The Impact of E-Procurement on Public Procurement Processes and Transparency in Tanzania: A case of Tanzania National Roads Agency (TANROADS*)* Simiyu Region

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Dissertation

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The Impact of E-Procurement on Public Procurement Processes and Transparency in Tanzania: A case of Tanzania National Roads Agency (TANROADS) Simiyu Region

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Dissertation Submitted at the Arusha Institute of Accountancy (IAA) in Partial Fulfillment of the Requirements for Award of Master of Business Administration in Procurement and Supplies Management (MBA-PSM)

September, 2023

DECLARATION

I, **Sabiano Karega Wambura,** declare that this Dissertation is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature:……..

Date:…….

CERTIFICATION

I, the undersigned certify that I have read and hereby recommend for acceptance by Institute of Accountancy Arusha the research proposal entitled: “The Impact of E-Procurement on Public Procurement Processes and Transparency in Tanzania: A case of Tanzania National Roads Agency (TANROADS*)* Simiyu Region” in fulfillment of the requirements for the Master of Business Administration in Procurement and Supplies Management (MBA-PSM) offered by Institute of Accountancy Arusha.

Mr. Mohamed Mwanga

……

Supervisor

……

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ABSTRACT

The purpose of the study was to assess the Impact of e-Procurement on Public Procurement Processes and Transparency in Tanzania: A Case of Tanzania National Roads Agency (TANROADS) Simiyu Region This study was in quantitative and qualitative nature. This study adopted case study design to assess the impact of electronic procurement in reducing corruption practices. Questionnaires and interviews were used for data collection. Simple random sampling technique was used to select respondents from the entire population. A sample size of 79 of employees was drawn from the study population. Descriptive statistics were used to analyze data collected from the respondents.

Empirical evidence from the study revealed that e-Procurement has contributed to the achievement of a wide range on Public Procurement Processes and Transparency. In this study substantial portion believes that transparency has improved to some extent, there are also concerns raised by those who think it hasn't improved significantly or has even decreased. The findings of the study shows that the majority of respondents believe that the introduction of e-procurement has helped in reducing corruption in public procurement processes. It found that, a significant portion of respondents believes that e-procurement has enhanced accountability in public procurement at TANROADS Simiyu Region. This indicates a generally positive view on accountability. Generally according to study e-Procurements have improved fairness, transparency and accountability in government which leads to achieve value for money, efficiency, economy and effectiveness on procured Government Projects

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LIST OF ABBREVIATIONS

B2B	Business to Business
EBRD	European Bank for Reconstruction and Development
IT	Information Technology
OECD	Organization For Economic Co-Operation And Development
PPRA	Public Procurement Regulatory Authority
TAM	Technology Acceptance Model
TANePS	Tanzanian National E-Procurement System
TANROADS	Tanzania National Roads Agency
	Institute of Accountancy Arusha

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This research/study is all about the Impact of E-Procurement on Public Procurement Processes and Transparency in Tanzania. This chapter consists of Background of the study, Statement of the problem, Research objectives, Research questions, Significant of the study, Scope of the study, limitation of the study and organization of the study.

1.1 Background of the Study

Public procurement is a critical process in the efficient and transparent allocation of public resources, and its proper management is essential for promoting economic development, ensuring value for money, and preventing corruption (OECD, 2018). Traditional procurement methods often suffer from inefficiencies, lack of transparency, and increased corruption risks (World Bank, 2016). In response, many countries have turned to e-procurement systems as a means to address these challenges and improve public procurement processes.

E-procurement, which involves the use of digital technologies for procurement activities, has the potential to streamline procurement procedures, enhance transparency, reduce costs, and facilitate increased competition (United Nations, 2014). The adoption of e-procurement systems has been widely recognized as a key element in improving public procurement practices globally (Ackerman & Schiffrin, 2016). However, the specific impact of e-procurement systems on public procurement processes and transparency within the context of Tanzania, particularly in organizations like the

Tanzania National Roads Agency (TANROADS) operating in the Simiyu Region, remains relatively unexplored.

TANROADS plays a crucial role in the development and maintenance of the road network infrastructure in Tanzania. With the increasing emphasis on transparency and efficiency in public procurement, it is important to examine how e-procurement systems have influenced the procurement processes within TANROADS in Simiyu Region. Understanding the impact of e-procurement in this specific context can provide insights into the challenges and opportunities of implementing e-procurement in a developing country setting.

Several factors may influence the effectiveness of e-procurement systems in improving public procurement processes and transparency. These factors include technical infrastructure, capacity building, stakeholder engagement, legal and regulatory frameworks, and organizational culture (Rusohoka, 2020). It is crucial to investigate how these factors interact and shape the outcomes of e-procurement implementation in TANROADS Simiyu Region to identify best practices, address potential barriers, and optimize the benefits of e-procurement adoption.

The Tanzanian government has recognized the potential of e-procurement in improving public procurement practices and has taken steps to promote its adoption. In 2013, the Public Procurement Regulatory Authority (PPRA) introduced the Government Procurement Management Information System (TANEPS), an e-procurement platform aimed at enhancing transparency, efficiency, and accountability in public procurement processes (PPRA, 2017). The implementation of e-procurement systems in Tanzania is expected to bring numerous benefits, including reduced

procurement lead times, increased competition, improved vendor registration, and enhanced monitoring and audit capabilities (Kavishe & Shilla, 2019).

However, despite the efforts to implement e-procurement systems, challenges and barriers exist that may impede its effective adoption. Technical infrastructure limitations, such as inadequate internet connectivity and limited access to digital devices, can hinder the smooth functioning of e-procurement systems, particularly in remote areas (Kavishe & Shilla, 2019). Moreover, a lack of awareness, resistance to change, and insufficient training among procurement officials and stakeholders may pose challenges in fully embracing e-procurement and utilizing its potential benefits (Ackerman & Schiffrin, 2016).

The Simiyu Region, where TANROADS operates, presents a unique context for studying the impact of e-procurement on public procurement processes and transparency. The region is characterized by a mix of urban and rural areas, with diverse socioeconomic conditions and varying levels of infrastructure development. Examining the implementation of e-procurement within TANROADS in this specific region can provide insights into the contextual factors influencing the success and challenges of e-procurement adoption in Tanzania.

Furthermore, the study of e-procurement's impact on transparency in public procurement processes aligns with Tanzania's commitment to combat corruption and promote good governance. Transparency in public procurement is crucial for building public trust, attracting investment, and ensuring equitable access to economic opportunities (Transparency International, 2018). Assessing the transparency-enhancing effects of e-procurement within TANROADS Simiyu Region can

contribute to strengthening accountability mechanisms, reducing corruption risks, and fostering an environment of fair competition and equal opportunities for all stakeholders.

By conducting an empirical study on the impact of e-procurement on public procurement processes and transparency within TANROADS Simiyu Region, this research aims to contribute to the existing literature on e-procurement in Tanzania. The findings of this study can inform policymakers, public procurement authorities, and organizations like TANROADS in their decision-making processes to enhance procurement practices, improve transparency, and ensure efficient allocation of public resources.

1.2 Statement of the problem

The implementation of e-procurement systems in public procurement processes has gained significant attention worldwide due to its potential to enhance efficiency, transparency, and accountability (World Bank, 2016). However, there is a lack of empirical evidence on the impact of e-procurement on public procurement processes and transparency within the specific context of Tanzania, particularly in organizations like the Tanzania National Roads Agency (TANROADS) operating in the Simiyu Region.

Despite the increasing adoption of e-procurement in Tanzania, it is unclear how e-procurement systems have influenced public procurement processes and transparency in TANROADS Simiyu Region. Limited studies have specifically examined the effects of e-procurement on the efficiency

of procurement procedures, cost savings, accuracy, compliance with procurement regulations, and the overall transparency in the procurement process within this organization.

Furthermore, the implementation of e-procurement systems faces various challenges, such as inadequate technical infrastructure, limited expertise, and resistance to change, which can hinder its effectiveness in improving procurement processes and enhancing transparency (Ackerman & Schiffrin, 2016). Therefore, it is crucial to investigate the impact of e-procurement on public procurement processes and transparency in TANROADS Simiyu Region to identify the benefits, challenges, and potential areas for improvement.

This study aims to address these research gaps by examining the impact of e-procurement on public procurement processes and transparency within the specific context of TANROADS operating in the Simiyu Region of Tanzania. By investigating the effectiveness of e-procurement systems in enhancing efficiency, accuracy, compliance, and transparency, this research will provide valuable insights to policymakers, public procurement authorities, and organizations like TANROADS to optimize procurement practices and ensure transparent and accountable public procurement processes.

1.3 Objective of the Study

1.3.1 General Objective

To examine the impact of e-procurement on public procurement processes and transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

1.3.2 Specific Objective

i. To assess the extent to which the implementation of e-procurement systems has improved transparency in public procurement processes transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

ii. To identify the barriers to achieving transparency in public procurement through e-procurement systems transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

iii. To examine the impact of e-procurement on reducing corruption and enhancing accountability in public procurement transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

1.4 Research Questions

i. How the implementation of e-procurement systems has improved transparency in public procurement processes transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region?

ii. What are the barriers to achieving transparency in public procurement through e-procurement systems transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region?

iii. What are the impact of e-procurement on reducing corruption and enhancing accountability in public procurement transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region?

1.5 Significance of the study

The study contributes to the field of e-procurement by examining its impact on public procurement processes in Tanzania. It sheds light on the effectiveness and implications of implementing e-procurement systems within the specific context of TANROADS in Simiyu Region. This research can provide valuable insights into the potential benefits and challenges associated with e-procurement adoption in the public sector

The study investigates the impact of e-procurement on transparency in public procurement processes. By examining how e-procurement systems affect transparency levels in TANROADS, the research can help identify whether electronic systems improve accountability, reduce corruption risks, and enhance fairness and openness in the procurement process. This knowledge can be utilized to strengthen transparency measures in public procurement practices, not only within TANROADS but potentially in other organizations as well.

The findings of this study can provide valuable information to policymakers, government agencies, and public procurement authorities in Tanzania. The research can guide them in formulating effective policies and strategies to promote e-procurement adoption, improve procurement processes, and enhance transparency in the public sector. The insights gained from this study can serve as evidence-based recommendations for decision-makers to optimize procurement practices and maximize efficiency and accountability in public procurement.

