validity of data.

3.8. LIMITATIONS AND DELIMITATIONS.

- Inadequate financial resources to support throughout the research process in terms of transport costs to the farm for primary data collection and funding data collection activities requirements was a challenge. Solicitation of financial assistance from available possible sources such as family and friends was done meet financial requirements.
- Getting the organization and the identified potential respondents to participate in providing information. This is because this information was considered sensitive thus giving it out would land into hands of competitors. Also some identified potential respondents being resistant or less interested to respond to research activities. Therefore, consistently persuading the identified potential respondents was done to obtain positive feedback from resistant and hard to get respondents.
- Striking a balance between time for research and other activities was a problem as well because research required time for proper and accurate data to be obtained. Drafting of a well laid out plan of activities was therefore done to strike a balance between time for research and other activities were done.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND PRESENTATION OF ANALYSIS.

4.0. Introduction.

This chapter presents data that was collected basing on the three research objectives;

- The role of E-procurement systems at Jesa farm diary.
- The relationship between electronic procurement systems and cost efficiency at Jesa farm diary.
- The challenges faced in implementing electronic procurement systems at Jesa farm diary.

4.1. FINDINGS ON THE DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS (BIO DATA).

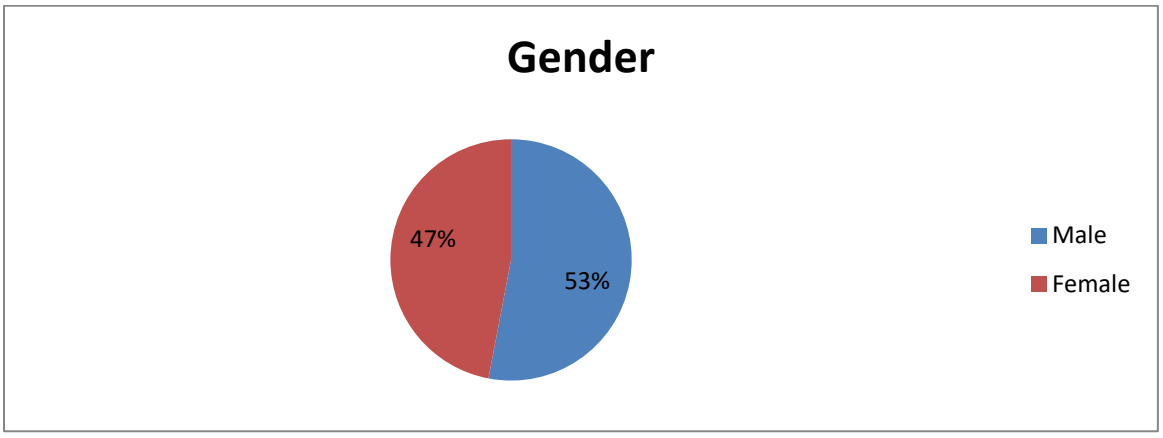
This chapter looks at the bio data of respondents which includes; Gender, age bracket, level of education, length of service at the organization and the departments in which the respondents belong at Jesa farm dairy as presented below;

4.1.1. Gender.

Table 1. showing the frequencies and percentages of questionnaire respondents' gender at Jesa farm dairy.

Gender	Number	Percentage (%)
Male	15	53
Female	17	47
Total	32	100

Figure 1. A pie chart presenting percentages of repondents' gender at Jesa farm dairy.



From the table and pie chart above, Male respondents were 15 (53%) along with 17 (47%) Female respondents hence the results show that Jesa farm dairy is gender sensitive when it comes to employee recruitment.

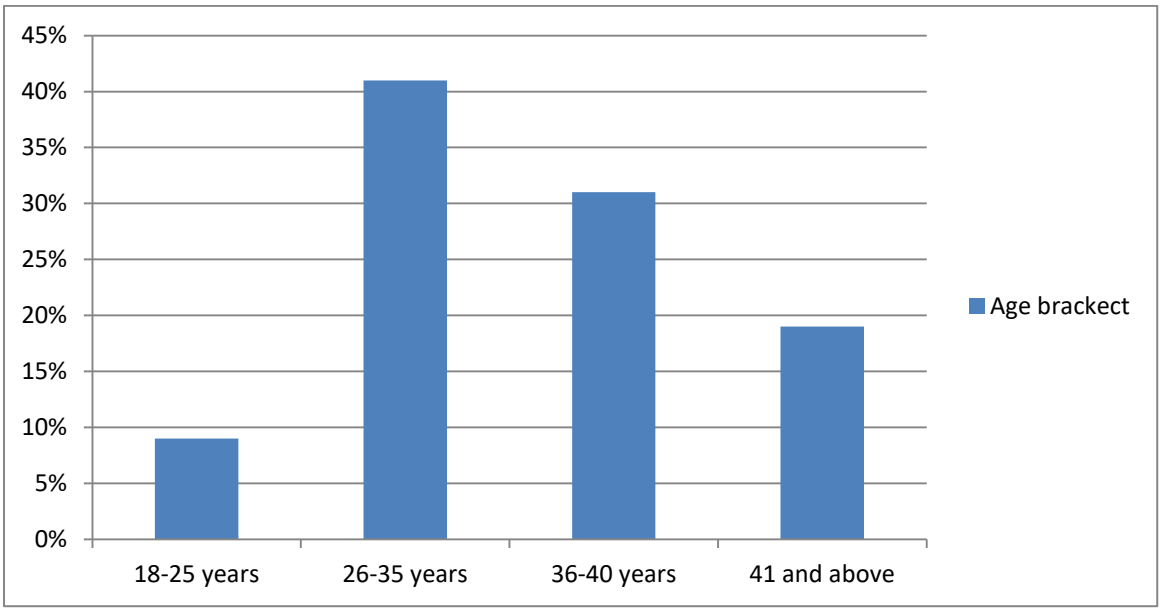
The balance between female and male respondents maybe as a result of some departments such as engineering and logistics departments that are mainly dominated by male employees.

4.1.2. Age bracket.

Table 2. Showing the number and percentages of the different age bracket categories of respondents.

