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FACULTY OF COMMERCE

DEPARTMENT OF ECONIMICS

THE IMPACT OF E-PROCUREMENT ON SUPPLY CHAIN EFFICIENCY OF PUBLIC ENTITIES. A CASE STUDY OF MINISTRY OF HEALTH AND CHILDCARE.

By

MITCHEL PARICHI

(B201324B)

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With my consent as Academic Supervisor, this study proposal is submitted to Bindura University of Science Education for review as a component of the Bachelor of Purchasing and Supply Honors degree.

Name of student: Mitchel Parichi. Signature 24/09/24

Name of supervisor :……L. CHIGUSIWA.....Signature……L.C…… 24/09/24

Name of chairman :……DUBE . B.....Signature……B…… 24/09/24

RELEASE FORM

NAME: MITCHEL PARICHI

PROJECT TITLE : THE IMPACT OF E-PROCUREMENT ON SUPPLY CHAIN EFFICIENCY IN PUBLIC ENTITIES. CASE OF MINISTRY OF HEALTH AND CHILD CARE

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Author's Signature

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Physical Address: 12682 Hatcliffe, Harare

Date: June 2024

ABSTRACT

This study used the Ministry of Health and Child Care as an example to investigate how e-procurement affects supply chain efficiency in public institutions. The objective of the research was to appraise the extant procurement procedures in the MoHCC, appraise the influence of electronic procurement on supply chain efficacy concerning expenses, process enhancement, and inventory supervision, and scrutinize the advantages and obstacles linked to the deployment of electronic procurement systems. While there was a 100% response rate to a survey of 24 procurement professionals, the measurement tool's reliability score was low, suggesting that it may be improved. Data in both qualitative and quantitative forms were gathered through a mixed-methods study. Data was gathered by the researcher through questionnaires. Using tables and pie charts, the SPSS program was used to evaluate the data using both descriptive and inferential statistics. The findings demonstrated that obstacles include poor technology, a lack of knowledge of policies, a lack of funding, and a lack of commitment from the top levels have prevented e-procurement from having a significant impact on the ministry's performance. The study suggests improving leadership commitment, technology, policy understanding, resource allocation, and regular performance evaluations in light of these findings. According to the study, e-procurement has a beneficial effect on the caliber of products and services suppliers offer. Two of the study's shortcomings are that it only looked at one public entity and that more instrument improvement is required. Future studies could examine how e-procurement affects various public bodies and pinpoint the elements that make an implementation or adoption successful.

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ABBREVIATIONS

GIS	Geographic Information System
MoHCC	Ministry of Health and Child Care
RBV	Resource-Based View
RFID	Radio Frequency Identification
SAP	System Application and Products
SPSS	Statistical Package for the Social Science
TAM	Technology Acceptance Model
TCE	Transactional Cost Economics

CHAPTER I

INTRODUCTION

1.0 Introduction

Bhattacharya highlights the increased interest in using e-procurement systems to improve supply chain efficiency, (Saini & Srivastava,2018). Private companies and government agencies have adapted their supply chain management processes to utilize the efficiency benefits of e-procurement in supply chain systems. Public entities typically fall behind private companies in implementing more advanced technologies, like e-procurement, (Kumar, 2019). In Zimbabwe, there is worry about the slow response of public organizations in embracing better technologies, resulting in less efficient operations of many public enterprises, to the disadvantage of the population they aim to help. As a result, this study seeks to investigate the effects of e-procurement on supply chain effectiveness in Zimbabwe's Ministry of Health and Child Care. By looking at the specific example of the Ministry of Health and Child Care, we can learn about the advantages and difficulties of introducing an e-procurement system in the healthcare industry.

1.1 Background of the study

The healthcare sector relies heavily on efficient supply chain management to ensure the timely delivery of medical supplies, equipment, and medications to healthcare facilities. In recent years, there has been a growing interest in leveraging technology, specifically e-procurement, to improve supply chain efficiency in the healthcare sector. E-procurement has played a crucial role in transforming supply chain practices across various industries. Public entities, including government ministries and departments, have recognized the potential of e-procurement to improve their operations. The Ministry of Health and Child Care in Zimbabwe faced unique challenges in delivering healthcare services and managing the supply chain for medical resources. Embracing e-procurement significantly enhanced the ministry's logistics and supply chain management capabilities, leading to improved efficiency, cost-effectiveness, and the availability of healthcare resources.

E-procurement has revolutionized inventory management systems, enabling public entities to optimize their supply chain operations. Automated systems utilizing technologies such as barcoding, radio frequency identification (RFID), and real-time data capture have been widely adopted to streamline inventory control processes, enhance visibility, and improve decision-making (Kumar et al., 2019). By implementing advanced inventory management systems, the

Ministry of Health and Child Care ensured accurate tracking and monitoring of medical supplies, reducing wastage and minimizing stock outs.

The integration of technology in the supply chain management also allowed public entities to establish efficient and effective distribution networks. Geographic Information System (GIS) technology, for instance, enabled optimal route planning and resource allocation, considering factors like proximity to healthcare facilities, road conditions, and population density (Paparazzo et al., 2018). By leveraging GIS technology, the Ministry of Health and Child Care enhanced the timely and cost-effective delivery of medical supplies and equipment, particularly to remote and underserved areas. Digital platforms and mobile applications have emerged as valuable tools for real-time communication and coordination in logistics management. These technologies facilitated seamless information exchange among stakeholders involved in the supply chain, including suppliers, transporters, and healthcare facilities. Mobile applications were utilized by the ministry to track shipments, monitor delivery progress, and address potential issues promptly. This fostered transparency, accountability, and overall supply chain efficiency (Irfan et al., 2019).

In September 2021, SAP (System Application and Products in Data Processing) system was implemented in the Ministry of Health and Child Care. Implementing SAP brought about many benefits that is helping streamline various processes within the ministry, including finance, procurement, inventory management, and human resources. It provided standardized workflows and automates routine tasks, reducing manual effort, improving efficiency, and ensuring consistency in operations. It also supported the ministry in managing budgets, tracking expenditures, and improving financial reporting. It enabled accurate and timely financial data analysis, which helped to optimize resource allocation and ensure transparency and accountability in financial management.

Procurement and inventory management modules optimized the ministry's procurement processes. It automated requisitions, purchase orders, and supplier management, improving transparency, reducing errors, and facilitating better control over inventory levels. This, in turn, ensured timely availability of medical supplies and reduced stock outs or excess inventory. It offered robust reporting and analytics capabilities, allowing the ministry to derive valuable insights from its data. It provided real-time and accurate information on key performance indicators, enabling data-driven decision-making, performance monitoring, and resource planning for effective healthcare service delivery.

SAP helped the ministry ensure compliance with regulatory requirements and internal governance policies. It provided tools for tracking and managing compliance-related activities, such as adherence to procurement regulations, financial reporting standards, and data protection regulations. By optimizing processes and enabling better resource management, SAP indirectly contributed to improved patient care. Efficient procurement and inventory management ensure the availability of essential medical supplies, while streamlined financial processes help allocate resources to critical healthcare services effectively. It included security features to protect sensitive data within the ministry. It offered closer access controls, data encryption, and audit trails, helping to safeguard patient information, financial data, and other confidential records. SAP is a highly scalable system that can accommodate the growing needs of the ministry. As the healthcare landscape evolves, SAP can be adapted and customized to support new programs, changing regulations and emerging technologies.

1.1 Problem Statement

The Ministry of Health and Child Care is encountering obstacles in successfully carrying out e-procurement initiatives and fully experiencing their effects on supply chain efficiency. The public sector has not yet fully explored how lean thinking principles could enhance supply chain efficiency, creating a gap in research in this area. Transparency issues, corruption, and reduced cost efficiency have also been observed in the public sector's supply chain processes. Hence, this study aims to examine how e-procurement impacts supply chain efficiency in the Ministry of Health and Childcare, determine the critical factors that affect its effectiveness, and provide recommendations for enhancing the uptake and execution of e-procurement to enhance supply chain outcomes in government organizations

1.2 Research objectives

The primary objective of this study is to investigate the impact of e-procurement on supply chain efficiency within the Ministry of Health and Child Care. The specific research objectives are as follows:

1. To assess the current procurement processes within the Ministry of Health and Child Care.
2. To analyze the benefits and challenges associated with the implementation of e-procurement systems.
3. To evaluate the impact of e-procurement on supply chain efficiency in terms of cost reduction, process optimization, and inventory management.

4. To provide recommendations for successful e-procurement implementation and improving supply chain efficiency in the healthcare sector.

1.5 Research Questions

To address the aforementioned research objectives, the following research questions will guide this study:

1. What are the existing procurement processes within the Ministry of Health and Child Care?
2. What are the benefits and challenges associated with the implementation of e-procurement systems within the ministry?
3. How does e-procurement impact supply chain efficiency in terms of cost reduction, process optimization, and inventory management?
4. What are the key success factors and strategies for successful e-procurement implementation in the healthcare sector?