By focusing on TANROADS in Simiyu Region as a case study, this research provides a specific context to understand the impact of e-procurement within a particular organization and region. This localized approach allows for a deeper analysis of the challenges and opportunities that may arise during the implementation of e-procurement systems. The case study findings can be used as a reference for similar organizations or regions considering the adoption of e-procurement, enabling them to anticipate potential hurdles and implement best practices.

This study fills a research gap by exploring the impact of e-procurement in the specific context of public procurement processes in Tanzania. While e-procurement has been widely studied in different countries, examining its effects in the Tanzanian context, particularly within TANROADS and Simiyu Region, provides unique insights and contributes to the existing literature on e-procurement and transparency in developing countries.

Generally this study holds significant implications for e-procurement adoption, transparency enhancement, and policy formulation in the public procurement domain, specifically in Tanzania. Its findings and recommendations can guide future research, decision-making, and practical implementation of e-procurement systems in Tanzania and potentially in other similar contexts.

1.6 Scope of the Study

The study focuses on the Simiyu Region of Tanzania, specifically examining the implementation of e-procurement within TANROADS. The study narrows down its focus to the Tanzania National Roads Agency (TANROADS) operating within the Simiyu Region. It aims to understand the impact

of e-procurement on the public procurement processes specifically within this organization. Additionally, the study may investigate how e-procurement contributes to enhancing transparency, accountability, and fairness in the procurement processes of TANROADS in Simiyu Region. The research may delve into different stages of the public procurement cycle within TANROADS, including planning, solicitation, evaluation, contract award, and contract management. The study aims to assess the impact of e-procurement on transparency in public procurement. It may explore whether e-procurement systems improve information disclosure, reduce corruption risks, increase competition, and enhance public access to procurement-related data.

1.7 Limitation of the study

This study had some limitations during its conducts but not limited to; limited to financial issue and time constrains. The study prolonged beyond planned schedule caused increasing of financial budget. Conducting an in-depth study on the impact of e-procurement and transparency within a specific organization and region subjected to time constraints. The study had not have sufficient time to observe long-term effects or evaluate the full cycle of e-procurement implementation. Consequently, the findings had provided a snapshot of the situation at a particular time, which had not captured the complete dynamics and changes over time

1.8 Organization of the Study

The Dissertation consists of five chapters namely; chapter one, chapter two, and chapter three. Chapter one deals with the introduction of the study, background of the study, statement of the problem, objectives of the study, research questions, scope and significance of the study. Chapter

two will deal with Literature reviews i.e., theoretical literature review, Empirical review, Research Gap and conceptual framework and Chapter three consists of research methodologies which are; The study area, Data types and sources, Research design, Types of measurements, Population and sampling design, Data collection methods, Research procedures, Validity and Reliability of data, Data analysis methods and Chapter summary . Chapter four discuss on the Presentation of findings and discussions. Chapter five discuss on conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This is the second chapter of the study. The chapter is about the literature review so, mainly organized into the theoretical and empirical literature review. However, the definition of key terms and some related concepts are also covered. The theoretical literature is then extended into the relevant theories, the second part is the empirical literature review. The empirical literature review in this case covers the review of the previous studies that have similar or related problem or concept with the proposed study, the aim is to establish the research gap and develop and conceptual framework. The research gap and the conceptual framework are then established at the end of the chapter.

2.2 Definitions of Key Terms

2.2.1 E- Procurement

E- Procurement namely known as electronic procurement or supplier exchange, is the purchase and sale of supplies, equipment, works, and services through a web interface or other networked system. The technology is designed to centralize and automate interactions between an organization, customers, and other value chain partners to improve the speed and efficiency of procurement practices. It boasts a suite of innovative features – all designed to bolster the efficiency, effectiveness, and total cost of procurement.

The e-Procurement also can be defined as the use of Information Technology (IT) to purchase the goods, works, consultancy services and non-consultancy services in business to business (B2B) activities (Gayialis, & Tatsiopoulos, 2004). Neupane et al. (2012) has found that the e-Procurement is an inter-organizational information system that automates the procurement process in order to enhance efficiency and effectiveness of the government procurement. Tanzania is one of the countries that have transformed the public procurement to the E-Procurement System. It is part of the Anti-Corruption Initiatives that has been developed by the government to reform the procurement process and at the same time curb the corruption that is frequently occurring in public procurement.

2.2.2 Public Procurement.

Public procurement refers to the purchase by governments and state-owned enterprises of goods, services and works (Curado et al., 2021). As public procurement accounts for a substantial portion of the taxpayers' money, governments are expected to carry it out efficiently and with high standards of conduct in order to ensure high quality of service delivery and safeguard the public interest. The purchase of goods, services and works by public authorities or civil service organizations using public funds.

The Public Procurement is a function of government that involves using its resources (public funds) to obtain goods, works and services to meet the needs of the government as it carries out its responsibilities to the citizens. Public Procurement or Government purchasing as it has been traditionally referred to, means the act of buying made by a government department or unit, of supplies required by that department or unit, using public monies.

2.2.3 Public procurement processes

Public procurement processes refer to the formal procedures and regulations followed by government agencies and public organizations when acquiring goods, services, or works from external suppliers (World Bank, 2020). These processes are designed to ensure fairness, transparency, and competition in the procurement of goods and services, while also promoting value for money and accountability in the use of public funds.

The first stage of the public procurement process involves identifying the organization's needs and defining the requirements of the procurement. This step includes conducting market research, analyzing existing contracts, and assessing the estimated budget for the procurement (United Nations Development Programme, 2016). The objective is to determine the specifications, quantity, and quality standards required for the goods or services to be procured. Once the requirements are defined, the organization prepares the solicitation documents, which outline the terms and conditions of the procurement. These documents typically include the invitation to bid, request for proposal, or request for quotation, depending on the complexity of the procurement. The solicitation documents provide detailed information about the project, evaluation criteria, deadlines, and any specific instructions for potential bidder's suppliers (World Bank, 2020).

To ensure fair competition and attract a wide range of potential suppliers, the organization advertises the procurement opportunity. This can be done through various channels, such as government websites, public notices, or dedicated procurement portals. Interested suppliers submit their bids or proposals, which are then evaluated based on predetermined criteria suppliers (World

Bank, 2020). The selection process may involve a combination of technical evaluations, financial assessments, and interviews or presentations by shortlisted bidders.

After evaluating the bids or proposals, the organization awards the contract to the successful bidder who offers the best value for money. The contract award is typically followed by negotiations to finalize the terms and conditions. Once the contract is signed, the procurement enters the execution phase, where the organization monitors the supplier's performance, ensures compliance with the agreed-upon terms, and manages any changes or disputes that may arise during the contract period suppliers (World Bank, 2020).

After the completion of the contract, the organization conducts a post-contract evaluation to assess the overall performance of the supplier and the effectiveness of the procurement process. This evaluation helps identify areas for improvement and provides insights for future procurement activities suppliers (World Bank, 2020).

2.2.4 Transparency

Transparency refers to the principle of openness, accountability, and accessibility of information in various processes, including public procurement. In the context of public procurement, transparency aims to ensure that the procurement process is conducted in a fair and unbiased manner, providing clear and accessible information to all stakeholders involved. Transparency in public procurement helps promote trust and confidence among suppliers, government agencies, and the general public (Asian Development Bank, 2020). It enables stakeholders to monitor and evaluate the procurement

process, detect potential irregularities or corruption, and hold accountable those responsible for decision-making.

One example of transparency in public procurement is the publication of procurement notices and information on government portals or dedicated procurement websites (OECD, 2015). This allows potential bidders to access information about upcoming procurement opportunities, including specifications, evaluation criteria, and deadlines. Transparency is also fostered by providing equal access to information, ensuring that all interested parties have the same access to relevant documents and updates throughout the procurement process (OECD, 2015). Moreover, transparency can be facilitated by conducting open and competitive bidding processes, where potential suppliers are given equal opportunities to submit their bids or proposals. This helps prevent favoritism or biased decision-making and encourages fair competition among suppliers (OECD, 2015).

Transparency in public procurement is often supported by legal frameworks and guidelines that mandate the disclosure of procurement-related information. These frameworks may include provisions for publishing procurement plans, bid evaluation reports, contract awards, and performance evaluations. By providing such information, transparency allows stakeholders to scrutinize the procurement process, identify potential risks, and contribute to improving the efficiency and effectiveness of public procurement (OECD, 2015). Transparency in public procurement is crucial for ensuring accountability, fairness, and trust in the procurement process. It

enables stakeholders to access information, monitor the process, and contribute to the overall integrity of public procurement.

E-procurement systems can increase transparency in public procurement by providing stakeholders with access to procurement information in real time. This reduces the opportunities for corruption and increases the likelihood of detecting and preventing corrupt practices. E-procurement is the integration of digital technologies to replace and redesign paper-based procedures in public procurement (OECD, 2017). OECD countries have long used e-procurement systems to increase transparency and efficiency in public procurement. Regarding transparency, e-procurement systems and online platforms are essential tools to provide free access to relevant procurement information for all stakeholders, making contracting authorities more accountable to citizens. Concerning efficiency, e-procurement systems allow for automation and standardization of procedures along the entire procurement cycle, reducing the time needed to perform tasks and the room for human error. E-procurement drives efficiency gains by facilitating market access, thereby increasing competition and decreasing administrative burden and transaction costs (EBRD, 2015).

2.3 Theoretical Literature Review

2.3.1 Institutional theory

Institutional theory is a sociological perspective that examines how formal and informal institutions shape organizational behavior, practices, and structures. It explores how organizations conform to, adopt, and maintain institutional norms, rules, and values to gain legitimacy and ensure survival

within their environment. Institutional theory emphasizes the social and cultural aspects that influence organizational behavior and the pressures organizations face to conform to institutional expectations.

According to Scott (2014), institutional theory suggests that organizations are influenced by three pillars of institutional isomorphism: coercive isomorphism, mimetic isomorphism, and normative isomorphism. Coercive isomorphism refers to the pressure organizations face to comply with formal rules, regulations, and laws enforced by external factors such as government agencies or regulatory bodies. Mimetic isomorphism occurs when organizations imitate the practices of successful organizations in their field due to uncertainty or a lack of knowledge about alternative approaches. Normative isomorphism refers to the influence of professional norms, values, and beliefs that guide organizational behavior and practices within a specific industry or professional community.