Age bracket	No	Percentage (%)
18-25	3	9
26-35	13	41
36-40	10	31
41-above	6	19
Total	32	100

Figure 2. A column graph presenting the varying age bracket of repondents in percentages



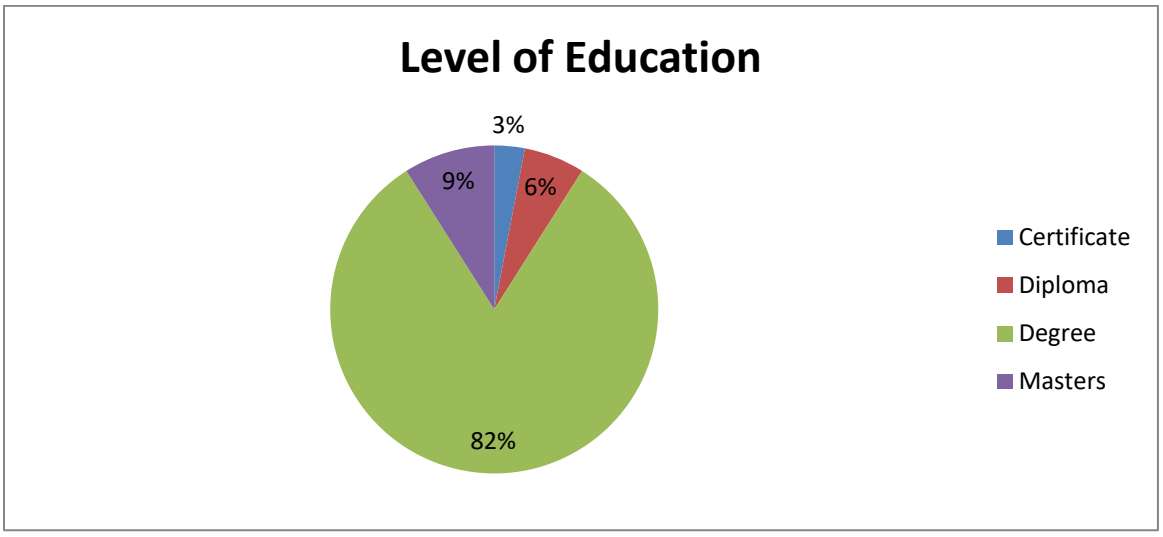
The primary data collected as shown in the table and bar graph above that is; 3 (9%) of the respondents fall under the ages of (18-25), 13 (41%) fall under the age bracket of 26-35, 10 (31%) under age bracket of 36-40, and 6 (19%) under age bracket 41 and above. Hence from the results above, the company having its biggest number of employees between the age of 26-40 years shows that the productivity is at a high rate because individual productivity rate tends to decrease with increase in age. Therefore, I believe that Jesa farm dairy recruits more of middle age employees to foster high productivity.

4.1.3. Level of education.

Table 3. Showing the frequencies and percentages of respondents within the different levels of education.

Level of education	No	Percentage (%)
Certificate	1	3
Diploma	2	6
Degree	26	82
Masters	3	9
Total	32	100

Figure3. Presenting respondents' level of education in percentages.



The results obtained from the field as shown in the table and pie chart above reflects Jesa farm dairy having its highest number of employees as Degree holders that is 26 (82%) respondents, 3 (9%) with masters, 2 (6%) are diploma holders and 1 (3%) respondent is a certificate holder.

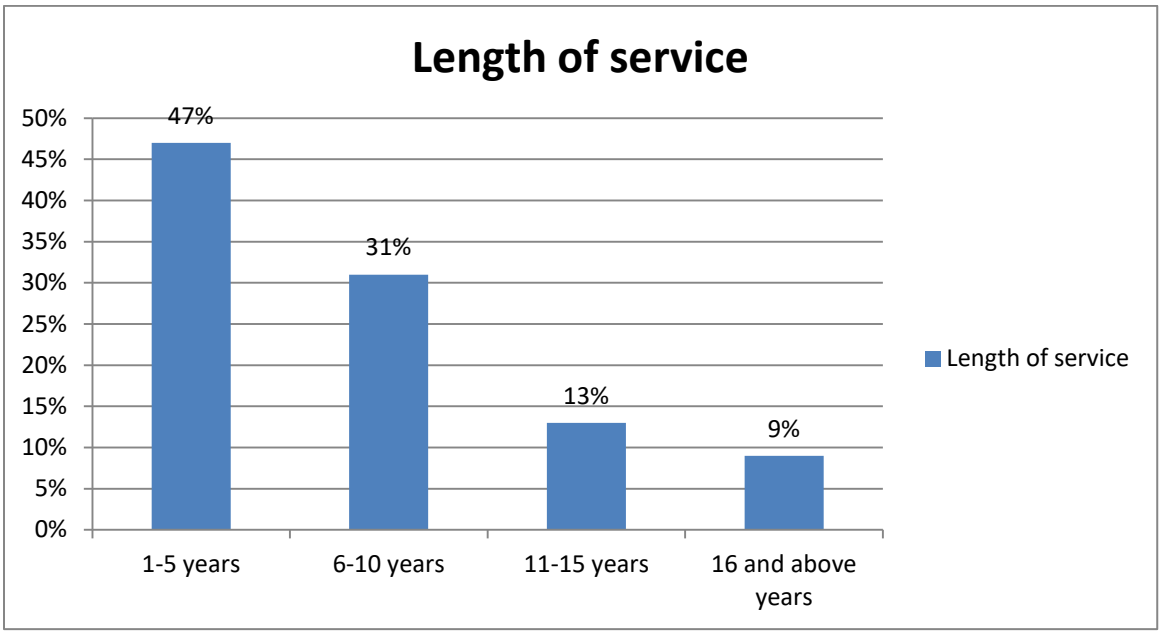
The results therefore show that employees are highly equipped with knowledge and expertise in the different organizational departments in which they work. This is because they can easly integrate operational systems and technologies to ensure quality production.

4.1.4. Length of service at the organization.

Table 4. Showing the frequencies and percentages of the respondents' length of service at the organization.

Length of Service.	No.	Percentage (%)
1-5	15	47
6-10	10	31
11-15	4	13
16-above	3	9
Total	32	100

Figure4. Presenting respondents length of service at Jesa farm dairy in percentages.



The data shows that the largest number of employees have been working with Jesa farm dairy for a period of five years and below that is 15 (47%) employees, 10 (31%) employees for 6-10 years, 4 (13%) for 11-15 years and 3 (9%) of the employees for 15 years and above.