1.6 Significance of the Study

This research is important for different individuals involved in the healthcare industry. Firstly, it will offer important information on the possible advantages and obstacles of applying e-procurement systems in the Ministry of Health and Child Care. This data can assist policymakers and procurement managers in making well-informed decisions about implementing e-procurement technologies. Additionally, through examining the influence of e-procurement on supply chain effectiveness, this study can add to the existing knowledge on procurement administration in the healthcare industry. Furthermore, the results and suggestions from this research can be used by other healthcare institutions looking to improve their procurement practices through the adoption of e-procurement.

1.7 Assumptions of study

The researcher assumes that:

1. The chosen topic is applicable and huge in the field of study.
2. The units used to acquire data, such as surveys or interviews, are valid and reliable.
3. The findings of their study can be generalized to a larger population or context.
4. individuals will supply trustworthy and straightforward responses to survey questions or interview prompts.

1.8 Delimitations of the study

The study's scope was restricted to Zimbabwe's Ministry of Health and Child Care's Harare headquarters.

1. August 2023–May 2024 was the study's time frame.
2. The researcher additionally made use of experienced staff members and upper management who might reflect on earlier advancements and happenings.
3. The decisions and limits the investigator makes regarding the range and concentration of the investigation, including the study questions, goals, and hypotheses; the data sources, time periods, and techniques; and the theoretical and conceptual framework.

1.9 Limitations of the study

a) Accessibility of procurement practitioners: The researcher should speak with all procurement function participants, including store managers, procurement officers, and their assistants; however, this process is time-consuming. Still, the researcher will use representative and generalizable sample strategies.

b) Another potential barrier to contacting several procurement practitioners for interviews could be the restricted information available as a result of their usual work obligations. That being said, the researcher will accommodate these executives' schedules.

c) b) Confidentiality: Reactions might withhold some information that is required but beyond the purview of governmental secrecy laws. Participants are notified that their privacy will be protected for this purpose and that there will be no negative consequences if they decide to stop the research at any time.

d) Bias: Since the researcher was formerly employed by the company, they are all intimately acquainted. Nonetheless, the researcher will make an effort to maintain objectivity and will get a second viewpoint.

1.10 Definition of key words

Electronic catalogs are online databases of goods and services that are available for procurement. They allow buyers to easily find and compare products and services from different suppliers. (Rajesh, R. S., Mahalakshmi, K., & Srihari, S. (2016))

Electronic tendering is a process that allows organizations to request bids from multiple suppliers, using an online system. (Rajesh, R. S., Mahalakshmi, K., & Srihari, S. 2016).

Enterprise resource planning are software systems that are used to manage all aspects of an organization's operations, including procurement (Rajesh, R. S., Mahalakshmi, K., & Srihari, S. ((2016)). ERP systems have improved the efficiency and accuracy of procurement processes, by automating many of the tasks involved.

E-procurement is the process of purchasing goods and services online using electronic platforms or software (Chen, I.J., and Paul raj, A. 2004). This includes sourcing suppliers, placing orders, managing contracts and tracking deliveries.

Logistics refers to the management and coordination of the flow of goods, information and resources between the point of origin the point of consumption (Christopher, M. 2016). It involves transportation, warehousing, inventory management, packaging and distribution.

Procurement is the acquisition of goods, services or works from an external source (CIPS 2013)" CIPS further explains that procurement includes "the process of selecting suppliers, agreeing terms and conditions, placing orders, expediting delivery, making payment and maintaining supplier relationships." In the health care context, this means that procurement includes the process of finding, evaluating, and selecting vendors, as well as negotiating and managing contracts.

Supply Chain Management refers to the coordination and integration of all activities involved in the production and delivery of goods and services, from the sourcing of raw materials to the final distribution to customers (Chopra, S. & Mind, P. 2015). It encompasses the planning, execution and control of various processes including procurement, manufacturing, inventory management, transportation and logistics.

1.11 Chapter Summery

The chapter sets the stage for the study by providing an introduction on the impact of e-procurement on supply chain efficiency. It establishes the context for the subsequent

chapters and creates a foundation for the in-depth exploration of the study, specifically within the Ministry of Health and Childcare.

CHAPTER II

LITERATURE REVIEW

2.0 Introduction

In this chapter, a thorough review of the current literature on how e-procurement enhances logistics and supply chain management in public entities is carried out. The researcher has extensively examined pertinent literature on incorporating technology in supply chain management. The main objective of this review of literature is to pinpoint areas of insufficient understanding, which can be a basis for future research. The end objective is to acquire a more thorough comprehension of how e-procurement can enhance supply chain efficiency in government organizations.

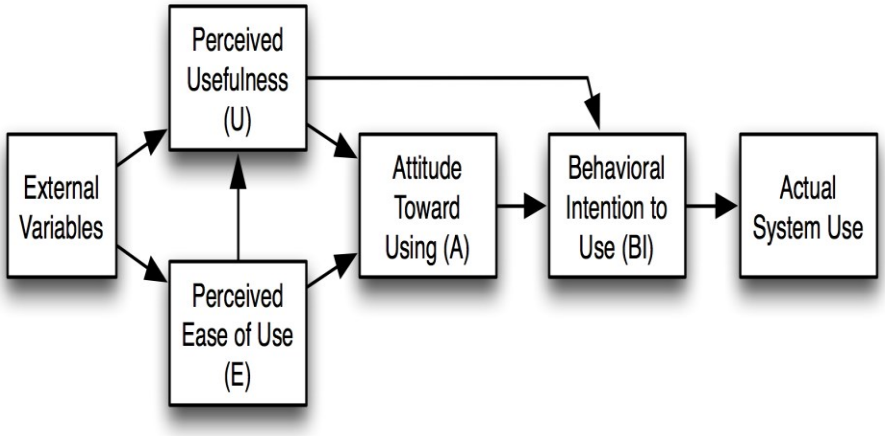
2.1 Theoretical framework

2.1.1 Technology Acceptance Model (TAM)

In the landmark study carried out by Davis (1989), named "Perceived usefulness, perceived ease of use, and user acceptance of information technology," the researcher explores the Technology Acceptance Model (TAM 1) and its main elements. Davis claims that the key elements influencing user acceptance of technology are perceived usefulness and perceived ease of use. Perceived usefulness refers to how much individuals think that using a certain technology will improve their job performance or productivity. On the other hand, perceived ease of use refers to how easily an individual thinks they can use the technology. Davis suggests that the TAM 1's two factors directly affect how individuals perceive technology, ultimately shaping their willingness to use it. An individual's beliefs about the capabilities and benefits of technology, along with their perception of its ease of use, influences their attitude formation. Davis emphasized how external factors play a crucial role in affecting perceived usefulness and perceived ease of use. The decisions made by co-workers, managers, or friends can significantly affect an individual's choice to use technology, highlighting the importance of social influence. Additionally, supportive factors like access to resources, technical assistance, and infrastructure play a crucial role in helping people make effective use of technology. Davis's study highlights how important it is for users to see technology as easy to use and useful in order to accept it. Understanding these factors and how they are linked enables organizations and designers to create strategies that encourage the implementation and efficient use of

technology in various situations. This information can help create easy-to-use interfaces, specific training programs, and helpful infrastructures, leading to improved technology integration in various environments.

Figure 1:Technology Acceptance Model 1

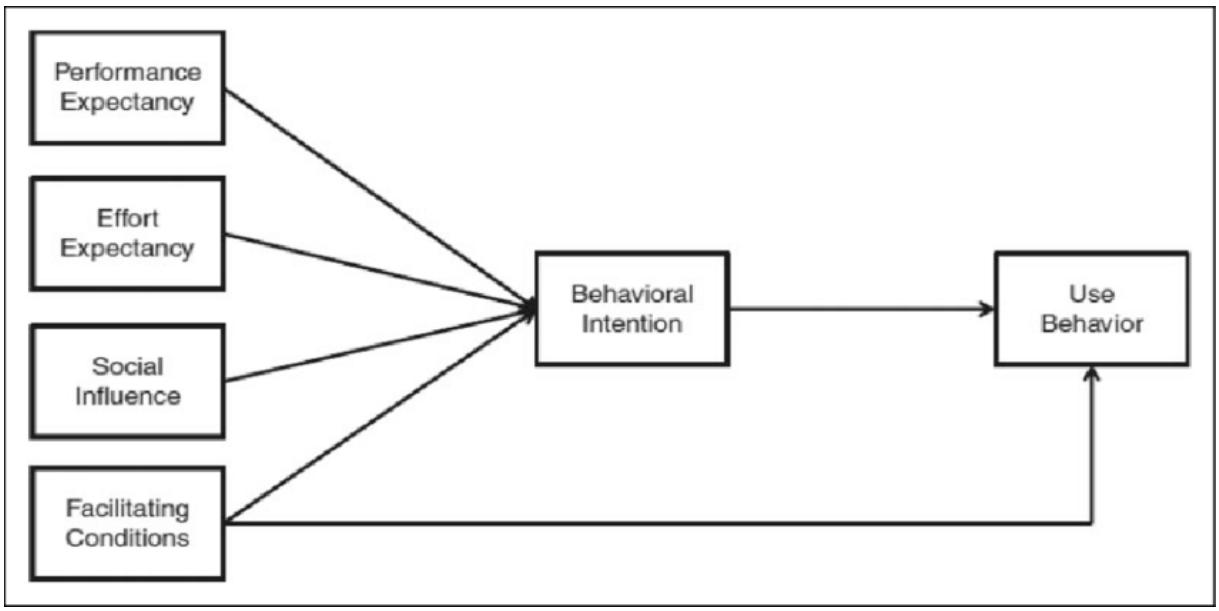


Source: Davis, F.D. (1989).