In the context of public procurement, institutional theory can help analyze how e-procurement initiatives align with existing institutional norms, regulations, and practices. For example, Aman and Kasimin (2011) discuss the influence of institutional factors on e-procurement implementation in the Malaysian government. They highlight the role of institutional pressures in shaping the adoption and use of e-procurement systems, including the alignment with legal frameworks, regulatory requirements, and the professional norms and values of procurement professionals. Furthermore, Bertot, Jaeger, and Grimes (2010) demonstrate how transparency initiatives in e-government can be understood through institutional theory. They argue that transparency practices and disclosure

mechanisms in e-government systems are influenced by institutional pressures, including legal requirements, social norms, and expectations of accountability from stakeholders.

Institutional theory provides a framework for understanding the complex interplay between organizational practices and the institutional context in which they operate. By applying this theory to the study on the impact of e-procurement on public procurement processes and transparency in Tanzania's National Roads Agency (TANROADS) in the Simiyu Region, researchers can analyze how institutional factors shape the adoption, implementation, and outcomes of e-procurement systems in a specific organizational context.

2.3.2 The Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a theoretical framework developed by Fred Davis in the 1980s to explain and predict users' acceptance and adoption of information technology (IT) systems. TAM posits that users' behavioral intention to adopt a technology is primarily influenced by two key factors: perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, 1989). Perceived usefulness refers to the degree to which individuals believe that using a particular technology will enhance their job performance or productivity. Perceived ease of use, on the other hand, relates to the extent to which individuals perceive the technology as easy to understand, learn, and use. According to TAM, these two factors directly influence users' attitude towards using the technology, which in turn affects their behavioral intention to adopt it.

Several studies have applied the TAM framework to investigate the acceptance and adoption of e-procurement systems. For this study the researcher can utilize TAM to understand the factors influencing the adoption and acceptance of e-procurement within TANROADS. By examining the perceived usefulness of e-procurement in enhancing procurement processes and transparency, as well as the perceived ease of use of the system, the study can assess the attitudes of users within TANROADS towards adopting e-procurement. The researchers can survey or interview employees, managers, and other stakeholders involved in the procurement processes to gather data on their perceptions of the usefulness and ease of use of e-procurement. By incorporating the Technology Acceptance Model (TAM) into the research framework, the study can provide valuable insights into the factors influencing the adoption and acceptance of e-procurement within TANROADS in the context of public procurement processes and transparency.

2.4 Empirical Literature Review

2.4.1 Implementation of e-procurement systems has improved transparency in public procurement processes.

The study conducted by Liang, Lu, and Zhao in 2011 titled "Government procurement reforms and e-government adoption: Evidence from China" examines the relationship between government procurement reforms and the adoption of e-government practices in China. The study aims to provide evidence on how government procurement reforms have influenced the adoption of e-government practices, particularly in the context of public procurement. The study utilizes a range of data sources, including government reports, survey data, and case studies, to provide

comprehensive insights into the impact of government procurement reforms on e-government adoption in China. The researchers analyze the data using statistical methods and qualitative analysis to draw meaningful conclusions. The findings of the study suggest that government procurement reforms have played a significant role in promoting the adoption of e-government practices in China. The implementation of reforms, such as digitizing procurement processes, introducing electronic tendering and bidding platforms, and improving information sharing and transparency, have facilitated the adoption of e-government practices in the procurement sector.

Rahman & Hemmati (2015) investigates the impact of e-procurement on transparency in public procurement in Bangladesh. The research examines the effects of e-procurement systems on corruption reduction, accountability enhancement, and improved access to information. The findings indicate that e-procurement has positively influenced transparency by reducing corruption in procurement processes, enhancing accountability among stakeholders, and increasing access to relevant information. The implementation of e-procurement systems has led to more efficient and effective procurement practices, contributing to improved transparency in public procurement in Bangladesh.

Ramakrishnan & Joshi (2015) examines the influence of e-procurement on transparency in public procurement in India. The research focuses on the impact of e-procurement systems in terms of transparency and corruption reduction. The findings indicate that the implementation of e-procurement has had a positive impact on transparency by providing a centralized platform for information dissemination, reducing opportunities for corruption, and enabling real-time monitoring

of procurement activities. The study demonstrates that e-procurement systems have contributed to improving transparency in public procurement processes in India.

Azeez & Ayo (2017) focuses on the impact of e-procurement on transparency in public procurement in Nigeria. The research examines the effects of e-procurement implementation on transparency, with a particular emphasis on accessibility to procurement information, fair competition, and corruption reduction. The findings indicate that e-procurement has improved transparency by increasing access to procurement information, promoting fair competition among suppliers, and reducing opportunities for corruption. The study highlights the positive impact of e-procurement systems on transparency in public procurement in Nigeria.

Wahjudi et.al (2018) examines the impact of e-procurement on transparency and accountability in public procurement in Indonesia. The research investigates the effects of e-procurement systems on transparency, including information dissemination, fairness, and accountability. The findings indicate that the implementation of e-procurement has positively influenced transparency by improving information dissemination, promoting fair competition, and enhancing accountability in public procurement processes. The study provides evidence of the impact of e-procurement systems on transparency and accountability in the Indonesian context.

2.4.2 The barriers to achieving transparency in public procurement through e-procurement systems

Agusto and Andhika (2019) conducted a study in Indonesia to identify barriers to achieving transparency in public procurement through e-procurement system implementation. The

researchers utilized a qualitative approach, conducting interviews and surveys with key stakeholders involved in e-procurement implementation. The findings revealed several barriers including resistance to change, limited digital literacy, inadequate technical infrastructure, and insufficient institutional support. The study emphasizes the need to address these barriers to enhance transparency in e-procurement systems.

Agyei-Mensah and Sylverken (2018) focused on Ghana and aimed to identify barriers to effective implementation of e-procurement in the public sector. The researchers employed a case study approach, conducting interviews and collecting data from relevant government agencies and stakeholders. The study revealed barriers such as lack of financial resources, resistance to change, inadequate infrastructure, and insufficient legal framework. These barriers hindered the achievement of transparency goals in e-procurement systems.

Seifert and Strang (2017) conducted a study in German local governments to explore barriers to e-procurement implementation and their impact on transparency in public procurement. The researchers employed a mixed-methods approach, combining surveys, interviews, and document analysis. The findings highlighted barriers including organizational resistance, inadequate technical capabilities, complex legal and regulatory frameworks, and interoperability challenges. These barriers needed to be addressed to enhance transparency in e-procurement systems.

Kashi and Bouwman (2017) investigated the barriers to e-procurement implementation and their impact on transparency in public procurement in Iran. The researchers adopted a qualitative research design, conducting interviews with relevant stakeholders in the procurement process. The

study identified barriers such as organizational resistance, lack of top management support, inadequate IT infrastructure, and legal barriers. These obstacles hindered the achievement of transparency goals in e-procurement systems.

Siti, Abdullah, and Ibrahim (2018) examined barriers to implementing e-procurement systems in public procurement in Malaysia. The researchers employed a case study approach, conducting interviews and collecting data from various government agencies. The study highlighted barriers including resistance to change, lack of trust, limited technical expertise, and coordination issues. Overcoming these barriers was necessary to enhance transparency in e-procurement systems.

2.4.3 The impact of e-procurement on reducing corruption and enhancing accountability in public procurement.

Sanou (2019) in the study aims to investigate the impact of e-procurement on corruption in public procurement in Burkina Faso. The researcher collected data from government agencies and suppliers involved in public procurement processes. The study employed a mixed-methods approach, combining both quantitative and qualitative data. Quantitative data was collected through surveys distributed to procurement professionals, while qualitative data was obtained through interviews and focus group discussions with key stakeholders. The research findings indicate that the implementation of e-procurement systems in Burkina Faso has contributed to reducing corruption in public procurement. The systems promote transparency by providing better access to information, enabling real-time monitoring of procurement activities, and establishing an auditable trail of transactions, thus enhancing accountability.

Sopiah and Wahid (2020) focuses on the effect of e-procurement on reducing corruption in public procurement in Malaysia. The research employed a quantitative research design and collected data through a structured survey questionnaire administered to procurement practitioners involved in public procurement processes. The questionnaire captured information on the extent of corruption

in public procurement before and after the implementation of e-procurement systems. The findings of the study suggest that e-procurement systems in Malaysia have had a positive impact on reducing corruption. The systems enhance transparency by providing a centralized platform for procurement activities, enabling real-time monitoring, and improving the accountability of stakeholders involved in the procurement process.

Abednego & Jantan (2016) focuses on the impact of e-procurement on reducing corruption and enhancing accountability in Indonesia's public procurement system. The research utilizes a qualitative case study approach, combining document analysis and interviews with key stakeholders involved in e-procurement implementation. The study examines the effects of e-procurement on transparency, efficiency, and fairness in the procurement process, analyzing how these factors contribute to reducing corruption and promoting economic development.

Ahmar (2017). Assessing the impact of e-procurement on reducing corruption in Pakistan's public procurement system. This study focuses on the impact of e-procurement on reducing corruption in Pakistan's public procurement system. The research employs a quantitative research design, collecting data through structured questionnaires distributed to procurement professionals and stakeholders involved in the e-procurement process. The study examines the perceived effectiveness of e-procurement in reducing corruption, analyzing key indicators such as transparency, competition, accountability, and fairness.

Attaran (2014) investigates the impact of e-procurement on corruption in the public sectors of Tanzania and Kenya. The research adopts a qualitative research design, conducting in-depth case

studies in both countries. Data is collected through interviews, observations, and document analysis. The study examines the effects of e-procurement implementation on transparency, accountability, and corruption reduction, comparing the experiences of Tanzania and Kenya to identify key success factors and challenges.

Hoque & Rahman (2015) focuses on the impact of e-procurement on corruption in Bangladesh's public procurement system. The research utilizes a mixed-methods approach, combining quantitative and qualitative data. Quantitative data is collected through surveys distributed to procurement professionals, while qualitative data is obtained through interviews and focus group discussions with key stakeholders. The study analyzes the perceived effects of e-procurement on transparency, accountability, and corruption reduction.