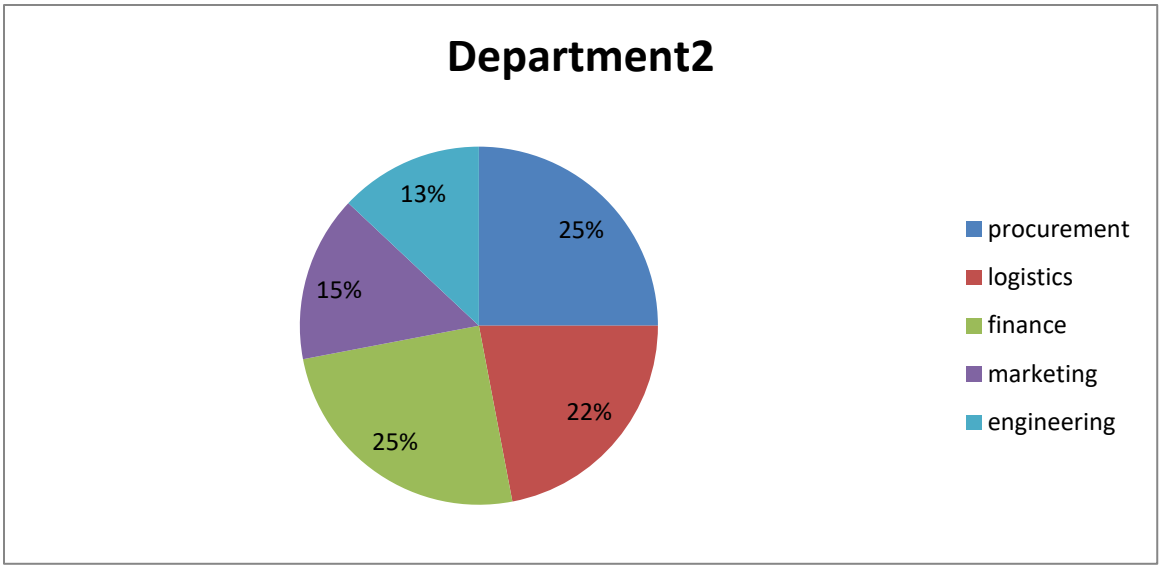
The high number of employees between 1-5 years of working with the company reflected from the results above maybe as a result of retirement of older employees or the fact that the offices have not been operational for too long and the employees that have worked with the organization for 15 years and above may have been working with the organization right from its early years of establishment.

4.1.5. Department in which you belong.

Table 5. Showing frequencies and percentages of respondents falling under the different departments of Jesa farm dairy.

Department	No	Percentage (%)
Procurement	8	25
Logistics	7	22
Finance	8	25
Marketing	5	15
Engineering	4	13
Total	32	100

Figure5. Presenting the industry department in which the respondents belong in percentages.



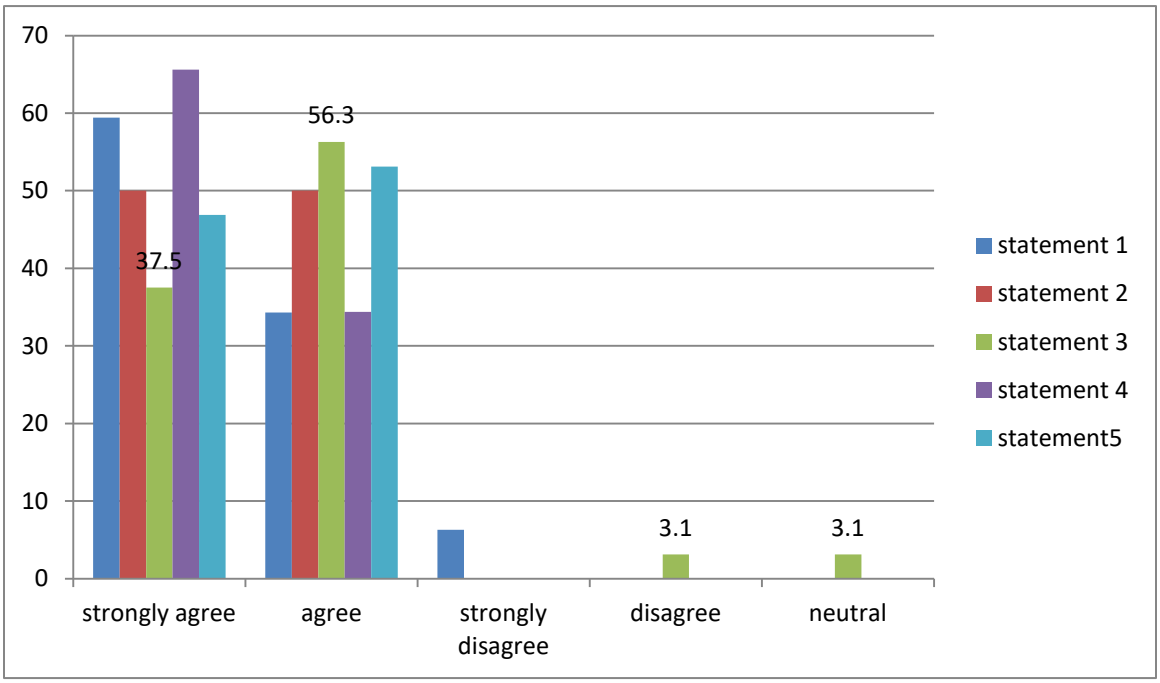
The primary data obtained reveals that the highest number of employees: 23 (72%) employees are under the departments of; procurement, Logistics and finance while the Marketing 5 (15%) and engineering departments having the lesser number of employees: 9 (28%).

Procurement and finance had the highest number of responses because the two departments were the main areas of focus for this research.

4.2. Findings on the role of electronic procurement systems.

Statement	SA		A		SD		D		NA/D	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
E-ordering has contributed to improved customer service levels and customer satisfaction.	19	59.4	11	34.3	2	6.3	…	…	…	…
The use of e-procurement systems has availed Jesa farm dairy with greater transparency and visibility into procurement processes.	16	50	16	50	….	….	….	…..	….	…..
E-procurement systems have strengthened supplier relationships by fostering collaboration and innovation.	12	37.5	18	56.3	…..	…..	1	3.1	1	3.1
E-procurement systems such as e-tendering, e-ordering and e-invoicing have eliminated the need for manual paperwork.	21	65.6	11	34.4	…..	……	…..	…..	…..	…..
The systems play a big role in enhancing cost efficiency through reduction of operational expenses.	15	46.9	17	53.1	….	……	….	…..	……	…….