The Technology Acceptance Model 2 (TAM2) is an extension of the original Technology Acceptance Model (TAM) developed by Fred Davis in the 1980s. In 2000, Venkatesh and Davis proposed TAM2 as a means to enhance the explanatory power of TAM. TAM2 builds upon the foundation of TAM by incorporating additional factors that influence the acceptance and usage of technology. While the original TAM focused on perceived usefulness (PU) and perceived ease of use (PEOU) as the primary determinants, TAM2 introduces two additional factors. These include external variables and a belief factor. The external variables encompass factors such as social influence, facilitating conditions, and cognitive instrumental processes, which can impact an individual's intention to use a technology. On the other hand, the belief factor refers to an individual's perceived belief in the technology's outcome and the consequences associated with its use. According to TAM2, these supplementary factors, in conjunction with PU and PEOU, collectively influence an individual's attitude and intention to use a technology. Specifically, the model suggests that external variables have both direct and indirect effects on attitude and intention, while the belief factor exerts a direct effect. TAM2 has been extensively utilized in various studies to gain insights into and predict technology acceptance and usage across different contexts. It serves as a theoretical framework that aids

researchers and practitioners in identifying the key factors that influence user acceptance and adoption of technology.

Figure 2:Relationship between the performance expectance, effort expectance, social influence, facilitating conditions, behavioral intentions and use behavior.



Source: Venkatesh, V., Davis, F.D. (2000) Technological Acceptance Model. (TAM2).

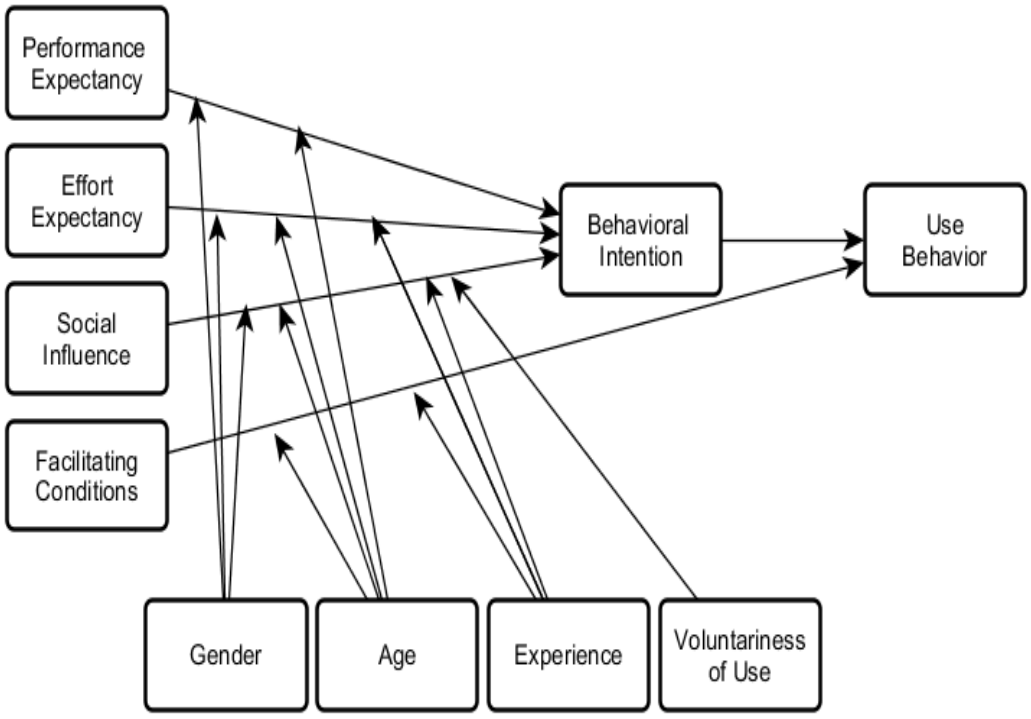
In their paper titled "User acceptance of information technology Unified Technological Use Acceptance of Technology. Toward a unified view, Venkatesh V., Morris, M. G.D, Davis, G.B., and Davis, F. D. (2003) expand on the Technology Acceptance Model (TAM3) by proposing a unified perspective on technology acceptance. The authors argue that the original TAM1, developed by Davis in 1989, had a narrow focus on individual beliefs and attitudes, neglecting other significant factors that Impact technology acceptance. To address this limitation, Venkatesh et al. introduce additional variables into the model, aiming to enhance its explanatory capacity and provide a more comprehensive understanding of user acceptance.

The authors proposed the inclusion of four essential concepts to supplement the original TAM1: perceived enjoyment, subjective norm, voluntariness, and cognitive instrumental processes. Perceived enjoyment refers to individuals' beliefs regarding the level of pleasure they would derive from using the technology. Subjective norm takes into consideration the influence of social norms and the expectations of others on an individual's intention to use the

technology. Voluntariness examines whether the use of the technology is obligatory or optional. Finally, cognitive instrumental processes focus on the cognitive mechanisms and strategies individuals employ when assessing and adopting technology. By incorporating these additional constructs, Venkatesh et al. aim to offer a more comprehensive understanding of user acceptance. The authors contend that these variables enrich the TAM2 by encompassing a wider spectrum of influences that impact the adoption and utilization of technology. Additionally, they propose that the revised TAM2 can be extended to diverse contexts and technologies, making it applicable beyond the conventional focus on information systems.

The research conducted by Venkatesh et al. expands upon the original TAM2 by integrating supplementary constructs and presenting a unified perspective on technology acceptance. Their findings offer valuable insights into the multifaceted nature of user acceptance and contribute to a more comprehensive comprehension of technology adoption.

Figure 3: Unified Theory Acceptance and Use Technology



Source: Venkatesh et al. (2003) Unified Theory Acceptance and Use Technology

Applying the TAM to e-procurement, helps understand how stakeholders, such as procurement officers and suppliers, perceive the usefulness and ease of using e-procurement systems and how these perceptions affect the adoption and utilization.

2.1.2 Diffusion of Innovation Theory

The Diffusion of Innovation hypothesis is a social science hypothesis that was created by Rogers in 1962 and describes how concepts or goods gradually permeate a population or social structure. It centers on the process of adoption, in which people choose to embrace a new or creative concept, behavior, or product because they believe it to be novel or inventive. The theory distinguishes between various adopter types and adoption-influencing variables. Adoption: The process by which people accept a novel concept, way of behaving, or item is one of the key concepts in the diffusion of innovation theory. Opinion leaders who accept change and adopt innovations early are known as early adopters. Innovators are the first group to adopt new ideas and are known for their willingness to take risks.

The early majority are those who adopt innovations before the ordinary person, but they require proof of their efficacy; the late majority are the skeptics who wait to adopt innovations until the majority has given them a try. Conservative people are the last group of laggards; they are averse to change and the last to adopt new ideas. The following factors may have an impact on the adoption of e-procurement: relative advantage, comparability, complexity, triability, and observability. The notion can be used in a variety of contexts to encourage the adoption of novel goods or habits, such as marketing and the MoHCC public health scenario.

In the context of e-procurement, the theory can help understand the impact of its adoption on supply chain efficiency in public entities. E-procurement adoption can improve company performance, and factors such as senior management support and information quality play significant roles in its successful implementation.

2.1.3 Resource-Based View (RBV)

Is a philosophy of strategic management that emphasizes an organization's internal assets and competencies as sources of competitive advantage. It implies that a company's capacity to create a sustained competitive advantage is determined by its own resources rather than by circumstances in the external market. The Resource-Based View (RBV) method can be utilized to examine how the Ministry of Health and Child Care's assets and competencies impact its efficacy in providing healthcare services and overseeing the supply chain. Recognizing and comprehending the essential resources of the ministry is emphasized by the RBV. These resources can be human capital (e.g., administrators, competent healthcare professionals), physical assets (e.g., medical equipment, buildings), intellectual property (e.g., research and development capabilities, healthcare policy), and organizational capabilities

(e.g., efficient supply chain management, quality assurance processes). It suggests that resources should be rare and unique to provide a competitive advantage. In the context of the ministry, this means assessing whether the resources and capabilities it possesses are distinct from those of other healthcare organizations or public entities. For example, the ministry may have specialized healthcare facilities, advanced medical equipment, or a highly skilled workforce that sets it apart from other organizations.