Kassim & Abdullah (2017) investigates the impact of e-procurement on corruption in Malaysia's public procurement system. The research utilizes a quantitative research design, collecting data through a structured survey questionnaire administered to procurement professionals and stakeholders involved in e-procurement. The study analyzes the perceived impact of e-procurement on transparency, accountability, and corruption reduction, focusing on key indicators such as fair competition, efficiency, and stakeholder engagement.

2.5 Research Gap

There is limited existing literature that specifically focuses on the impact of e-procurement on public procurement processes and transparency within the specific context of Tanzania National Roads

Agency in the Simiyu Region. While there is a growing body of research on e-procurement and its impact on transparency and efficiency in public procurement, there is a lack of studies that specifically investigate this impact within the unique context of TANROADS in the Simiyu Region. Therefore, this study aims to fill this research gap by providing empirical evidence and insights into the specific impact of e-procurement on public procurement processes and transparency within this particular organization and region. By conducting an in-depth analysis of the implementation of e-procurement systems and their outcomes, the study aims to contribute to the existing literature and provide practical recommendations for improving procurement processes and enhancing transparency in the context of TANROADS in the Simiyu Region.

2.6 Conceptual Framework

A conceptual framework is a road map that the study intends to follow with the aim of looking for answers to the problems raised by the research questions (Orodho, 2012). The conceptual framework is shown in Figure 2.1. The independent variable in this study is the implementation of e-procurement systems, which refers to the introduction and utilization of electronic platforms and technologies for conducting public procurement processes. This variable represents the intervention being studied, as it is expected to have an impact on the dependent variable. The dependent variable is the transparency of public procurement processes. It refers to the level of openness, accountability, and accessibility of information throughout the procurement process. Transparency is influenced by factors such as the disclosure of procurement information, the fairness of competition, and the availability of mechanisms for public scrutiny. The study aims to examine how the independent variable of e-procurement systems affects the dependent variable

of transparency in public procurement processes within the Tanzania National Roads Agency (TANROADS) in the Simiyu Region. By analyzing the relationship between these variables, the study seeks to assess the extent to which the implementation of e-procurement systems improves transparency and enhances public procurement processes in the specified context.

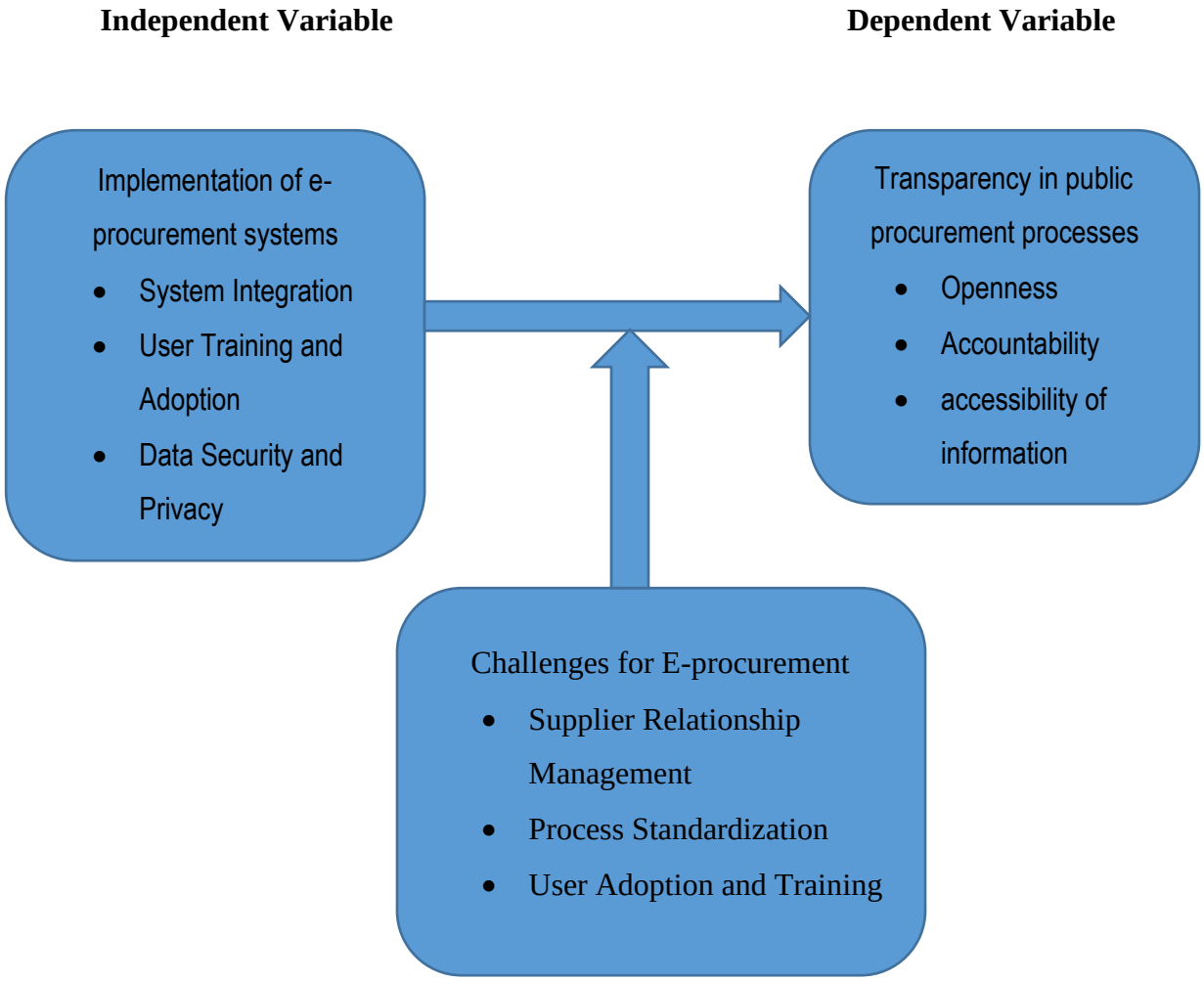

Figure 2.1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLGY

3.1 Introduction

This chapter outlines the methodology used in carrying out the study in obtaining information on the relationship between e procurement as a tool on prevention of corruption on Public Procurement in Tanzania The chapter also describes and explains the research instrument that were used in the study. Aspects covered included research design, population, data collection methods, test of significance and data analysis.

3.2 Area of Study

The study was conducted Simiyu regions which is located at the lake zone of Tanzania. In Mwanza the study will be conducted at TANROADS in Simiyu region. The reason for choosing these entities is due to conduct their procurement using electronic system called TANePS to process all procurement the second reason is that all entities are located within the headquarter of the region whereby accessibility is easy.

3.3 Research Approaches

Research Approach refers to the approach or the methodology that has been adopted to conduct the research. It basically involves the selection of quantitative, qualitative of mixed research approaches. During the study the researcher adopted mixed research approaches (qualitative and

quantitative approaches) because the study involved hypotheses testing and theory generation, the study will employ pragmatism research paradigms

3.4 Research design

The research design that was adopted for this study is a descriptive research design. This type of design involves an extensive well focused literature review and identification of the existing knowledge gap. Descriptive research design is concerned with finding out "what is" and can either be quantitative or qualitative since it involves gathering data that describes events and then organizes, tabulates, depicts and describe the data collection (Iraya & Musyoka, 2013). The descriptive research design to be used is correlation to examine the relationship between two or more variables. Kothari (2004) refers to research design as a blue print through which research operations sail smoothly which makes the research as efficient as possible in terms of effort, time and money and at the same time reaping out maximum information possible.

3.5 Study Population

Population is described by Polit and Beck (2003) as the collection of those adhering to a set of certain specifications. According to Schindler and Cooper (2003) population is a collection of objects that possess common observable characteristics. Population refers to a complete class of things, people or items of particular appeal that a researcher wants to explore and from the same population draw a sample to be studied. The survey population of this study were Procurement Officers, Engineers and Contactors works with TANROADS that are within Simiyu Region. Population is shown in Table 3.1;

Table 3.1: Population of the Study

S/No	Respondents	Population
1	Regional Manager	1
2	Engineers	19
3	Procurement Officers	6
4	Contractors and suppliers	72
Total		**98**

3.6 Sampling size

Sample size is the number of observations in a sample (Evans et al. 2000). The researcher was able to choose the sample that included many participants to make sure that a valid survey has been established. The sample size calculated using Yamane Formula

From;

$$n = \frac{N}{1 + Ne^2}$$

Then;

$$n = \frac{98}{1 + 98 \times 0.05^2} \approx 79$$

Table 3.2: Sample Size

S/No	Respondents	Population	Sample Size	Percentage.
1	Regional Manager	1	$\frac{1}{98} \times 79 = 1$	1.3
2	Engineers	19	$\frac{19}{98} \times 79 = 15$	19
3	Procurement Officers	6	$\frac{6}{98} \times 79 = 5$	6.3
4	Contractors and suppliers	72	$\frac{72}{91} \times 79 = 58$	73.4
Total		**98**	**79**	**100**

3.7 Sampling Techniques

According to Orodho (2002), a sample is selecting a given number of subjects from a defined population as representative of that population. Any statements made about the sample should also be true of the population, sampling techniques can be divided into probability and non-probability sampling. The study will employ probability sampling technique and specifically Simple random sampling technique.

3.8 Data Collection Techniques

3.8.1 Questionnaire

The study employed interviewer-administered, structured questionnaire with close-ended questions developed in line with the study objectives. The questionnaire was divided into sections covering the importance of e procurement and tools for preventing corruption on public procurement in

achieving quality and value for money in works, goods and construction project. Each section will comprise of brief, clear and positive questions constructed in order to achieve maximum response. Questionnaire will be for Procurement Officers, Engineers and Contactors works with TANROADS.

3.8.2 Key Informant Interviews

Three structured key informant interview guides with open ended questions was conducted for about 45 to 60 minutes to participants was used. Snape and Atkinson (2016) posit that effective interview questions should be clear, neutral, open ended and posed once at a time. Questionnaire will be for TANROADS regional Officer.