Figure 6. Showing the level of respondents' agreement and disagreement with the roles of electronic procurement at Jesa farm dairy.



In line with the statement: E-ordering has contributed to improved customer service levels and customer satisfaction, 19(59.4%) of the respondents strongly agreed to the statement, 11(34.3%) agreed and 2(6.3%) strongly disagreed with the statement. 16(50%) strongly agreed, 16(50%) agreed with the statement that the use of e-procurement systems has availed Jesa farm dairy with greater transparency and visibility into procurement processes. 12(37.5%) strongly agreed, 18(56.3%) agreed, 1(3.1%) disagreed and 1(3.1%) neutral with the questionnaire statement that e-procurement systems have strengthened supplier relationships by fostering collaboration and innovation. With the statement that e-procurement systems such as e-tendering, e-ordering and e-invoicing have eliminated the need for manual paperwork; 21(65.6%) of the respondents strongly agreed with the statement and 11(34.4%) agreed with the statement. 15(46.9%) strongly agreed, 17(53.1%) agreed with the statement that the systems play a big role in enhancing cost efficiency through reduction of operational expenses.

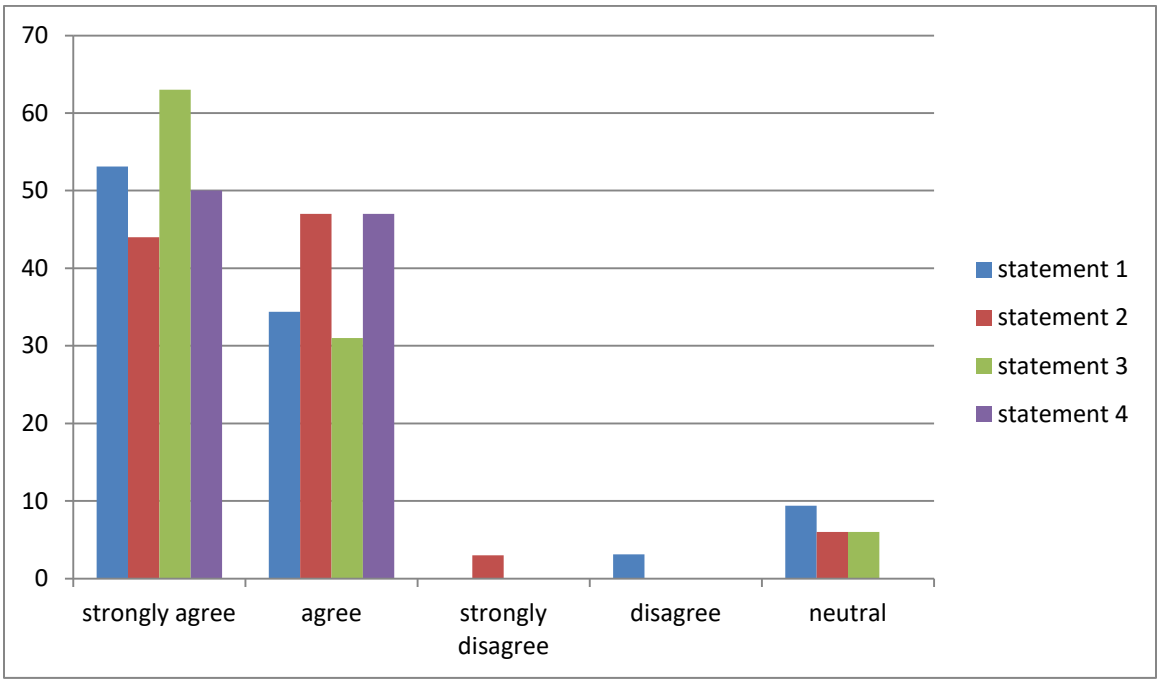
Positive feedback that 59.4 respondents strongly agreeing and 34.3% agreeing shows that most people believe e-ordering improves customer satisfaction and service quality with the statement that e-ordering improves customer service levels and customer satisfaction. One of the

respondents disagreeing and the other one neutral about the statement that electronic procurement systems have strengthened supplier relationships by fostering innovation and collaboration maybe because these respondents have not realized the impact of e-procurement systems on strengthening supplier relationships.

4.3. Findings on the relationship between electronic procurement systems and cost efficiency.

STATEMENT	SA		A		SD		D		NA/D	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Electronic sourcing provides access to more suppliers facilitating competitive bidding driving down prices leading to lower procurement costs.	17	53.1	11	34.4	…..	…..	1	3.1	3	9.4
The automation and standardization of procurement operations increases process efficiency thereby reducing time and administrative costs required for procurement activities.	14	44	15	47	1	3	…..	…...	2	6
E-procurement systems ensure visibility into organizational spending by providing visibility into organizational spending patterns and cost management.	20	63	10	31	…...	…..	….	…..	2	6
The e-procurement systems are quality tools for demand forecasting leading to more accurate procurement planning and reduced inventory holding costs.	16	50	15	47	……	……	…..	…..	1	3

Figure 7. Showing repondents' level of agreement or disagreement with the relationship between electronic procurement systems and cost efficiency.



According to the questionnaire statement that: the use of electronic sourcing has provided access to a broader supplier base facilitating competitive bidding driving down prices leading to lower procurement cost, 17 (53.1%) respondents strongly agreed with the statement, 11 (34.4%) Agreed, 1 (3.1%) Disagreed and 3 (9.4%) were neutral about the statement. 14(44%) strongly agreed, 15(47%) agreed, 1(3%) strongly disagreed and 2(6%) neutral about the statement that the automation and standardization of procurement operations increases process efficiency thereby reducing time and administrative costs required for procurement activities. 20(63%) strongly agreed, 10(31%) agreed and 2(6%) neutral about the statement that e-procurement systems ensure visibility into organizational spending by providing visibility into organizational spending patterns and cost management. 16(50%) strongly agreed, 15(47%) agreed and 1(3%) neutral with the statement that the e-procurement systems are quality tools for demand forecasting leading to more accurate procurement planning and reduced inventory holding costs.