RBV considers the durability and immutability of resources. It examines whether the ministry's resources are difficult to replicate or imitate by competitors or whether they can be easily substituted. For instance, the ministry may have long-standing partnerships with healthcare suppliers, established relationships with research institutions, or exclusive access to certain medical technologies, making it challenging for competitors to replicate these advantages. It highlights the importance of leveraging resources and capabilities to achieve a competitive advantage. In the case of the ministry, this involves effectively utilizing its resources and capabilities to improve healthcare service delivery, optimize supply chain processes, enhance patient outcomes, and address the specific needs of the population it serves. For example, the ministry may leverage its well-trained healthcare workforce and advanced medical technologies to provide high-quality healthcare services and implement innovative healthcare programs. It also emphasizes the integration and coordination of resources and capabilities across different functions and levels of the organization. In the context of the ministry, this involves aligning the various resources and capabilities, such as procurement, inventory management, healthcare service provision, and policy development, to ensure seamless coordination and effective utilization of resources. By applying the RBV, the ministry can gain insights into its unique resources and capabilities, assess their competitive advantage potential, and strategically leverage them to enhance its supply chain efficiency, healthcare service delivery, and overall performance.

2.1.4 Transactional Cost Economics (TCE)

Williamson developed the theoretical framework known as Transaction Cost Economics (TCE), which describes how economic agents organize transactions and minimize transaction costs. According to the TCE method, transaction costs—such as the cost of searching for information and negotiating—are a necessary part of every economic activity and have a significant impact on how markets and enterprises are organized. The expenses incurred during an economic trade in a market are known as transaction costs. In real markets, there are three different kinds of transaction costs:

Information costs: These include the costs associated with obtaining relevant information and setting up meetings with agents; negotiation costs are those related to arriving at a settlement; and enforcement costs are those associated with making sure the parties to the contract keep their end of the bargain. A structure for an organization that achieves economic efficiency while minimizing exchange costs is the most efficient. The idea states that every type of transaction generates coordination costs for planning, directing, and supervising transactions. Transaction cost economics (TCE) is a theoretical framework that explains how businesses, including public institutions, choose the most cost-effective way to arrange transactions.

TCE can be used to comprehend how the Ministry of Health and Child Care handles transactions pertaining to the provision of healthcare services, purchasing, and resource distribution. Transaction costs are expenses related to looking for things, negotiating, and upholding contracts. The degree to which assets are specialized to a single transaction is known as asset specificity. The frequency of a transaction is the regularity with which it happens. Finally, the degree of uncertainty surrounding transactions is known as uncertainty. The Ministry may decide to employ market mechanisms (like outsourcing services), internalize transactions (like providing services directly), or create hybrid arrangements (like public-private partnerships) in order to reduce transaction costs.

2.1.5 Institutional theory

This theory explains how various elements such as structures, processes, and professions are created and diffused within and between organizations (DiMaggio & Powell, 1983). Organizations operate within a social environment that is constantly changing due to factors such as new laws, emerging standards, rules or norms, changing patterns of behavior, and the entry of new participants. They strive for legitimacy, which refers to the perception that their actions and behaviors are appropriate, acceptable, and in line with societal expectations and Institutional Isomorphism. This concept suggests that organizations tend to become more similar to each other over time due to the pressures from their institutional environment. There are three types of isomorphism: coercive, mimetic, and normative.

The impact of e-procurement on supply chain efficiency in public entities, specifically in the case of the Ministry of Health and Child Care, institutional theory focuses on how organizations and individuals conform to established norms, rules, and practices within a given institutional

environment (Rowan, 1982). In the context of e-procurement and supply chain efficiency, institutional theory helps us understand how the adoption and implementation of e-procurement practices are influenced by institutional factors and how they impact supply chain efficiency in public entities. Institutional theory suggests that organizations are influenced by external pressures to conform to established norms and practices. In the case of the Ministry of Health and Child Care, the adoption of e-procurement practices may be driven by external pressures such as government regulations, international standards, or industry best practices. Institutional theory also highlights the concept of isomorphism, which refers to the tendency of organizations to become similar to each other in terms of structure, practices, and behavior. In the context of e-procurement, public entities, including the Ministry of Health and Child Care, may adopt e-procurement practices to mimic other organizations in the public sector or to align with global trends in public procurement.

The theory emphasizes the importance of legitimacy for organizations. Legitimacy refers to the perception that an organization's actions and practices are appropriate, acceptable, and in line with societal expectations. By adopting e-procurement practices, the Ministry of Health and Child Care can enhance its legitimacy by demonstrating transparency, accountability, and efficiency in its procurement processes. It also recognizes that organizations operate within multiple institutional logics, which are sets of values, beliefs, and assumptions that guide decision-making. In the case of the Ministry of Health and Child Care, the adoption of e-procurement practices may be driven by the logic of efficiency, cost-effectiveness, and improved service delivery. By aligning with these institutional logics, the ministry can enhance supply chain efficiency and achieve better outcomes in public procurement

The theory brings about a framework to understand how institutional factors influence the adoption and impact of e-procurement practices in public entities like the Ministry of Health and Child Care. By considering the institutional context and pressures, organizations can make informed decisions regarding e-procurement implementation to improve supply chain efficiency and achieve desired outcomes.

2.2 Empirical Literature Review

Platis, Karafyllis, and Kaoura carried out a study on e-procurement in Greek public hospitals in 2018. The use of e-procurement technologies is now mandatory for any procedure that is open, negotiated, restricted, or costs more than 60,000 euros (VAT excluded) under Greece's newly passed public procurement law. The purpose of this study was to look into how e-

procurement technologies are used and the legal and bureaucratic restrictions that come with working in public administration. This article discussed the primary outcomes and issues associated with the implementation of e-procurement systems in Greek public hospitals. The data gathered indicates that the accuracy and speed of procurement procedures have greatly increased. Nonetheless, the study's conclusions show that most Greek public hospitals and talked about the main effects and problems seen in these organizations. The data acquired shows that procurement processes have significantly improved in terms of accuracy and speed. Because of the underutilization of the new e-procurement platform and the lack of thorough support for procurement procedures, transparency is dwindling. By showcasing the use of e-procurement technologies in daily operations for the first time in Greece, this research provides Greek public hospitals with a valuable tool to enhance their financial management.

Basil Kusi described public procurement as the method by which government agencies employ a sizeable percentage of taxpayer money to purchase goods, services, and labour from the private sector in a research on the framework for adopting electronic procurement. Conversely, e-procurement denotes the utilization of technological advancements to supplant traditional paper-based procedures in procurement endeavours.

The primary objective of this project was to develop a framework for the deployment of e-procurement solutions at Kumasi government hospitals. A variety of research methodologies were employed to achieve specific goals, including analysing the current procurement practices of public hospitals, identifying the structures needed to support the adoption of e-procurement, and developing a framework for e-procurement implementation in Kumasi Government Hospitals. The research recommends providing IT training to procurement practitioners at government hospitals and emphasizes the need for legislative frameworks that support e-procurement systems and ensure the safety of suppliers and buyers. It also suggests looking into the potential for an internet pharmacy and learning more about government hospital e-procurement practices.

In 2022, Desmond Bouopelle Banye did research on the effects of e-procurement strategies on supply chain effectiveness and the moderating role of supplier integration. High-level managers from the procurement and supply chain departments of the Ghana Health Service provided data for the study, which employed a descriptive survey research design. To ensure a representative sample, the researcher used the stratified sampling technique to choose the

procurement manager and supply chain management using simple random selection. Questionnaires were used in the study's data collection process. After the examination of the regression model, the collected data was tabulated and displayed. The study findings indicate that supplier integration and e-procurement techniques have a positive and significant impact on an organization's supply chain performance. The paper recommends conducting further research on the impact of e-procurement on the supply chain performance of the Ghana Health Service in order to address the obstacles to its adoption. In order to maximize the effectiveness of e-procurement, supplier integration must be given top priority. To do this, an automated procurement procedure that manages tendering, contract awarding, payment, and requisitioning must be established. Because the technology is so user-friendly, all suppliers' internal processes will be streamlined, reducing red tape and increasing productivity. Ultimately, this integration enhances the supply chain's performance.

Electronic procurement provides a higher potential for value than manual procurement, according to study by Iddrissu Alhaji Gariba. Institutions who employ electronic procurement find that their procurement procedures are more efficient in terms of money, time, and content management. This study set out to identify the factors that would make the Tamale Teaching Hospital a good candidate to deploy an e-procurement system as well as those that might prevent it. The primary study's conclusions have shown that e-procurement offers several benefits, such as improved supply chain management and increased public and supplier confidence in hospital procurement practices. It was also recommended that the National Communications Authority establish a nationwide internet connection so that small suppliers, rural companies, and other businesses might take part in e-procurement. As a result, there will be more rivalry among rural enterprises, which will attract higher-quality products and/or services. The hospital should consider the training needs of its employees, especially those who directly manage procurement operations, according to the report.