3.9 Data analysis methods

Data analysis is an important stage in carrying out scientific research because it establishes the findings to answer the research problem. In this study the data was analyzed through different analysis techniques depending on the specific objectives of the study. Qualitative data from Key Informant Interviews will be analyzed using Content Analysis method. First interviews was transcribed into word document. Then from these transcriptions' key themes and concepts will be identified. Basing on the specific objectives of the study, the following data analysis techniques was employed.

3.9.1 Content Analysis

Content analysis is a research tool used to determine the presence of certain words, themes or concepts in qualitative data. Through content analysis, the researcher can quantify and analyze the presence, meanings and relationships of words, themes, and concept (Saunders, (2009). The

content analysis has been used to analyzes data obtained from interview guide and in this case, the statistical data analysis tool has been used.

3.9.2 Descriptive Statistics

For the first and second objective of the study, descriptive statistics has been performed. The analysis is used to show characteristics of variables with respect to the problem of the study. In this study, the main responses are in five point Likert scale, thus the frequency distribution and mean score has been used as the main analysis outputs in this case. The frequency distribution has been used to show the total response while, the mean score has been used to show the average response which has been interpreted as a common response.

3.10 Validity and reliability

3.10.1 Validity

Validity denotes the degree to which a questionnaire is accurately measuring the construct it is intended to measure (Clark and Watson, 2019). For this study, content validity have been done by providing data collection instruments which has been given to academic experts for evaluation before actual use in data collection. The length of the questions, ambiguities, and the extent to which the questions answer the objective of the study was tested .

3.10.2 Reliability

Reliability refers to the extent to which a measure can give consistent and stable results in a measurement process (Mata et al., 2018). Reliability test is used to indicate the extent to which the

research tool is without bias by offering steady measurement across time and across the various items in the instrument. So, to enhance the quality of the study results, Cronbach's alpha was used to determine internal consistency in this study. The test ensures reliability when the multiple questions are keyed into statistical software and when the Cronbach Alpha is greater than 0.7 then reliability is ensured.

3.11 Ethical Consideration

Ethics is defined as a method, procedure, or perspective for deciding how to act and for analyzing complex problems and issues and ethics focuses on the disciplines that study standards of conduct, such as philosophy, theology, law, confidentiality, anonymity, psychology, or sociology.

During the study the ethical issues have been considered by seeking consent from respondents that the data collected or information provided by respondents will be used only for the study not otherwise. Ethics and norms or standards of behaviors that guide moral choices about our behavior and our relationship with others, the goal of ethics in research is to ensure that no one is harmed or adverse consequences from research activities. During the study a researcher had ensured to respondents a presence of ethical issues had observed as well as the respondents were fully informed about the procedures and risks involved in research. and when give their consent to participate, the researcher informed the participant in a situation where they might be at the risks of harm as a result of their participation and had considered the aspect of plagiarism.

The researcher has preserved confidentiality which includes obligations to protect information from unauthorized access, use, disclosure, modification, loss or theft. Fulfilling the ethical duty of

confidentiality is essential to the trust relationship between researcher and participant, and to the integrity of the research project. Anonymity which essentially means that the participant will remain anonymous throughout the study even to the researchers themselves, clearly, the anonymity standard is a stronger guarantee of privacy and had observed.

3.12 Chapter of Summary

In this chapter three presents research methodology, introduction, study area, research approaches, research design and research design technique, population and sampling design, data collection methods, data analysis methods, validity and reliability and ethical consideration.

CHAPTER FOUR CHAPTER FOUR

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 Introduction

This chapter provides presentations and discussion of the findings based on the objective of the study. It comprises of the demographic characteristics of respondents, the extent to which the implementation of e-procurement systems has improved transparency in public procurement processes transparency in Tanzania national roads agency (*TANROADS*) Simiyu region, the barriers to achieving transparency in public procurement through e-procurement systems transparency in Tanzania national roads agency (*TANROADS*) Simiyu region, the impact of e-procurement on reducing corruption and enhancing accountability in public procurement transparency in Tanzania national roads agency (*TANROADS*) Simiyu region and discussion of the findings.

4.2 Demographic Characteristics of Respondents

4.2.1 Sex of Respondents

Figure 3.1 shows that there are 66 male respondents, which constitutes 83.54% of the total. This suggests that the majority of the respondents are male, making them the dominant gender in the sample. There are 13 female respondents in the sample, accounting for 16.46% of the total. While females make up a significant portion of the sample, they are slightly outnumbered by male respondents.

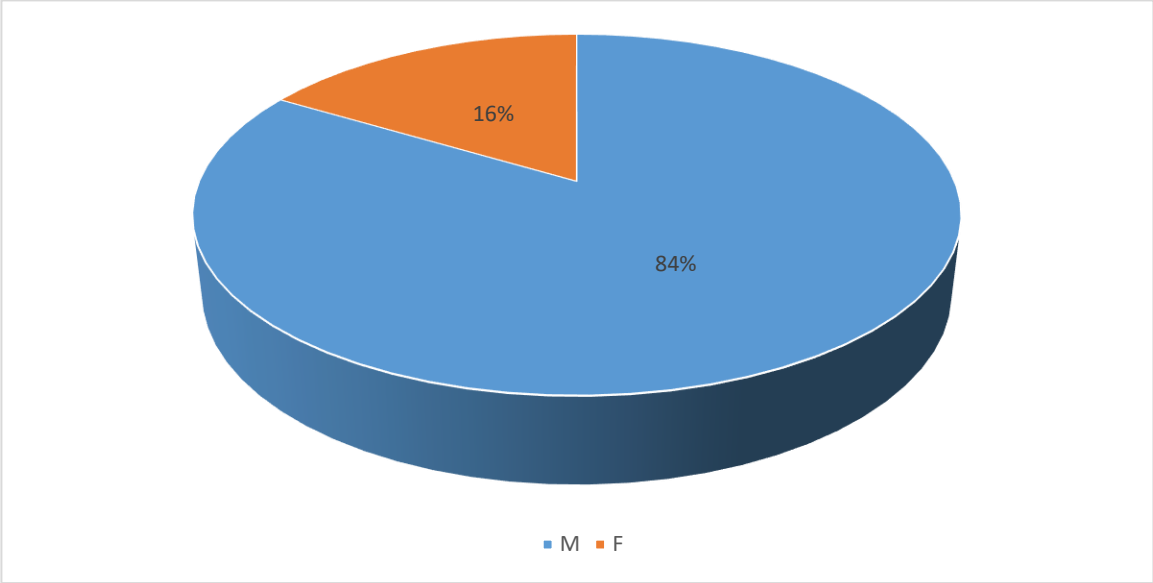

Figure 3.1: Sex of Respondents

4.2.2 Education Level of Respondent

Figure 3.2 shows that the largest group of respondents in this study have a bachelor degree, comprising about 40.51% of the total respondents. This is significant because individuals with higher education levels, such as a bachelor's degree, often have more exposure to and understanding of complex procurement processes and modern technologies like e-procurement. Their perspectives and experiences may provide valuable insights into the impact of e-procurement in a professional context. The second-largest group in your sample consists of individuals with a diploma, accounting for 25.32% of the respondents. While they may have a somewhat lower level of education compared to degree holders, they still have relevant training and experience, which can be insightful for your study, especially if they have practical experience in public procurement. About 10.12% of respondents have a Postgraduate Degree. This subgroup likely includes individuals with advanced

qualifications and potentially higher-ranking positions within the organization. Their input can be particularly valuable in understanding how e-procurement impacts strategic decision-making and high-level processes within TANROADS. The last group in sample consists of Certificate holders, making up 24.05% of the respondents. This group may still include individuals with direct experience in procurement processes at a practical level. Their perspectives could be useful for assessing the impact of e-procurement on day-to-day operations.

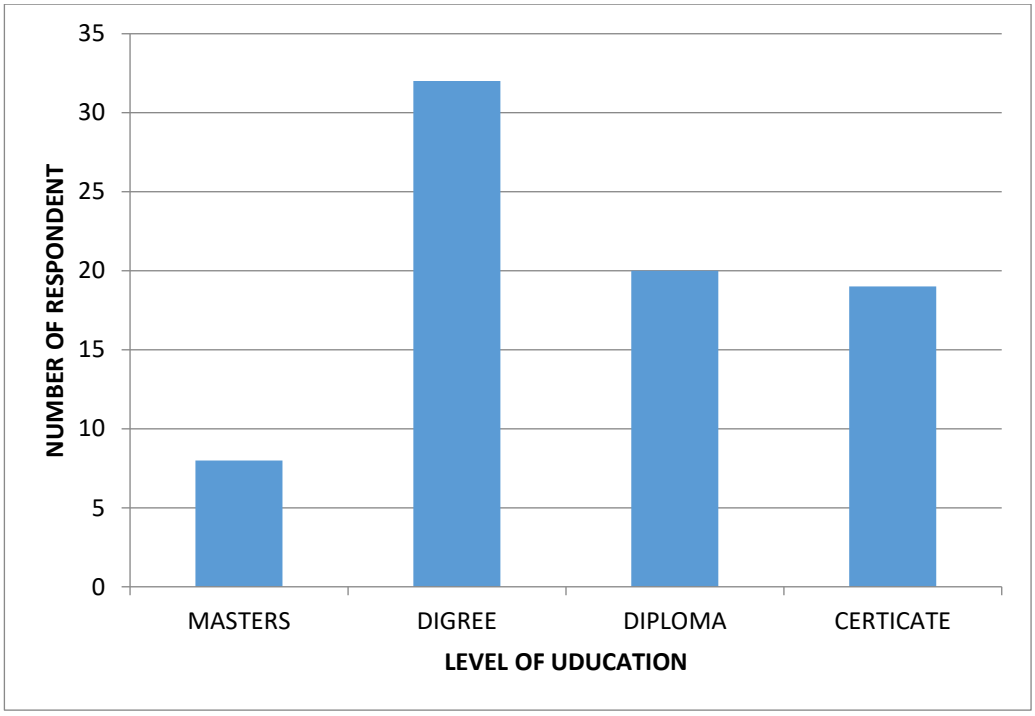

Figure 3.2: Education Level of Respondent

4.3 The Extent to Which the Implementation of E-Procurement Systems Has Improved Transparency in Public Procurement Processes Transparency in Tanzania National Roads Agency (TANROADS) Simiyu Region.