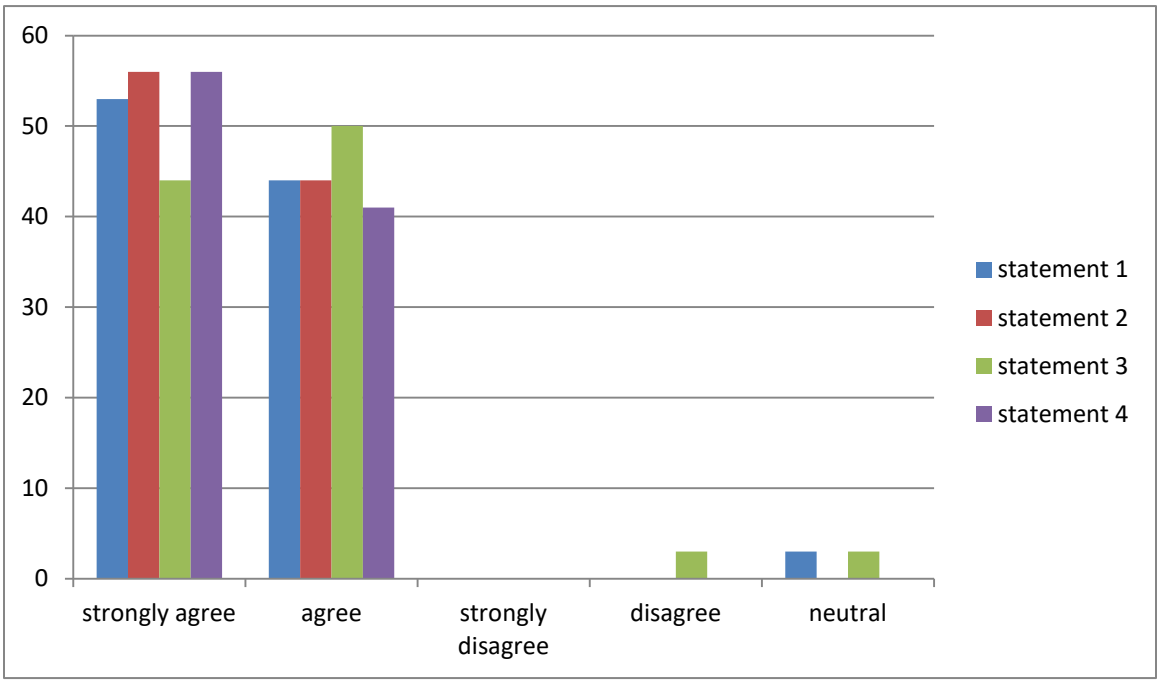
Almost everyone thinks that e-procurement systems help see and manage how money is spent indicating strong belief in transparency and control these systems provide. This maybe as a result

of cost savings realized with the use of e-procurement systems. On the other hand, a large number of respondents agree that automating and standardizing procurement makes the process faster and cheaper meaning that most people easily meet schedules and cost savings with automated procurement.

4.4. Findings on the challenges faced implementing electronic procurement systems.

STATEMENT	SA		A		SD		D		NA/D	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
E-procurement implementation is hard due to its barriers by varied organizational culture and changing users' interacting skills with information technologies.	17	53	14	44	…..	……	…..	…..	1	3
Capacity enhancement and training of employees is a major challenge in the successful implementation of electronic procurement systems.	18	56	14	44	…..	…….	…..	……	……	……
The technological interoperability between different electronic procurement platforms and existing systems has been a barrier to full implementation of e-procurement systems.	14	44	16	50	……	……	1	3	1	3
The lack of proper infrastructure has made it difficult for full implementation of electronic procurement systems.	18	56	13	41	……	……	……	……	1	3

Figure 8. Showing the respondents' level of agreement or disagreement with the challenges encountered implementing electronic procurement systems.



17(53%) respondents strongly agreed, 14(44%) agreed and 1(3%) neutral with the statement that e-procurement implementation is hard due to its barriers by varied organizational culture and changing users' interacting skills with information technologies. 18(56%) of the respondents strongly agreed, 14(44%) agreed with the statement that capacity enhancement and training of employees is a major challenge in the successful implementation of electronic procurement systems. 14(44%) of the respondents strongly agreed, 16(50%) agreed, 1(3%) disagreed and 1(3%) neutral with the statement that the technological interoperability between different electronic procurement platforms and existing systems has been a barrier to full implementationof e-procurement systems. 18(56%) of the respondents strongly agreed, 13(41%) agreed and 1(3%) neutral with the statement that the lack of proper infrastructure has made it difficult for full implementation of electronic procurement systems.

97% of respondents think that the lack of proper infrastructure makes it hard to fully implement e-procurement systems highlighting that having the right infrastructure is crucial for successful implementation. 100% of respondents on the other hand believe that training employees and

improving their skills is a major challenge which means that making sure that employees are well trained is very important for successful implementation.

CHAPTER FIVE

DISCUSSION, SUMMARY, CONCLUSION, AND RECOMMENDATION OF THE FINDINGS.

5.0. Introduction

This chapter presents discussions, summary, conclusion and recommendations of findings obtained in the field.

5.1. Discussion of the findings.

5.1.1. The role of electronic procurement systems at Jesa farm dairy.

According to primary data findings, electronic procurement systems such as E-ordering have contributed to improved customer service levels and customer satisfaction, 19(59.4%) of the respondents strongly agreed to the statement, 11(34.3%) agreed and 2(6.3%) strongly disagreed with the statement. According to Van Weele, A.J. (2018), the researcher believes that effective e-procurement systems contribute to improved customer satisfaction and service levels in manufacturing. By ensuring timely procurement of raw materials and components, manufacturers can meet customer demand more efficiently and reduce lead times for product delivery. This enhances overall customer experience and loyalty, driving competitive advantage in the marketplace. Both highlight the big benefits of e-procurement systems in boosting customer service and satisfaction. Field data shows that 93.7% of respondents (59.4% strongly agreed and 34.3% agreed) think e-ordering has made customer service better. This matches Van Weele's view that e-procurement helps get raw materials and components on time, so manufacturers can meet customer demand more efficiently. Findings also point out that e-procurement systems improve customer satisfaction by reducing delivery times, enhancing the overall customer experience and loyalty.