In a study by Abdi M. Khalif, particular goals were to identify the e-procurement tactics employed by Nairobi, Kenya's private hospitals and to determine the connection between those tactics and the supply chain performance of those institutions. The research design used for the study was descriptive. 34 private hospitals in Nairobi County were the focus of the investigation. Questionnaires were used to gather data. A total of thirty-four questionnaires were distributed to participants. A combination of inferential and descriptive statistics were

used to examine the gathered data. The results of the study show a favorable and significant correlation between performance and e-procurement strategies. The management teams of all private hospitals in Kenya should invest in e-procurement strategies, according to the report, in order to improve procurement effectiveness. The Ministry of Health in particular is advised by the report to create suitable legislation and rules to enable e-procurement in private hospitals.

David Chesire Barngetuny and Geoffrey Kimutai referred e-procurement as the use of internet based system used to carry out individual or all stages of procurement process, including search, sourcing, negotiation, ordering, receipt, and post-purchase review. Massive scandals and humiliation have plagued Kenya's procurement function, which has been linked to inadequate information management and consequently high levels of corruption. In order to address this issue, the study looked into how Elgeyo Marakwet County's supply chain management performance was affected by e-procurement. The following research goals served as the foundation for the study: to determine the impact of e-tendering, e-invoicing, and e-payment on supply chain management. Elgeyo Marakwet County public entities will be the subject of the study.

The study's scope was restricted to supply chain management and e-procurement performance. In order to gather primary data, the study used interview schedules and questionnaires. Descriptive design was also used in the study to gather quantitative and qualitative information about the impacts of supply chain management and e-procurement. Employees of Elgeyo Marakwet County's public organizations, such as the Iten County Referral Hospital and the County Government, were the study's target demographic.

In order to stratify the study population into management and non-management strata, this study also used the stratified sampling technique. Thirty Elgeyo Marakwet County employees and ten personnel from the County referral hospital Iten were then chosen through purposive sampling. Both qualitative and quantitative methods were used to acquire the data. Content analysis was used to examine qualitative data. The frequency distribution, mean scores, and standard deviations were used to assess the quantitative data. The results were then displayed as frequency distribution tables, bar charts, and pie charts using the Statistical Package for Social Science (SPSS).

Robert Kariuki Waithaka and John G Kimani conducted a study to determine how electronic procurement practices impact supply chain performance. The researcher utilized a technique of analyzing literature from desktop sources. Three processing stages were used to evaluate whether the subject was suitable for testing. This marked the initial phase in identifying all documents relating to the impact of electronic procurement on supply chain effectiveness. A second investigation thoroughly examined all literature available on the topic of e-procurement processes and supply chain efficiency. The third phase involved gathering freely accessible journals. After thoroughly searching for the main key terms (e-procurement processes, supply chain management, performance), the researcher found 12 papers that were suitable for review. Discovering that the efficiency of procurement is essential for an organization's success is crucial, as it leads to competitive sourcing and obtaining high-quality goods that give the organization's products or services a competitive advantage in the market. The study on the impact of e-procurement on the procurement operations of Kenyan county governments found that there is a positive correlation between e-procurement and the performance of supply chain functions.

A study conducted by Esther Wandia Mwangi and Asumpta Kagiri revealed that the internet has brought about a significant transformation in the contemporary procurement processes. The role of procurement has significantly transformed as a result of progress in information technologies and systems. In order for any company to remain competitive in today's business world, it must embrace the quick evolution of technology and practices. Research on electronic procurement shows that it plays a crucial role in enhancing the efficiency and effectiveness of supply chains in contemporary competitive businesses. This research aims to address the current research gap by investigating the impact of e-procurement performance on Sarova Chain of Hotels. The research was influenced by technology acceptance theory, Schumpeter's theory, innovation diffusion theory, and transaction cost theory. This study utilized a descriptive research methodology. The research sample consists of 112 employees in various management positions who are currently employed in the procurement division at Sarova Chain of Hotels. The researchers utilized a random sampling method to choose 68 participants. The researcher gave a questionnaire to every individual in the group being studied. SPSS (Version 20) was used to analyze the quantitative data collected, and the findings were communicated using percentages, means, standard deviations, and frequencies. A multivariate regression model was used to evaluate the significance of each of the four variables in relation

to procurement performance. The research found that e-tendering has enhanced adherence to procurement policy, while e-sourcing offers insights into competition and competitive intelligence. It was evident that enterprise resource planning guarantees that the products are stocked in the correct amount on the shelves. The potential for electronic procurement is to lower the overall acquisition costs. Therefore, the research findings suggest that the implementation of e-tendering, e-sourcing, enterprise resource planning, and E-informing had a positive impact on procurement performance. The research suggests that Sarova Chain of Hotels should fully implement E-procurement system, enterprise resource planning, E-informing systems, and E-sourcing system in order to improve procurement processes in the Hotel industry.

Ganesh Vaidyanathan and Sarv Devaraj proposed that online information and process serve as resources that enhance logistics fulfillment capabilities, utilizing Dynamic Capabilities Theory and Resource-Based View as frameworks. These functions ultimately result in contentment with online procurement. They used structural equation modeling to analyze survey data from 131 purchasing and procurement managers for their research model. They examine these connections through a data analysis of information from procurement managers. Their findings show strong backing for the connections among the quality of information flow processes, logistics fulfillment processes, and performance satisfaction in e-procurement. A key discovery of the research is that delivering orders on time has a much bigger effect on customer satisfaction than delivering them accurately. This discovery highlights the growing significance of time in the current competitive landscape.

2.5 Research Gap

The potential benefits of e-procurement are well acknowledged, but public institutions are not always aware of the best ways to adopt and use these systems. To determine the best practices for e-procurement deployment, more study is required. Standardized performance criteria and measuring instruments are required in order to assess how well e-procurement technologies improve supply chain management in government organizations. While e-procurement has been thoroughly examined in the context of supply chain management and procurement, its use in the healthcare industry has received less attention. To fully comprehend its potential influence on public health, more research is required. It is imperative that this topic be continuously studied in order to accommodate the rapid advancements in technology and provide more pertinent research through the utilization of up-to-date data. To further

understand how public procurement regulations can be modified to support e-procurement platforms, more research is required.

2.6 Chapter Summery

The improvement of supply chain management through technology innovation was covered in this section. The procurement procedure, the function of e-procurement, and the advantages and difficulties of e-procurement adoption were all covered in the view process. The usage of e-procurement in government organizations has been supported by researchers and authorities worldwide as a successful procurement method.

CHAPTER III

RESEARCH METHODOLOGY

3.0 Introduction

The researcher will go over the research paradigm, design, and methods in this chapter. We'll go over sampling techniques, which include choosing a population and taking samples. The tools for study that will be utilized to gather, analyse, and interpret quantitative data.

3.1 Research paradigm

As to Kuhn's (2018) assertion, the research paradigm comprises a set of mutual beliefs and consensus among scientists on how to address challenges. In this study, researchers used a pragmatic paradigm. This idea is founded on questions. It is believed that the research issue will determine which philosophy is employed in the investigation. Pragmatics integrates positivist and interpretive perspectives within a single study, contingent on the nature of the research issue (Dudovskiy, 2012). Researchers have selected pragmatism. It is a problem-oriented mind-set that maintains that the most effective research methods are those that answer the other problems. This approach integrates both qualitative and quantitative methods to assess a wide range of research subject facts. Furthermore, by accounting for the advantages and valuation impacts it has on every conduct, pragmatism offers researchers a road to the truth. It assesses both scientific and individual viewpoints.

3.2 Research design

A research design, according to McCombes (2019), is a method for dealing with various problems. It is the framework that includes methods and procedures for obtaining, analyzing, and deciphering data. It describes how the researcher will investigate the primary research question. A research design can include specifications for variables, hypotheses, experiments, techniques, and statistical analysis (Creswell et al., 2018). This study used a descriptive research design because it facilitates fact analysis and helps the researcher gain a complete understanding of the research topic. Additionally, the investigator can determine the respondents' actions in a real-world setting by employing a descriptive study approach.

3.3 Research approach

This is a plan and procedure that progresses from general theories to particular methods for collecting, processing, and evaluating data (Chetty, 2016). This study's researchers used a hybrid methodology. A mixed-method study will collect data in both quantitative and qualitative forms, integrate the two forms of information, and make use of a variety of designs, such as theoretical frameworks and philosophical presumptions. Combining quantitative and qualitative methods allows researchers to understand complex subject issues in numerous contexts better than they could with only one methodology. Given the chance, we chose to employ a hybrid approach. Motivated by the range of skills required to carry out the plan effectively, the researcher wished to increase the conceptual thinking's rigor and solve complex research problems.

3.4 Research Strategy

Saunders et al (2009). A research strategy is a broad outline of how scientists will address research topics that remain unanswered following their study. Remenyi et al. (2003) state that a research strategy determines the overall direction of the study as well as the methodology used in the research. Research strategies were designed by Bryman (2008) as a general method of conducting research.

3.5 Target population

A group refers to a collective of individuals who aim to guide research rationale (Bhandari, 2022). Then comes Pandey and Pandey (2015) The target group for this study consisted of persons whose characteristics could be used to get samples and who would be of interest to researchers. The study will centre on this group since it will oversee and manage the day-to-day procurement operations of the Ministry of Health and Child Care. With 24 respondents in the sample, the entire population served as the sample size, hence the researcher chose to employ a total population sample.