Respondents were asked on the extent to which respondents agree or disagree that the implementation of e-procurement systems has improved the transparency of procurement processes at TANROADS Simiyu Region as shown in Table 4.1. Approximately 8.86% of the respondents strongly disagree that the implementation of e-procurement systems has improved transparency. This suggests that a minority of respondents have a strongly negative perception of the system's impact on transparency. About 16.46% of the respondents disagree with the statement. This indicates that a significant portion of the respondents also have a negative perception, although not as strong as those who strongly disagree. Approximately 5.06% of the respondents remain neutral, indicating that they neither agree nor disagree with the statement. These respondents may not have a strong opinion or may require further information to make a judgment. A notable portion of respondents, approximately 43.04%, agree that the implementation of e-procurement systems has improved transparency. This suggests a positive perception among a significant portion of the sample. About 26.58% of the respondents strongly agree with the statement, indicating that a substantial number of respondents have a highly positive perception of the system's impact on transparency. It appears that a majority of the respondents either agree or strongly agree that the implementation of e-procurement systems has improved the transparency of procurement processes at TANROADS Simiyu Region.

Table 4.1: Transparency of Procurement Processes at TANROADS Simiyu Region

Response	Frequency	Percentage (%)
Strongly Disagree	7	8.86
Disagree	13	16.46
Neutral	4	5.06
Agree	34	43.04
Strongly Agree	21	26.58
Total	**79**	**100**

Respondents were asked how would rate the accessibility of information related to procurement activities through the e-procurement. Table 4.2 shows that a small proportion of respondents (6.33%) found it very difficult to access information related to procurement activities through the e-procurement system. This suggests that there may be significant challenges or barriers in place that hinder their ability to access the information they need. A larger but still relatively small group (15.19%) of respondents rated the accessibility as difficult. This indicates that a portion of the respondents encountered obstacles or difficulties in accessing procurement-related information but not to the extent of finding it very difficult. Approximately 12.66% of respondents had a neutral perception of the accessibility of information. They neither found it easy nor difficult, suggesting that they might not have strong opinions or experiences regarding the ease of accesss. The majority of respondents (43.04%) found it easy to access information related to procurement activities through the e-procurement system. This is a positive sign, indicating that a significant portion of users had a smooth experience accessing the necessary information. A substantial number of respondents (22.78%) rated the accessibility as very easy. This suggests that a considerable portion of users found the e-procurement system highly user-friendly and efficient in providing access to procurement-related information.

The results show that the majority of respondents found the accessibility of information related to procurement activities through the e-procurement system to be favorable, with a significant percentage finding it easy or very easy. However, there were still some respondents who encountered difficulties, highlighting areas where improvements may be needed to make the system more user-friendly and accessible to all users.

Table 4.2: The Accessibility of Information Related to Procurement Activities

Response	Frequency	Percentage (%)
Very Difficult	5	6.33
Difficult	12	15.19
Neutral	10	12.66
Easy	34	43.04
Very Easy	18	22.78
Total	**79**	**100**

Respondents were asked how effective has the e-procurement system been in providing real-time updates and notifications regarding procurement processes. Table 4.3 shows the Approximately 8.86% of respondents indicated that they perceive the e-procurement system as not effective in providing real-time updates and notifications regarding procurement processes. This suggests that a small but notable portion of users find the system to be lacking in this aspect. About 13.92% of respondents expressed that the system is somewhat ineffective in delivering real-time updates. This indicates a slightly larger group of users who have concerns about the system's effectiveness in this regard. Nearly 12.66% of respondents took a neutral stance, indicating that they neither strongly agree nor disagree with the system's effectiveness in providing real-time updates. This suggests that a portion of users may have mixed feelings or are uncertain about this aspect. The majority of respondents, approximately 34.18%, perceive an e-procurement system as somewhat effective in

providing real-time updates and notifications. This group of users acknowledges that the system has some level of effectiveness, though it may not be perfect. A substantial portion, around 30.38%, of respondents consider the e-procurement system to be highly effective in delivering real-time updates and notifications. This group of users believes that the system is performing well in this aspect. In general the data shows a range of opinions regarding the effectiveness of the e-procurement system's real-time updates and notifications. While a significant portion of respondents view it positively, some still have reservations or consider it only somewhat effective. This feedback highlights the importance of continuous improvement and addressing any issues to enhance the system's performance and user satisfaction in this specific area.

Table 4.3: How Effective Has the E-Procurement System Been in Providing Real-Time Updates and Notifications.

Response	Frequency	Percentage (%)
Not Effective	7	8.86
Somewhat Ineffective	11	13.92
Neutral	10	12.66
Somewhat Effective	27	34.18
Highly Effective	24	30.38
Total	**79**	**100**

Respondents respond to the question which assesses the extent to which the e-procurement system has improved accountability in the procurement processes at TANROADS Simiyu Region in Table 4.4. The majority of respondents (34.18%) indicated that they perceive a moderate improvement in accountability since the implementation of the e-procurement system. This suggests that a significant portion of the respondents has noticed positive changes in this aspect.

A notable proportion (26.58%) also expressed that there has been a significant improvement in accountability. This indicates that a substantial portion of the respondents has seen tangible positive effects on accountability due to the e-procurement system. About 17.72% of respondents reported a slight improvement. While this percentage is lower than those who perceived moderate or significant improvements, it still suggests that there are some positive changes in the procurement processes, although they might be relatively small.

Approximately 13.92% of respondents remained neutral, indicating that they neither agreed nor disagreed with the statement. This group may not have noticed significant changes or may not have enough information to form a strong opinion. A smaller portion (7.59%) indicated that they believe accountability has not improved at all. This group of respondents may be dissatisfied with the impact of the e-procurement system on accountability. In general, while a substantial portion of respondents perceived improvements in accountability since the implementation of the e-procurement system, there is still a minority who do not see any positive changes.

Table 4.4: The E-Procurement System Improved Accountability in the Procurement Processes

Response	Frequency	Percentage (%)
Not Improved	6	7.59
Slightly Improved	14	17.72
Neutral	11	13.92
Moderately Improved	27	34.18
Significantly Improved	21	26.58
Total	**79**	**100**

Respondents were asked to rate the overall transparency of the e-procurement system in terms of ensuring fair competition and equal opportunities for suppliers as shown in Table 4.5. A small minority of respondents (5.06%) rated the e-procurement system as having very low transparency in ensuring fair competition and equal opportunities for suppliers. This suggests that a few individuals believe that the system is lacking in transparency and may not promote fair competition or equal opportunities adequately. About 12.66% of respondents rated the system as having low transparency. This indicates that a larger but still relatively small portion of respondents have concerns about transparency issues in the e-procurement system, particularly when it comes to fair competition and equal opportunities for suppliers. A moderate number of respondents (15.19%) had a neutral stance on the transparency of the system. They neither strongly believe that it ensures fair competition and equal opportunities, nor do they strongly believe that it doesn't. The majority of respondents (39.24%) rated the e-procurement system as having high transparency. This suggests that a significant portion of the respondents perceive the system as doing well in ensuring fair competition and equal opportunities for suppliers. A notable percentage of respondents (27.85%) rated the system as having very high transparency. This indicates that a substantial portion of the surveyed individuals have a highly positive view of the system's transparency in promoting fair competition and equal opportunities for suppliers.

Therefore, a considerable portion of respondents have a positive view of the e-procurement system's transparency in ensuring fair competition and equal opportunities for suppliers. However, there is still a minority who express concerns about transparency issues.

Table 4.5: How Would You Rate the Overall Transparency of the E-Procurement System

Response	Frequency	Percentage (%)
Very Low Transparency	4	5.06
Low Transparency	10	12.66
Neutral	12	15.19
High Transparency	31	39.24
Very High Transparency	22	27.85
Total	**79**	**100**

During interview session key informant was asked to describe the level of transparency in public procurement processes before the implementation of e-procurement in TANROADS Simiyu Region. The response was; "*Before the implementation of e-procurement in TANROADS Simiyu Region, the level of transparency in public procurement processes was relatively low. It was challenging to track and verify procurement activities, which sometimes led to suspicions of favoritism and lack of fairness*".

Also was asked to assess the overall effectiveness of the e-procurement system in improving transparency in public procurement processes in TANROADS Simiyu Region. The response was "*The e-procurement system has significantly improved transparency in public procurement processes within TANROADS Simiyu Region. It has streamlined procedures, made information more accessible, and enhanced accountability, resulting in a more transparent and efficient procurement environment*".

4.4: The Barriers to Achieving Transparency in Public Procurement through E-Procurement Systems Transparency in Tanzania National Roads Agency (TANROADS) Simiyu Region.

Respondents provide responses to the statement "The e-procurement system implemented at TANROADS, Simiyu Region, effectively enhances transparency in public procurement processes as shown in Figure 4.6. A significant portion of respondents (50.63%) agree that the e-procurement system enhances transparency. Additionally, 17.72% strongly agree, which further supports the idea that a substantial proportion of the respondents see the system as effective in improving transparency. The respondents about 12.66% chose the neutral option. This suggests that there is a group of respondents who neither strongly agree nor disagree with the statement. They may have mixed opinions or are uncertain about the system's impact on transparency. While another a portion of respondents (12.66%) disagree with the statement, and a smaller group (6.33%) strongly disagree, it's important to note that these percentages are lower than those who agree or strongly agree. This indicates that a minority of respondents have reservations about the system's effectiveness in enhancing transparency. Furthermore, the majority of respondents either agree or strongly agree that the e-procurement system at TANROADS, Simiyu Region, contributes positively to transparency in public procurement processes.

Table 4.6: The E-Procurement System Implemented at TANROADS, Simiyu Region

Response	Frequency	Percentage (%)
Strongly Disagree	5	6.33%
Disagree	10	12.66%
Neutral	10	12.66%
Agree	40	50.63%
Strongly Agree	14	17.72%
Total	**79**	**100%**

Respondents were asked on the statement, "The availability of comprehensive information on procurement opportunities and procedures on the e-procurement platform facilitates transparency in TANROADS' procurement activities results are in Table 4.7. A significant majority of the respondents about a half , comprising 50.63%, chose the "Agree" option, and an additional 11.39% chose "Strongly Agree." This means that a combined total of 62.02% of the respondents agree or strongly agree that the availability of comprehensive information on procurement opportunities and procedures on the e-procurement platform does indeed facilitate transparency in TANROADS' procurement activities. A notable portion, 16.46%, provided a neutral response, indicating that they neither agree nor disagree with the statement. This suggests that some respondents might be uncertain about the extent to which the e-procurement platform contributes to transparency. A smaller percentage, 13.92%, either disagreed or strongly disagreed 7.6%. While this is a minority of respondents, it's still important to consider their viewpoints and potentially investigate the reasons behind their disagreement. Moreover, the majority of respondents appear to perceive the e-procurement platform as a positive contributor to transparency in TANROADS' procurement activities.