From primary data findings: 16(50%) strongly agreed, 16(50%) agreed with the statement that the use of e-procurement systems have availed Jesa farm dairy with greater transparency and visibility into procurement processes. As well, according to Logan Price. (2024). E-procurement enables organizations to achieve greater transparency and visibility into their procurement processes, real time tracking and reporting capabilities allowing organizations to monitor the status of their orders, identify bottlenecks and make informed decisions through the use of e-

procurement technologies such as cloud based technologies, Big data analytics, and Internet Of Things devices. These devices help to monitor and identify risks in the procurement processes ahead of time thereby reducing the cost burden that comes with dealing with risks. Both highlight the big benefits of e-procurement systems in improving transparency and visibility in procurement processes. Both studies agree that e-procurement systems provide better transparency and visibility. Primary data shows that 100% of respondents (50% strongly agreed and 50% agreed) think e-procurement has improved transparency at Jesa Farm Dairy. This matches Logan Price's view that e-procurement allows real-time tracking and reporting, helping organizations monitor orders and spot bottlenecks which helps manage risks by giving early warnings, which reduces the cost of handling risks.

12(37.5%) strongly agreed, 18(56.3%) agreed, 1(3.1%) disagreed and 1(3.1%) neutral with the questionnaire statement that e-procurement systems have strengthened supplier relationships by fostering collaboration and innovation. Mollenkopf, D., & Closs, D.J. (2005). As well highlight the trans-formative impact of electronic procurement on supplier relationships within manufacturing industries. They emphasize that e-procurement systems facilitate real-time communication, collaboration, and performance monitoring with suppliers. This capability not only enhances operational efficiency but also strengthens strategic partnerships, leading to improved product quality and reduced lead times. The researcher emphasise that manufacturers can leverage these systems to track supplier performance metrics, negotiate favorable terms, and mitigate supply chain risks effectively. Both highlight the big impact of e-procurement systems on supplier relationships, especially in promoting collaboration and innovation. Both studies agree that e-procurement systems strengthen supplier relationships. Field data shows that 93.8% of respondents (37.5% strongly agreed and 56.3% agreed) think e-procurement helps with collaboration and innovation with suppliers. This matches Mollenkopf and Closs's view that e-procurement allows for real-time communication and collaboration. Hence respondents' agreement on the benefits of collaboration and innovation supports this view.

With the statement that e-procurement systems such as e-tendering, e-ordering and e-invoicing have eliminated the need for manual paperwork; 21(65.6%) of the respondents strongly agreed with the statement and 11(34.4%) agreed with the statement. According to Logan Price (2024). Electronic procurement eliminates the need for manual paperwork and reduces the administrative

burden associated with managing physical documents. This frees up valuable time and resources that can be redirected towards more strategic tasks. Both findings highlight the big benefits of e-procurement systems in getting rid of manual paperwork and cutting down on administrative work. Both studies agree that e-procurement systems like e-tendering, e-ordering, and e-invoicing remove the need for physical documents. The findings also point out that these systems reduce the administrative burden, freeing up time and resources for more important tasks.

5.1.2. The relationship between electronic procurement systems and cost efficiency.

According to the statement that the use of electronic sourcing has provided access to a broader supplier base facilitating competitive bidding driving down prices leading to lower procurement cost, 17 (53.1%) respondents strongly agreed with the statement, 11 (34.4%) Agreed, 1 (3.1%) Disagreed and 3 (9.4%) were neutral about the statement. According to Liu, Y., & Sun, H. (2018), E-procurement platforms increase supplier competition by providing access to a broader supplier base and facilitating competitive bidding driving down prices, which can lead to lower procurement costs. Both show that electronic sourcing helps reduce procurement costs by increasing supplier competition. The studies agree that e-sourcing gives access to more suppliers, making competitive bidding easier. Primary data indicates that 87.5% of respondents (53.1% strongly agreed and 34.4% agreed) think e-sourcing broadens the supplier base. This shows that both findings are in agreement.

Primary data findings show that 14(44%) strongly agreed, 15(47%) agreed, 1(3%) strongly disagreed and 2(6%) neutral about the statement that the automation and standardization of procurement operations increases process efficiency thereby reducing time and administrative costs required for procurement activities. According to Zheng, L., & Yu, T. (2021).The automation and standardization provided by e-procurement systems increases process efficiency, reducing the time and resources required for procurement activities, leading to reduced cycle times and lower administrative costs. These findings highlight the major benefits of automation and standardization in e-procurement systems. The studies agree that these systems greatly improve process efficiency and reduce time and administrative costs. Primary data shows that 91% of respondents (44% strongly agreed and 47% agreed) believe these systems boost efficiency. This matches Zheng and Yu’s findings that automation cuts down on manual tasks and errors.

Data reveals that 20(63%) strongly agreed, 10(31%) agreed and 2(6%) neutral about the statement that e-procurement systems ensure visibility into organizational spending by providing visibility into organizational spending patterns and cost management. According to Smith, R., & Tran, H. (2020). E-procurement systems provide enhanced visibility into organizational spending, enabling better spend analysis and cost control by offering visibility into spending patterns, allowing for better spend analysis and cost management. The findings similarly highlight the major benefits of e-procurement systems in improving visibility into organizational spending and better managing costs. Primary data shows that 94% of respondents (63% strongly agreed and 31% agreed) believe in these benefits, aligning with Smith and Tran's conclusions.

5.1.3. The challenges faced implementing electronic procurement systems at Jesa farm dairy.

According to questionnaire responses, 17(53%) respondents strongly agreed, 14(44%) agreed and 1(3%) neutral with the statement that e-procurement implementation is hard due to its barriers by varied organizational culture and changing users' interacting skills with information technologies.According to Shahin, A., Balouei Jamkhaneh, H., & Shahin, R. (2022), E-procurement systems implementation is hard due to its barriers by varied organizational culture and changing users' interacting skills with Information systems/technologies. E-procurement is a complex system in firms and firms' staffs are the main contributors of the technology. E-procurement activities should be categorized right from highest to lowest priority activity for quantitative decision making for the supplier selection in the e-procurement process. Both point out major challenges in using e-procurement systems, especially due to different organizational cultures and users' skills with technology. Both studies agree that these varied cultures and the difficulty in changing how users interact with technology are big barriers to e-procurement.