3.6 Questionnaires

According to Barker (2006), participants are not limited to a single choice when answering free-form questions; instead, they can react freely and succinctly by checking, marking, or dashing pre-selected responses. One disadvantage of closed-ended questions is that they make respondents think. Responses to closed questions are simple. Open-ended questions, on the other hand, allow participants to freely express themselves and may even provide justification for their answers. Participants in this study will answer questionnaires designed for the quantitative study with a combination of open-ended and closed-ended questions. Out of the

24 individuals that completed the surveys, there is a procurement director, six managers, four officers, six assistants, and six student trainees.

3.7 Data gathering procedures.

This is a method for gathering data that will be utilized in the study to support the staff members' statements. The consent of the subjects to participate in the study will be obtained. The Authority email address will be used to send the questionnaires. After a week, the questionnaires were gathered for data interpretation and analysis.

3.8 Data analysis

The most important portion of the study is this section, which includes a summary of the data that was gathered and an interpretation of the data that was gathered utilizing logical and analytical reasoning to identify patterns and trends. A combination of inferential and descriptive statistics was used to examine the gathered data. SPSS Version 27.0 will be used to analyse the data for this investigation.

3.9 Reliability and validity

When assessing the quality of a study, the terms validity and reliability are also employed. They illustrate how accurate a measurement method is. The degree of reliability can be used to quantify reliability (Midleton & Carcary 2019). To ensure that the data collected is reliable, the Cronbach's Alpha will be used.

3.10 Ethical consideration

Voluntary involvement, informed consent, anonymity, secrecy, the possibility of damage, and results in communication are some of the values that direct research designs and practices (Bryman and Bell, 2007). When gathering data from individuals, scientists and researchers are required to follow a specific code of conduct (Bandari, 2021). In line with (Merriam, 2009). The researcher commits to honouring the participants' needs, preferences, rights, and values. Consequently, the researcher needs to possess the abilities and training required to perform the research, including proper training in research technique. The utilization of human subjects as participants by the researcher will give rise to ethical concerns. It is imperative that the researcher always respects the participants' right to privacy (Huffman, 2013). The scholar

3.11 Chapter Summary

The research approach that will be used for the study was provided in this chapter. There was talk about gathering, analysing, and interpreting data. We'll also talk about the quantitative approach that was utilized to acquire the data and the sampling strategy, which included population identification. Procurement staff from the Ministry of Health and Child Care were

among the population. To gather data, a questionnaire schedule will be used. SPSS Version 27.0 was used to examine quantitative data. The gathered data will be presented, examined, and interpreted in the upcoming chapter.

CHAPTER IV

DATA ANALYSIS

4.0 Introduction

This chapter aims to interpret, analyse, and discuss the research findings. The problem formulation, literature review, and study methods were made clear in the previous chapters, which also offered a theoretical foundation for the appropriate analysis of the data obtained. Most of the primary data was gathered through questionnaires in order to guarantee the validity and reliability of the research findings.

4.2 Response rate

The survey was created with a total of 24 people from one institution in mind. All of the respondents' responses, which were used for additional research, were gathered by the researcher. With a 100% research response rate, it was judged adequate to move forward with the data analysis. An overview of the study's response rate is provided below.

4.2 Demographic Analysis

4.2.1 Gender

Table 1:Gender response

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	14	58.3	58.3	58.3
	female	10	41.7	41.7	100.0
	Total	24	100.0	100.0	

4.2.2 Age response

When asked about their level of involvement in the process, 58.3% of respondents claimed they took part in the Ministry of Health and Childcare's supplier selection procedure. This

implies that participation rates are higher for men than for women. This is consistent with the accepted gender norm, which sets a need for engaging in public activities.

Table 2:Age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	below 25 years	5	20.8	20.8	20.8
	25-30 years	9	37.5	37.5	58.3
	31-40 years	6	25.0	25.0	83.3
	41-50 years	4	16.7	16.7	100.0
	Total	24	100.0	100.0	

Source: SPSS data output (2024)

According to the primary data collected, 20.8% of the respondents are under the age of 20, 37.5% are between the ages of 25 and 30, and 25% are between the ages of 31 and 40. The respondents also disclosed that 16.7% of them were between the ages of 41 and 50, while the final group, which includes those 50 and older, received no response. According to the information gathered from the respondents, there may be differences in the respondents' critical thinking, reasoning, and values.

4.2.3 level of education

Table 3:Level of Education

level of education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	8	33.3	33.3	33.3
	undergraduate degree	11	45.8	45.8	79.2
	master's degree	3	12.5	12.5	91.7
	Doctorate	2	8.3	8.3	100.0
	Total	24	100.0	100.0	

Source: SPSS data output (2024)

4.2.4 Work experience

Table 4:Work Experience

Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 1 year	4	16.7	16.7	16.7
	1-5 years	4	16.7	16.7	33.3
	6-10 years	8	33.3	33.3	66.7
	10 years and above	8	33.3	33.3	100.0
	Total	24	100.0	100.0	

Source: SPSS data output (2024)

4.2.5 Level of Authority

Table 5:Level of authority

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	top management(director)	1	4.2	4.8	4.8
	procurement manager	4	16.7	19.0	23.8
	procurement officer	4	16.7	19.0	42.9
	procurement assistant	6	25.0	28.6	71.4
	Trainee	6	25.0	28.6	100.0
	Total	21	87.5	100.0	
Missing	System	3	12.5		
Total		24	100.0		

Source: SPSS data output (2024)

From the data above, everyone has a qualification, work experience and a degree of authority in the organization, which indicates that these respondents are knowledgeable and capable of expressing their true opinions. Levels of issue determination and capability to analyze issues are determined respondent's work experience and educational background. The research believes that the questions required only basic reasoning to think and decide.

4.3.1 E-procurement on supply chain efficiency.

The influence of e-procurement on supply chain efficiency and respondents' preferences were posed to the procurement department respondents. The lack of ICT facilities, ignorance of ICT procurement policies, insufficient financial allocation for the purchasing operations, and a lack

of commitment from senior management were among the reasons given by some respondents for why they had not yet realized that e-procurement had a direct impact on performance. A proportion of the respondents (16.7%) reported a significant improvement in service speed, while 25% indicated some improvement. The table below conceptualizes the statistical result from the field, which shows the percentage level.

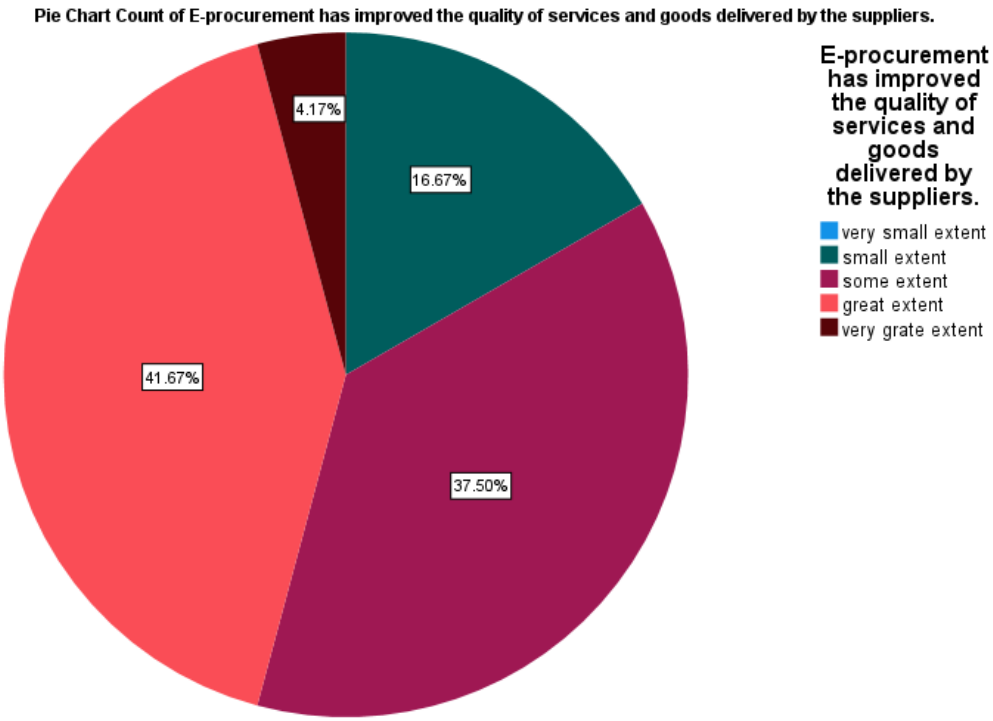
Table 6*:* The degree to which the speed at which governmental bodies acquire products and services has been enhanced via e-procurement.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very small extent	5	20.8	20.8	20.8
	small extent	9	37.5	37.5	58.3
	some extent	6	25.0	25.0	83.3
	great extent	4	16.7	16.7	100.0
	Total	24	100.0	100.0	