Table 4.7: The Availability of Comprehensive Information on Procurement Opportunities and Procedures

Response	Frequency	Percentage
Strongly Disagree	6	7.6
Disagree	11	13.92
Neutral	13	16.46
Agree	40	50.63
Strongly Agree	9	11.39
Total	**79**	**100**

Respondents were asked "The level of user training and awareness on the e-procurement system at TANROADS, Simiyu Region, is sufficient to promote transparency in public procurement". The combined percentage of respondents who strongly disagree or disagree with the statement is relatively low at 13.92%. This suggests that a minority of respondents believe that the current level of user training and awareness is insufficient to promote transparency. A significant portion of respondents (15.19%) expressed neutrality toward the statement. This could indicate that they are uncertain or have mixed feelings about the adequacy of user training and awareness for promoting transparency. The majority of respondents (49.37%) agree that the level of user training and awareness is sufficient to promote transparency in public procurement. This indicates a positive sentiment among a substantial portion of the participants. A notable percentage of respondents (21.52%) strongly agree with the statement, indicating a high level of confidence in the effectiveness of user training and awareness in enhancing transparency in public procurement. In general, it appears that a significant proportion of the respondents (70.89%- the sum of those who agree and strongly agree) believe that the current level of user training and awareness is adequate to promote transparency in public procurement at TANROADS, Simiyu Region.

Table 4.8: Level of User Training and Awareness on the E-Procurement System at TANROADS, Simiyu Region

Response	Frequency	Percentage (%)
Strongly Disagree	4	5.06%
Disagree	7	8.86%
Neutral	12	15.19%
Agree	39	49.37%
Strongly Agree	17	21.52%
Total	**79**	**100%**

Respondents provides the responses for the statement "The integration of the e-procurement systems with other relevant internal system in TANROADS Simiyu effectively contributes to transparency in public procurement process''. as shown in Table 4.9. A significant portion of the respondents (48.10%) agreed that the relevant internal system at TANROADS Simiyu effectively contributes to transparency in public procurement process. This indicates that a substantial number of participants believe that the well organized relevant internal system are effective in achieving transparency goals. A considerable number of respondents (20.25%) chose the neutral option. This could suggest that they are unsure or have mixed opinions about the effectiveness of well internal organized on achieving transparency in public Procurement processes . A smaller but notable portion of respondents (7.6%) disagreed with the statement, indicating that they believe internal is insufficient to promote transparency. This group may feel that more needs to be done to enhance user training and awareness. The smallest percentage of respondents (3.8%) strongly disagreed with the statement, suggesting a minority viewpoint that the existing training and awareness efforts are significantly inadequate in promoting transparency. On the positive side, a notable 20.25% of respondents strongly agreed that the integration of the e-procurement systems with other relevant internal system is very effective in promoting transparency. This group likely believes that the efforts in place are highly successful.

In general, the majority of respondents lean towards agreement with the statement, indicating that they perceive the level of integration of the e-procurement systems with other relevant internal system on the e-procurement system at TANROADS, Simiyu Region, is sufficient to promote transparency in public procurement.

Table 4.9: The Integration of the E-Procurement System with Other Relevant Internal Systems at TANROADS, Simiyu Region

Response	Frequency	Percentage (%)
Strongly Disagree	3	3.80%
Disagree	6	7.60%
Neutral	16	20.25%
Agree	38	48.10%
Strongly Agree	16	20.25%
Total	**79**	**100%**

Key informant was asked what are the major challenges or barriers that hinder the achievement of transparency in public procurement through the implementation of e-procurement systems in TANROADS Simiyu Region. Key informant said that;

"*The major challenges or barriers hindering transparency in public procurement through e-procurement systems include resistance to change among staff, technical glitches, inadequate training, and the need for continuous monitoring to prevent fraud and manipulation of the system."*

Also key informant was asked based on their experience, what measures or strategies do you think can help overcome the barriers and improve transparency in public procurement through e-procurement systems in TANROADS Simiyu Region. Key informant said that;

"*To overcome these barriers and enhance transparency, measures such as comprehensive training for staff, regular system audits, strict enforcement of procurement regulations, and the establishment of an independent oversight body can be implemented. Additionally, promoting a culture of integrity and accountability among all stakeholders is crucial*"

4.5. The impact of e-procurement on reducing corruption and enhancing accountability in public procurement transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

The Table 4.10 shows that a majority of the respondents have some degree of familiarity with the e-procurement system implemented by TANROADS in Simiyu Region. Specifically, 30% are very familiar and 44% are somewhat familiar. On the other hand, 18% of the respondents indicated that they are not familiar at all with the system. This data suggests that a significant portion of the respondents has some level of knowledge about the e-procurement system, which could be important when analyzing their perceptions and opinions on related questions in the study.

Table 4.10: Familiar with the E-Procurement System Implemented By TANROADS in Simiyu Region

Response	Frequency	Percentage (%)
Very familiar	30	38%
Somewhat familiar	35	44%
Not familiar at all	14	18%
Total	**79**	**100%**

The results for the respondents about their opinion on whether the introduction of e-procurement in TANROADS Simiyu Region has helped in reducing corruption in public procurement processes shown in Table 4.11. The majority of respondents, constituting 57% of the sample, believe that the introduction of e-procurement has helped in reducing corruption (Yes). This indicates that a significant portion of the surveyed individuals have a positive view of the impact of e-procurement

on corruption reduction. A notable portion of respondents, 20% of the sample, expressed uncertainty about whether e-procurement has reduced corruption (Not sure). This suggests that there is a level of ambiguity or lack of information among some respondents regarding the system's effectiveness in combating corruption. While a smaller proportion, 23% of respondents, believe that e-procurement has not helped in reducing corruption (No). This indicates that there is a subset of respondents who hold a negative view of the impact of e-procurement on corruption reduction.

Moreover, these results show a range of opinions within the surveyed group. The majority of respondents believe that e-procurement has had a positive impact on reducing corruption, but there are also individuals who are uncertain or hold a more negative view.

Table 11: The Introduction of E-Procurement in TANROADS Simiyu Region Helped In Reducing Corruption in Public Procurement Processes

Response	Frequency	Percentage (%)
Yes	45	57%
No	18	23%
Not sure	16	20%
Total	**79**	**100%**

Table 4.12 shows about how the implementation of e-procurement has affected the transparency of public procurement processes in TANROADS Simiyu Region. 22 out of 79 respondents (approximately 28%) believe that the implementation of e-procurement has had a significant positive impact on transparency in public procurement processes. This suggests that a notable portion of the respondents perceive a substantial improvement in transparency due to e-procurement. The

majority of respondents, 30 out of 79 (about 38%), feel that e-procurement has improved transparency to some extent. This indicates that a significant portion of the sample believes that there has been at least a moderate improvement in transparency. About 19% of the respondents (15 out of 79) believe that the implementation of e-procurement has not had a significant impact on transparency in public procurement processes. This suggests that a minority of respondents perceive little to no improvement in transparency as a result of e-procurement. 12 out of 79 respondents (approximately 15%) expressed the view that e-procurement has led to a decrease in transparency. This is a notable concern, as it indicates that some respondents believe that the new system may have had a negative impact on transparency.

In general the data shows a mixed perception among respondents regarding the impact of e-procurement on transparency. While a significant portion believes that transparency has improved to some extent, there are also concerns raised by those who think it hasn't improved significantly or has even decreased.

Table 4.12: The Implementation of E-Procurement Affected the Transparency of Public Procurement Processes in TANROADS Simiyu Region.

Response	Frequency	Percentage (%)
Increased transparency significantly	22	28%
Increased transparency to some extent	30	38%
No significant impact on transparency	15	19%
Decreased transparency	12	15%
Total	**79**	**100%**

Table 4.13 shows respondents responses about their belief regarding whether e-procurement has enhanced accountability in public procurement in TANROADS Simiyu Region. A significant portion

of the respondents (32%) strongly believe that e-procurement has enhanced accountability in public procurement. This suggests that a substantial number of individuals are confident that the implementation of e-procurement has positively impacted accountability in the region's procurement processes. The largest group of respondents (38%) agrees that e-procurement has enhanced accountability. When combined with the "Strongly Agree" category, it indicates that a majority (70%) of the respondents hold a positive view regarding the impact of e-procurement on accountability. A smaller portion of respondents (13%) are neutral on the issue, indicating that they neither strongly agree nor disagree with the statement. This group may require further information or have mixed feelings about the effectiveness of e-procurement in enhancing accountability. A minority of respondents (10%) disagree with the idea that e-procurement has enhanced accountability. This suggests that there are individuals who believe that e-procurement has not had a significant impact on improving accountability in public procurement. Another minority (8%) of respondents strongly disagree with the statement. This indicates that there is a group of respondents who hold a negative view of the impact of e-procurement on accountability.

A substantial portion of respondents (70%) believe that e-procurement has positively impacted accountability in public procurement in TANROADS Simiyu Region, with the majority falling into the "Agree" category. However, there are also respondents who are neutral or have a negative perception of the impact, indicating a diversity of opinions on this matter among the surveyed individuals. Further qualitative research or investigation may be needed to understand the specific reasons behind these opinions

Table 4.13: Believe That E-Procurement has Enhanced Accountability in Public Procurement in TANROADS Simiyu Region

Response	Frequency	Percentage (%)
Strongly agree	25	32%
Agree	30	38%
Neutral	10	13%
Disagree	8	10%
Strongly disagree	6	8%
Total	**79**	**100%**

Table 4.14 indicates that 35% of the respondents have observed a significant positive change in the efficiency and timeliness of procurement processes after the implementation of e-procurement. This suggests that a notable number of people have experienced substantial benefits from the transition to e-procurement. The majority of respondents, 42%, reported some level of improvement in the efficiency and timeliness of procurement processes. It still shows that a significant portion of respondents noticed positive changes. A smaller proportion, 13%, stated that they did not observe any significant changes in the efficiency and timeliness of procurement processes. This could mean that for some, the transition to e-procurement did not lead to noticeable improvements. Finally, 10% of the respondents reported a decline in efficiency and timeliness of procurement processes after e-procurement implementation. This suggests that for a minority of people, the transition may have had adverse effects.