Findings show that 18(56%) of the respondents strongly agreed, 14(44%) agreed with the statement that capacity enhancement and training of employees is a major challenge in the successful implementation of electronic procurement systems. According to Tutu, S. O., Kissi, E., Osei-Tutu, E., & Desmond, A. (2019)E-procurement implementation with the absence of capacity enhancement of procurement officers, absence of infrastructure slow down progress when it comes to implementation of e-procurement while the mandatory use of e-procurement, technical interoperability budgetary control among others were of less importance. Both point out key challenges of using electronic procurement (e-procurement) systems. Both studies agree

that technological interoperability and external factors, like market conditions and government regulations, are major barriers. These factors are beyond the control of individual organizations and need broader industry and government support to overcome.

Research reveals that 14(44%) of the respondents strongly agreed, 16(50%) agreed, 1(3%) disagreed and 1(3%) neutral with the statement that the technological interoperability between different electronic procurement platforms and existing systems has been a barrier to full implementation of e-procurement systems. According to Nawi, M. N. M., Roslan, S., Salleh, N. A., Zulhumadi, F., & Harun, A. N. (2016). Technological interoperability is beyond the control of organizations. The technology barriers to suppliers include understanding and commitment to specialist software and the start-up fee required by the vendors that is usually the financial capabilities of Small and Medium size Enterprises or that they do not want to commit to such a high-priced system as the wide spread use of e-procurement systems also depends on the availability of supporting infrastructures such as sufficient broadband coverage. Both findings point out major obstacles to fully using e-procurement systems. Both studies agree that technological interoperability is a significant barrier.

Primary data findings show that; 18(56%) of the respondents strongly agreed, 13(41%) agreed and 1(3%) neutral with the statement that the lack of proper infrastructure has made it difficult for full implementation of electronic procurement systems. Tutu, S. O. et al (2019) Revealed that absence of infrastructure slows down progress when it comes to implementation of e-procurement while e-procurement implementation has a significant effect on company performance. According to the researchers' findings, recommendations from a management perspective are discussed for example training employees to avail them with necessary skills to run the systems and information flow management. Primary data results match those of Tutu et al. (2019), who also points out that good infrastructure is crucial for successfully using electronic procurement (e-procurement) systems. Both sets of data show that poor infrastructure makes it much harder to adopt and use e-procurement systems effectively.

5.2. Summary of findings.

The research on the roles of electronic procurement systems at Jesa Farm Dairy shows that these systems greatly improve procurement processes. E-ordering, for example, has made customer service and satisfaction better by ensuring that raw materials are procured on time and delivery

times are shorter, which matches Van Weele's findings. The study also shows that e-procurement technologies increase transparency and visibility into procurement processes, as noted by Logan Price, who highlighted their role in tracking and managing risks. These systems have improved relationships with suppliers by encouraging collaboration and innovation, which aligns with what Mollenkopf and Closs found about better communication and performance monitoring. In addition, e-tendering, e-ordering, and e-invoicing have eliminated the need for manual paperwork, making administrative tasks easier and saving time and resources, as supported by both Logan Price and the survey data. Overall, the research shows that e-procurement systems enhance efficiency, transparency, and teamwork at Jesa Farm Dairy.

The research on the relationship between electronic procurement systems and cost efficiency shows that electronic procurement systems help save money in several ways. E-sourcing tools make it easier to find more suppliers and encourage competitive bidding, which lowers prices, as confirmed by Liu and Sun. The study also finds that automation and standardization through these systems make procurement processes more efficient, reducing the time and costs involved, which matches Zheng and Yu's findings. Additionally, e-procurement systems offer better insights into spending, allowing for improved cost management, as noted by Smith and Tran. Overall, these systems are effective in cutting costs, streamlining procedures, and improving spending visibility**.**

The research on the challenges of using electronic procurement systems at Jesa Farm Dairy shows several key problems. Many people said that different workplace cultures and varying tech skills make it hard to set up these systems, which agrees with Shahin et al.'s findings. It was also noted that training employees and improving their skills are major challenges, similar to what Tutu et al. found. Problems with connecting different e-procurement systems and the existing technology were also a big issue, as mentioned by Nawi et al., including difficulties with understanding new software and high costs. Lastly, the lack of good infrastructure was seen as a major barrier, matching Tutu et al.'s view that poor infrastructure slows down the implementation process. Overall, these challenges highlight the difficulties of using e-procurement systems and the need for effective solutions to overcome these problems.

5.3. Conclusion.

In conclusion, the research shows that while electronic procurement systems can be very useful, there are several big challenges in putting them into use at Jesa Farm Dairy. Problems include differences in workplace cultures, varying tech skills among staff, and the need for more training. Additionally, difficulties with connecting different systems and a lack of good infrastructure make things harder. To fully benefit from e-procurement systems, it's important to address these issues by improving training, upgrading infrastructure, and making sure different technologies work well together. Solving these problems is key to making e-procurement systems more effective and efficient.

5.4. Recommendations.

- The organization should invest in training for all employees who will use the system to improve training and skills. This training should focus on how to use the e-procurement tools, understand new technologies, and adapt to changes. By making sure employees are well-trained, the organization can make the transition to e-procurement easier and more effective.
- The industry should work on improving its internet and power systems and ensure that its e-procurement tools can work well with existing technology by investing in better infrastructure and choosing compatible systems; the organization can overcome technical issues and support the successful use of e-procurement tools.
- The organization should promote a culture that welcomes new technology and change because different workplace cultures and resistance to change can make it hard to implement e-procurement systems.. This can be done by having leaders explain the benefits of e-procurement, involving everyone in the planning and implementation stages, and addressing any concerns. Creating a positive environment for change will help make the transition to e-procurement easier.
- The organization should seek help from outside experts and work with industry partners to overcome the difficulties of e-procurement. This includes getting advice from technology providers, joining industry groups to learn from others, and partnering with other organizations facing similar issues. By using external support and collaborating, the

organization can find solutions to common problems and improve its e-procurement implementation.

5.5. Areas for further research.

- Investigating the role of external support and collaboration in the successful implementation of e-procurement systems would be valuable.
- Effects of organizational culture on the adoption of e-procurement systems.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

Dear respondent, my name is Muresuk Hellen S18B12/366 a student of Uganda Christian University. I am undertaking research entitled: The impact of electronic procurement systems on cost efficiency in manufacturing industries. I pledge to have high level of confidentiality since it's for academic purposes.