Source: SPSS data output (2024)

1.3.2 E-procurement on service delivery

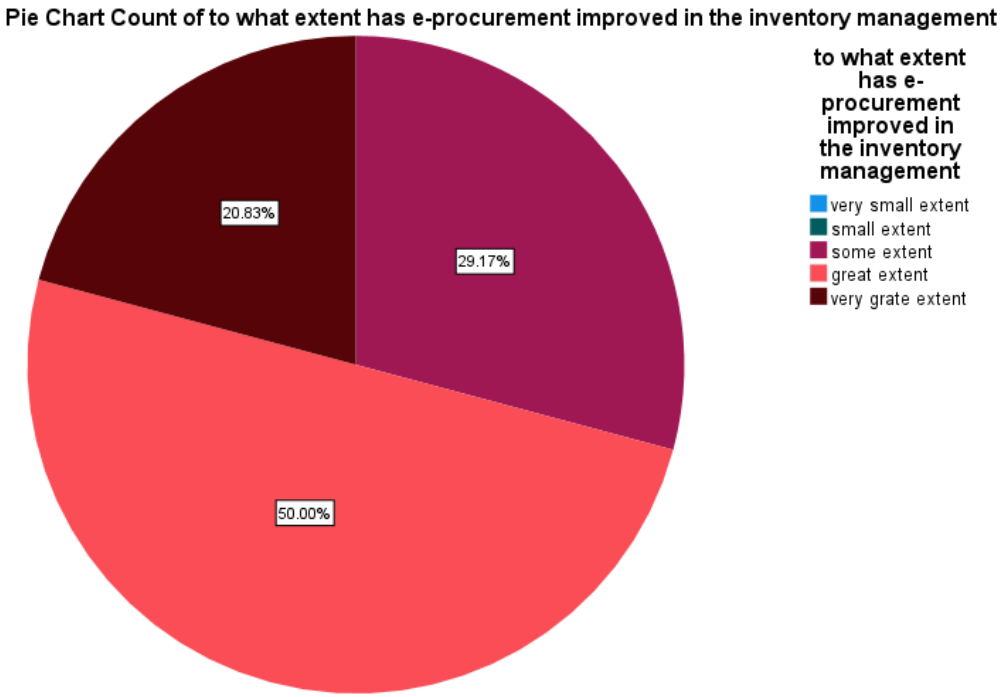
Figure 4: Service and goods delivered by suppliers



The aforementioned results make it clear that e-procurement has improved the caliber of products and services that suppliers provide. The results indicate that e-procurement has had a significant positive impact on the quality of goods and services provided by suppliers. The percentages are as follows: 4.17%, 41.67%, 37.5 %, and 16.67 %, respectively. E-procurement solutions lower the risk of corruption and guarantee that medical goods and services are acquired in an impartial and fair way by fostering accountability and transparency in the procurement process. By ensuring the timely availability of quality medicines and equipment, e-procurement contributes to improved health outcomes and better quality care for patients. Its impact on improved supply chain management and reduced stakeouts leads to increased patient satisfaction with health services.

4.4 E-procurement on stock management

Figure 5:Stock Management



According to the findings, the ministry has witnessed a significant improvement in stock handling since it has given healthcare providers access to a transparent and auditable record of all procurement transactions, allowing them to track inventory levels and make informed decisions about inventory management in real-time. E-procurement inventory management is used to a very large extent by 20,83% of respondents, to a great extent by 50%, and to some extent by 29,17%. By giving healthcare providers a unified platform to manage inventory across several locations and departments, it lowers the risk of stockouts and overstocking and guarantees that supplies and services are available when needed. By allowing healthcare professionals to place orders for goods and services when needed, e-procurement lowers costs by cutting waste, enhancing inventory control, and raising the standard of patient care.

E-procurement automates order management processes, reducing manual errors and ensuring that orders are processed efficiently. Keeping an eye on inventory levels lowers the danger of stockouts and overstocking, which could cause some medications to expire, and increases patient safety by guaranteeing that products and services are available when needed. By implementing e-procurement systems, healthcare providers can improve stock management, reduce costs, and improve patient safety.

4.5 E-procurement on process optimization

The implementation of e-procurement automated tasks, reducing manual errors and costs associated with paper-based processes, such as printing, storage, and transportation. It streamlines the procurement process, reducing cycle times and enabling timely delivery of

medicines and services thereby increasing patient satisfaction in the health sector (Gangatheren, Standing &Burn, 2005).

E-procurement provides a clear audit trail, reducing the risk of fraud and increasing accountability and ensures adherence to regulatory requirements and organizational policies.

It minimizes paperwork and administrative tasks, freeing up staff to focus on core responsibilities and provides valuable insights and data analytics to inform procurement decisions. By better communication and management of suppliers, healthcare organizations can optimize their procurement processes, leading to improved efficiency, reduced costs, and enhanced patient care.

4.6 Impacts of e-procurement on speed at which public entities procure goods and services

E-procurement improved the speed at which public entities procure goods and services by eliminating the need for manual processing this automating tasks reduces processing time and increases productivity, leading to faster procurement cycles and reduced administrative burdens, streamlines the procurement process that is connecting various entities and processes through a centralized platform reduces the time spent on procurement-related tasks (Andersen, Henriksen & Medici, 2011). Real-time data and analytics have been made possible, allowing public institutions to make speedy and well-informed judgments through data-driven decision-making.

It provides a centralized platform provides a single source of truth, reducing the time spent searching for information and increasing transparency and accountability. Reducing payment delays improves cash flow for suppliers, reducing payment delays and promoting financial stability. Automating routine tasks such as purchase orders and invoices reduces the time spent on these tasks, freeing up staff to focus on more strategic activities.

4.7 Impacts of e-procurement on quality of goods and services delivered by the suppliers

E-procurement systems enable healthcare providers to specify quality standards and requirements, ensuring that suppliers meet these standards and can verify suppliers' accreditation and certification (e.g., PRAZ Certificate, NASSA, Tax Clearance etc.), ensuring that goods and services meet regulatory requirements. It enables real-time monitoring and evaluation of suppliers based on quality performance, leading to improved supplier selection and retention, allowing for swift action to be taken if quality standards are not met.

E-procurement systems enable effective contract management, ensuring that suppliers adhere to contractual agreements and quality standards and helps in providing training and development programs for suppliers, improving their quality performance. By implementing

e-procurement systems, healthcare providers can ensure that suppliers deliver high-quality goods and services, improving patient care and outcomes.

4.8 Perceived challenges in e-procurement application in procurement

When questioned about the challenges of using ICT, respondents mentioned several barriers that appeared to hinder operations. Respondents were allowed to freely share their thoughts on the different kinds of challenges.

- There is very little application.
- Restricted Integration (system integration) between buyers and suppliers
- Low technology and insufficiently skilled workforce;
- Opposition to change and lack of backing from upper management

High implementation costs for new e-procurement systems, a dearth of expertise in electronic procurement consulting, and a lack of leadership were the issues that received the highest evaluations. Several challenges were identified, including the sluggish pace at which suppliers logged into the system, the challenge of evaluating the potential and usefulness of e-procurement, and the challenge of evaluating its usability.

Further investigation into the problems revealed issues with resistance, mostly from workers who believe that the introduction of e-procurement will cost them their jobs. Most of the workforce, particularly those over the age of 40, favored the status quo of hard copy paper presses and paper files. Researchers discovered through interviews and discussions that most users lacked the desire and personal intent to utilize ICT, even if the majority of respondents felt that e-procurement improves the procurement process.

This demonstrated that organizational leadership's commitment and personal attitude had a direct bearing on municipalities' adoption of technology. According to the World Bank (2013), organizational leadership is responsible for setting the firm's vision and mission, inspiring their employees to alter organizational culture and processes, and creating the rules and strategies required to implement an e-procurement effort. There is every reason for the e-procurement system to fail if the top management team does not fully support it. Executive attitudes are the primary obstacle to the implementation of e-procurement in the health sector, notwithstanding the absence of financial resources, according to interviews and discussions with respondents.

4.9 Discussion

The majority of participants indicate that the level of e-procurement implementation within the procurement division of the Ministry of Health and Child Care is crucial, and they firmly believe that employing electronic tendering results in significant time efficiency. The utilization of e-procurement was found to aid pharmaceutical manufacturing firms in processing orders more efficiently, reducing material lead times, decreasing transaction costs, enhancing product and service quality, and boosting order placement. Additional investigation showed that e-planning, e-supplier selection, e-tendering, and e-sourcing had an impact on the operational performance of pharmaceutical manufacturing companies in Nairobi.

On the other hand, the current research shows a significant correlation between the effectiveness of e-logistics activities and the management of healthcare supply chains in Zimbabwean public referral hospitals. The respondents, or user department, have observed an enhancement in the speed of service to their needs, showcasing the connection between e-procurement and supply chain performance. E-procurement offers both the user and the organization guarantees of transparency and safety. According to Nair's (2012) study on RFID in supply chain management, participants felt that utilizing ICT tools for procurement can effectively oversee and handle information exchange across important business functions, products, and financial resources, both internally and externally. This ultimately leads to increased business profitability through enhanced quality, reduced coordination expenses, and minimized trading hazards.