Instructions.

Tick and fill in where necessary.

SECTION A

BIO DATA.

1. Gender

Male ☐

Female ☐

2. Age bracket

18-25 ☐

26-30 ☐

31-35 ☐

36-40 ☐

Above 40 ☐

3. Level of education

Diploma ☐

Degree ☐

Masters ☐

Any other please specify

4. Length of service at the organization.

0-5 ☐

5-10 ☐

10-15 ☐

20 and above ☐

5. Department in which you belong

Procurement ☐

Finance ☐

Logistics ☐

Any other please specify……

SECTION B. THE ROLES OF ELECTRONIC PROCUREMENT SYSTEMS.

In this section and the other sections that follow please indicate your level of agreement with the statements by ticking a box showing your level of agreement with the statement: SA-strongly agree, A-agree, SD-strongly disagree, D-disagree or NA/D- neither agree nor disagree.

S/N	The roles of e-procurement systems.	SA	A	SD	D	NA/D
1	E-ordering has contributed to improved customer service levels and customer satisfaction by ensuring timely procurement of raw materials and components which reduces lead times for product delivery.					
2	The use of e-procurement systems has availed Jesa farm dairy with greater transparency and visibility into procurement processes enabling ease of monitoring the status of orders, identify bottlenecks and informed decision making.					
3	E-procurement systems have strengthened supplier relationships by fostering collaboration and innovation through facilitation of real-time communication and information sharing among stakeholders.					
4	E-procurement systems such as e-tendering, e-ordering and e-invoicing have eliminated the need for manual paperwork reducing administrative burden associated with managing physical documents.					
5	The systems play a big role in enhancing cost efficiency through reduction of operational expenses by automating routine tasks purchase requisitions, approvals and supplier payments.					

In case there are more roles of electronic procurement that have not been indicated, please specify.

SECTION C

2. Examining the relationship between electronic procurement and cost efficiency.

S/N	STATEMENT	SA	A	SD	D	NA/D
1	The use electronic sourcing has provided access to a broader supplier base facilitating competitive bidding driving down prices leading to lower procurement costs.					
2	The automation and standardization of procurement operations increases process efficiency thereby reducing time and administrative costs required for procurement activities.					
3	E-procurement systems provide enhanced visibility into organizational spending by providing visibility into organizational spending patterns and cost management.					
4	The e-procurement systems optimize inventory levels by improving demand forecasting through the provision of real-time customer demand data leading to more accurate procurement planning and reduced inventory holding costs.					

In case there are other points on the relationship between e-procurement systems and cost efficiency that have not been mentioned, please specify.

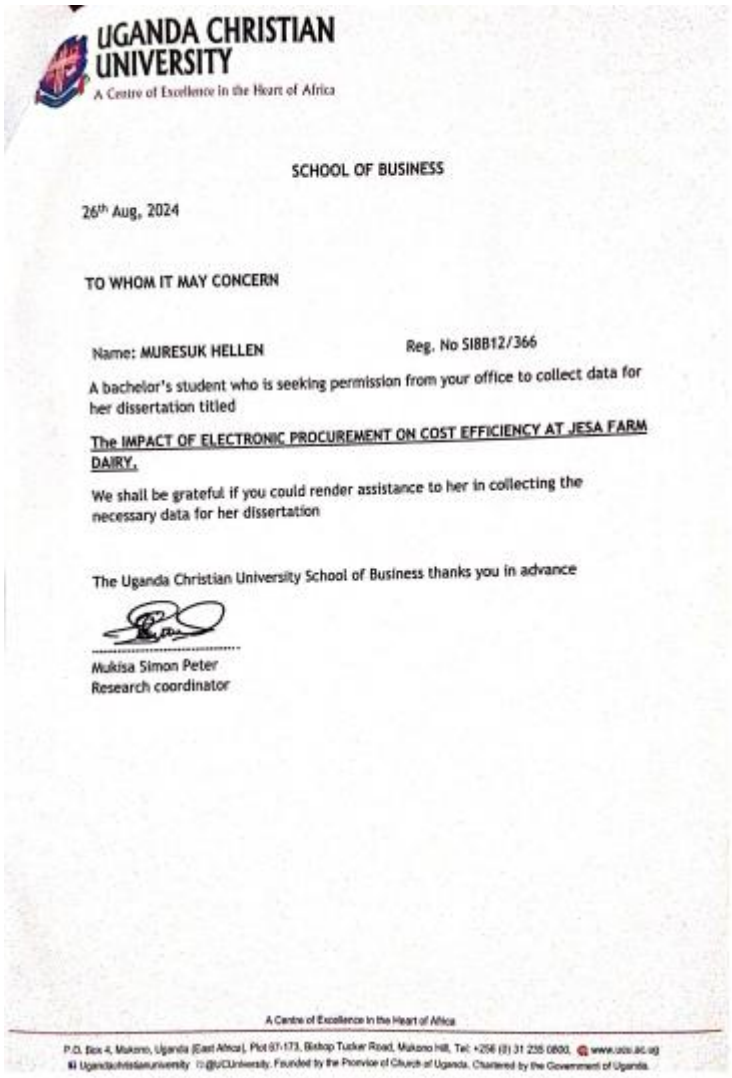
SECTION D

3. Examining the challenges encountered in implementing e-procurement systems

S/N	STATEMENTS	SA	A	SD	D	NA/D
1	E-procurement implementation is hard due to its barriers by varied organizational culture and changing users' interacting skills with information technologies.					
2	Capacity enhancement and training of employees is a major challenge in the successful implementation of electronic procurement systems.					
3	The technological interoperability between different electronic procurement platforms and existing systems has been a barrier to full implementation of e-procurement systems.					
4	The lack of proper infrastructure has made it difficult for full implementation of electronic procurement systems.					

In case there are other challenges encountered in the implementation of e-procurement systems that have not been indicated, please specify.

ACCEPTANCE LETTER.



UGANDA CHRISTIAN UNIVERSITY
A Centre of Excellence in the Heart of Africa

SCHOOL OF BUSINESS

26th Aug, 2024

TO WHOM IT MAY CONCERN

Name: MURESUK HELLEN Reg. No SIBB12/366

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

The IMPACT OF ELECTRONIC PROCUREMENT ON COST EFFICIENCY AT JESA FARM DAIRY.

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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