The survey participants also disclosed that ICT helps with sharing information, boosting productivity, and minimizing supply chain risks by aiding in task completion through established methods and providing data to decision-makers in preferred formats. Several analysts have questioned the implementation of e-procurement, along with other subjects.

4.10 Chapter summery

This chapter covered the data analysis using descriptive statistics and SPSS software. The results were displayed in the form of tables and pie charts. A narrative discussion was conducted to elucidate the study's findings. The research discovered that e-procurement directly affects performance and has led to enhancements in the organization's daily activities. Chapter V is going to show the conclusions, suggestions, and planned scope of future research.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This section covers the main results of the study and makes conclusions based on the analysis outlined in Chapter 4. The chapter also outlines the study's constraints and offers suggestions for future research.

5.1 Conclusion

The research analyzed how e-procurement affects supply chain efficiency within the Ministry of Health and Child Care. The results show that e-procurement has enhanced the efficiency of service delivery, quality of goods and services, and inventory control. Yet, obstacles such as poor supplier and buyer integration, limited technological advancements, shortage of skilled staff, resistance to change, and a lack of senior management backing impede the successful adoption of e-procurement.

5.2 Recommendations

According to the results and conclusions of the study, the following suggestions are put forward:

1. Improve ICT infrastructure and facilities: The ministry should invest in upgrading its ICT infrastructure and ensuring that all procurement staff have access to the necessary technology and tools to effectively utilize e-procurement systems.

2. Enhance ICT procurement policy awareness: The ministry should provide comprehensive training and awareness programs to educate its procurement staff on the existing ICT procurement policies and procedures, ensuring that they are well-versed in the proper utilization of e-procurement systems.

3. Assign appropriate financial resources: The ministry needs to assign enough budgetary resources to the procurement function, including the implementation and upkeep of e-procurement systems, in order to guarantee their efficient use and influence on supply chain efficiency.

4. The highest-ranking officials of the ministry must show a solid dedication to the e-procurement systems' implementation and success, offering leadership, resources, and support to ensure they are effectively integrated into the organization's procurement processes.

5. Conduct regular performance evaluations: The ministry should establish a system for regularly evaluating the performance and impact of e-procurement on supply chain efficiency, using appropriate metrics and feedback mechanisms to identify areas for improvement and optimize the benefits of the e-procurement system.

5.3 Limitations and Future Research

The research focused only on the Ministry of Health and Child Care, so the results may not apply to other government agencies. Subsequent studies could investigate how e-procurement affects supply chain efficiency in a wider variety of public organizations, and delve into the particular aspects that help in the successful integration and acceptance of e-procurement systems in the public sphere.

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Appendix 1

BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

DEPARTMENT OF ECONOMICS

My name is Mitchel Parichi a final year student, pursuing an Honors Degree in Purchasing and Supply at Bindura University of Science Education. I am carrying out a research titled **"The impact of e-procurement in supply chain efficiency in public entities. A case study of Ministry of Health and Child Care".**

I am kindly asking you to participate in this study by answering the questions provided. This research is purely for academic purposes and the information you are going to convey is confidentially treated. The information is going to be used in this study and will not be published. Your cooperation is highly appreciated. If you have any questions or concerns about completing the questionnaire or research, feel free to notify the researcher.

Name of Researcher: Mitchel Parichi B201324B

Phone Number: +263 786 300 165

Email Address: mitchyparichi@gmail.com

Appendix 2
Instructions

- Please either tick [✓] your answer in the box or fill the spaces provided
- Do not write your name anywhere on this questionnaire
- Your participation in this research must be voluntary and you have the right to withdraw from the research any time.
- If you have any questions or concerns about completing the questionnaire or the research, feel free to notify the researcher.

Demographic Details

1.What is your gender?

Female [ ]

Male [ ]

2. Please indicate your age group

Below 25 years [ ]

25 – 30years [ ]

31 – 40years [ ]

41 – 50years [ ]

51years and above [ ]

3. Please indicate your level of education:

Diploma [ ]

Undergraduate Degree [ ]

Master's Degree [ ]

Doctorate [ ]

Other qualifications ……

4. Indicate the number of years you been at the

Less than 1year [ ]

1 to 5years [ ]

6 to 10 years [ ]

10 years and above [ ]

ICT Procurement Processes

5. Kindly indicate the procurement method Commonly used in your organization.

Competitive bidding [ ]

Bid openings [ ]

Framework agreements [ ]

Public tenders [ ]

Centralized procurement [ ]

6. Kindly indicate the way in which you invite suppliers for bid for contracts in your organization.

Newspaper advertisement. [ ]

Email Invitation. [ ]

Company Website. [ ]

Request for proposal. [ ]

Professional magazines. [ ]

Others…… [ ]

7. Bellow are impacts of e-procurement. Please indicate the extent at which you agree with each statement given the scale of 1-5 where 1= very small extent, 2= small extent, 3= some extent, 4= great extent and 5= very great extent.

Table 7:Impacts of e-procurement in MoHCC

	5(✓)	4(✓)	3(✓)	2(✓)	1(✓)
E-procurement has improved the speed at which public entities procure goods and services.					
E-procurement has improved transparency among public entities.					
E-procurement has reduced biasness in the awarding of tenders by public entities.					
E-procurement has improved the quality of services and goods delivered by the suppliers.					
E-procurement has promoted ethical standards among public entities in procurement and helped maintain the reputation in MOHCC					
Technology has promoted innovation among public entities.					

8.On the scale of 1-5, state the extent at which the following challenges have hampered the implementation of technology in public entities. State the extent where 1= very small extent, 2= small extent, 3= some extent, 4= great extent and 5= very great extent.

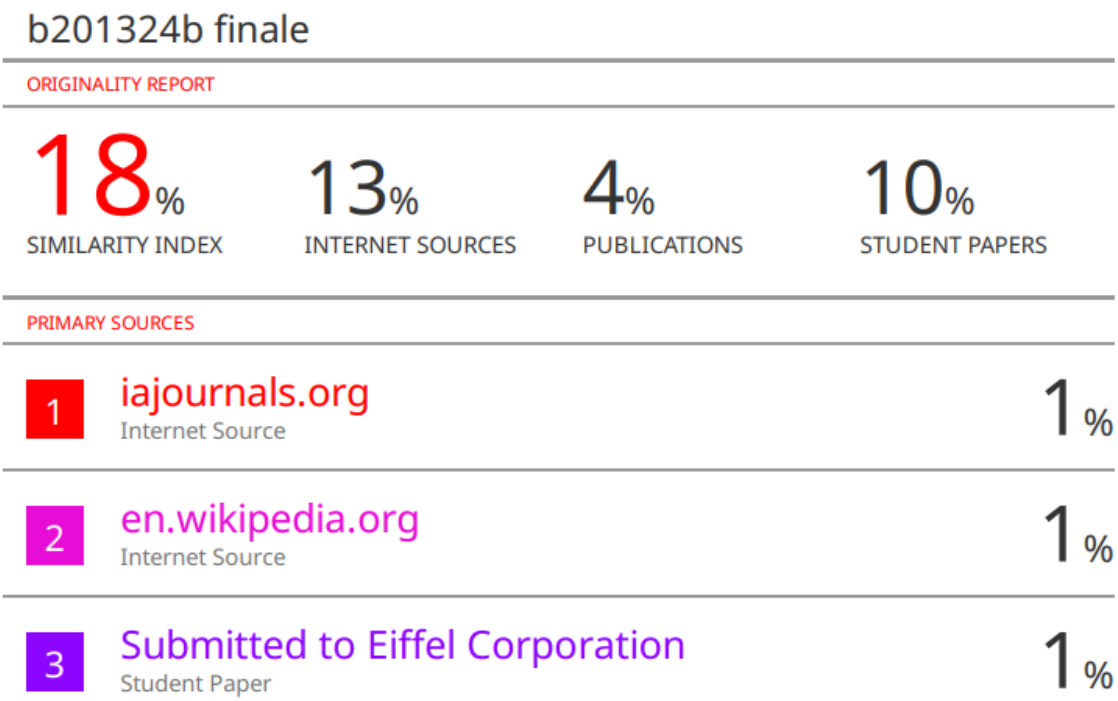
✓ As appropriate.

Table 8:Challenges of e-procurement in supply chain efficiency in public entities

	5(✓)	4(✓)	3(✓)	2(✓)	1(✓)
Lack of qualified procurement officials.					
Lack of commitment from top management.					

Corrupt officers.					
Lack of ICT facilities.					
Ignorance of the ICT procurement policies.					
Innovation in procurement related software production.					
Inadequate budgetary allocation for the purchasing functions.					
Inefficiency of the Treasury in releasing funds for the due departments.					

Appendix 3



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2	en.wikipedia.org Internet Source	1%
3	Submitted to Eiffel Corporation Student Paper	1%