In general, the study indicates that the majority of respondents experienced either significant or some level of improvement in the efficiency and timeliness of procurement processes after the implementation of e-procurement in TANROADS Simiyu Region.

Table 4.14: Observed Any Changes in the Efficiency and Timeliness of Procurement Processes after the Implementation of E-Procurement

Response	Frequency	Percentage (%)
Significant improvement	28	35%
Some improvement	33	42%
No noticeable change	10	13%
Decline in efficiency and timeliness	8	10%
Total	**79**	**100%**

Table 4.15 presents responses to a question regarding the belief in the necessity of proper training and awareness programs to ensure the successful implementation of e-procurement and to reduce corruption in public procurement. A significant portion of respondents (35%) strongly believes that proper training and awareness programs are essential for the successful implementation of e-procurement and for reducing corruption in public procurement. This indicates a high level of support for such initiatives. An even larger proportion of respondents (39%) agree with the statement. When combined with those who strongly agree, a total of 74% of respondents are in favor of these programs. This suggests a widespread consensus on the importance of training and awareness. A smaller group of respondents (13%) appears to be undecided or neutral on the matter. They neither agree nor disagree, which may indicate that they either lack information or have mixed feelings about the effectiveness of these programs. A minority of respondents (8%) disagree with the statement, suggesting that they do not believe that training and awareness programs are necessary for the successful implementation of e-procurement and to reduce corruption in public procurement. The smallest group of respondents (5%) strongly disagrees with the statement, indicating a very low level of support for the idea that training and awareness programs are necessary in this context.

Table 4.15: Believe that Proper Training and Awareness Programs are Necessary to Ensure the Successful Implementation of E-Procurement

Response	Frequency	Percentage (%)
Strongly agree	28	35%
Agree	31	39%
Neutral	10	13%
Disagree	6	8%
Strongly disagree	4	5%
Total	**79**	**100%**

Key informant was asked to assess the level of corruption in public procurement processes before the implementation of e-procurement in TANROADS Simiyu Region. He said that; "*Corruption was a significant concern in public procurement processes before the implementation of e-procurement in TANROADS Simiyu Region. Non-transparent practices and opportunities for rent-seeking were prevalent, undermining the integrity of the procurement system*"

Key informant was asked about accountability mechanisms or features are present in the e-procurement system that have enhanced accountability in public procurement processes in TANROADS Simiyu Region. Key informant said that"*The e-procurement system has introduced various accountability mechanisms, including real-time tracking of procurement activities, electronic signatures for authentication, and audit trails. These features have enhanced accountability by providing a clear digital trail of all procurement actions, reducing the risk of corruption and malpractice*"

4.6. Discussion of the Findings

Study indicates that respondents have mixed opinions regarding the impact of e-procurement on transparency in public procurement processes at TANROADS Simiyu Region. While a substantial portion believes that transparency has improved to some extent, there are also concerns raised by those who think it hasn't improved significantly or has even decreased. The mixed perceptions regarding the impact of e-procurement on transparency align with previous studies. Research by authors like Khan et al. (2016) found that e-procurement can enhance transparency by providing stakeholders with better access to procurement information. However, challenges in the implementation and user acceptance can hinder these benefits, as noted by Akintoye et al. (2016). The variation in respondents' views may reflect the varying levels of success in e-procurement implementations and the need for continuous improvement.

The findings of the study shows that the majority of respondents believe that the introduction of e-procurement has helped in reducing corruption in public procurement processes. However, there is also a subset who think that e-procurement has not helped in reducing corruption. This suggests varying perceptions regarding the effectiveness of e-procurement in addressing corruption. The belief that e-procurement helps reduce corruption is consistent with studies like Gatsi and Qobo (2017), which highlight the potential of e-procurement to minimize corrupt practices through increased transparency and traceability of transactions. However, there is also skepticism in some responses, which resonates with research by Abugabah et al. (2016), who caution that while e-procurement can be a powerful tool against corruption, its success depends on factors like effective monitoring and enforcement.

It found that, a significant portion of respondents believes that e-procurement has enhanced accountability in public procurement at TANROADS Simiyu Region. This indicates a generally positive view, but there are also respondents who are neutral or have a negative perception of the impact on accountability. The positive perception of e-procurement's impact on accountability aligns with studies by Ozkan and Ozdemir (2017), which emphasize how e-procurement systems can enhance accountability by tracking and documenting procurement actions. The neutral and negative responses, however, suggest that there may be concerns or challenges in translating these theoretical benefits into practical outcomes, as discussed by Jain and Tummala (2017).

It demonstrates that the majority of respondents experienced either significant or some improvement in the efficiency and timeliness of procurement processes after the implementation of e-procurement. However, there is also a minority who reported a decline in efficiency and timeliness, indicating varying experiences. The majority of respondents reporting improved efficiency and timeliness after e-procurement implementation is in line with studies by authors like Sharma et al. (2015), who find that e-procurement can streamline procurement processes. The minority reporting a decline echoes research by Sharma and Adhikary (2018), which emphasizes that the success of e-procurement depends on factors like user training and system usability.

It reveals that a significant majority of respondents either strongly agree or agree that proper training and awareness programs are necessary for the successful implementation of e-procurement and to reduce corruption in public procurement. However, a notable portion remains neutral or disagrees with this assertion. The strong support for training and awareness programs aligns with studies such

as Heeks (2010), who emphasizes the importance of capacity building and change management in successful e-procurement implementations. The differing opinions in this regard may reflect varying levels of exposure to training programs and the need for more comprehensive training strategies, as discussed by Rao (2015).

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the key elements of the study which include the conclusion recommendations of the study and the area of further study. The discussion focused on "the impact of e-procurement on public procurement processes and transparency in a case of "Tanzania National Roads Agency (*TANROADS*) Simiyu Region".

5.2 Conclusion

A substantial portion of respondents believes that the implementation of e-procurement systems has improved transparency in public procurement processes. While a minority expressed negative opinions or remained neutral, a majority either agreed or strongly agreed that e-procurement has positively influenced transparency. This suggests that, overall, there is a positive perception among respondents regarding the impact of e-procurement on transparency.

Accessibility to information related to procurement activities through the e-procurement system has shown a positive trend. A significant portion of respondents found it easy to access information, indicating that the system has made procurement-related information more accessible. However, there were still some who encountered difficulties, highlighting areas where improvements may be needed to make the system more user-friendly and accessible to all users. The effectiveness of the e-procurement system in providing real-time updates and notifications regarding procurement processes received mixed opinions. While a substantial portion viewed it positively, some

respondents had reservations or considered it only somewhat effective. This suggests that continuous improvement and issue resolution are essential to enhance the system's performance and user satisfaction in this area.

Fourthly, the implementation of e-procurement was perceived to have improved accountability in public procurement processes. A significant portion of respondents believed that accountability had either moderately or significantly improved, while a minority thought it had not improved or remained neutral. This indicates that the majority perceives a positive impact on accountability. Furthermore, respondents generally had a positive view of the e-procurement system's transparency in ensuring fair competition and equal opportunities for suppliers. However, there were still concerns raised by a minority who believed that transparency issues exist.

The key informant's responses reinforced the findings by highlighting challenges such as resistance to change among staff, technical glitches, inadequate training, and the need for continuous monitoring to prevent fraud and manipulation of the system. To overcome these barriers and enhance transparency, recommendations include comprehensive staff training, regular system audits, strict enforcement of procurement regulations, and the establishment of an independent oversight body. Promoting a culture of integrity and accountability among all stakeholders was also emphasized.

5.3. Recommendations

To the Government: The government should reaffirm its commitment to e-procurement as a means to enhance transparency and accountability in public procurement processes. This

commitment should be reflected in policies and legislation. Additionally, allocating sufficient financial and human resources for the successful implementation and maintenance of e-procurement systems is crucial.

To Policy Makers

Policy makers should engage in evidence-based policy development by regularly assessing the impact of e-procurement on transparency and accountability. These findings should inform the refinement of policies and strategies. Incentivizing compliance among government agencies that consistently adhere to e-procurement best practices and meet transparency and accountability targets can be considered. Encouraging innovation in e-procurement by fostering partnerships with the private sector and technology companies is vital.

To Stakeholders (Including Civil Society and Suppliers)

Civil society organizations and suppliers should actively engage with e-procurement systems by monitoring procurement processes, accessing available data, and reporting any irregularities or concerns. They should also advocate for transparency and accountability in public procurement and use their voice to push for improvements. Suppliers should demand transparency in procurement processes and utilize e-procurement platforms to access procurement opportunities, thereby promoting fair competition.

To E-Procurement Administrators

E-procurement administrators should commit to the continuous improvement of e-procurement platforms. This involves regularly gathering feedback from users and addressing technical issues

promptly. Providing robust user support services, including help desks and online resources, is crucial to assist users in navigating the system effectively. Prioritizing data security and privacy is essential, and administrators should implement robust cybersecurity measures to protect sensitive procurement information. Actively promoting transparency initiatives within the e-procurement system is necessary, ensuring that procurement data is up-to-date, accurate, and easily accessible. Additionally, investing in the training and capacity building of staff responsible for managing e-procurement systems is essential to keep them updated on the latest technology trends and best practices.

5.4: Area for Further Studies

Further studies should look on usability and user satisfaction. To conduct an in-depth study to assess the usability of the e-procurement system among various stakeholders, including government officials, suppliers, and civil society representatives. Investigate the specific challenges users face when interacting with the system, gather feedback on their experiences, and propose recommendations for improving user satisfaction and system usability.

Also look on cybersecurity and data protection. To undertake a comprehensive study to evaluate the cybersecurity measures in place for the e-procurement system. Assess the system's vulnerability to cyber threats, potential data breaches, and the protection of sensitive procurement data. Propose strategies and enhancements to ensure robust cybersecurity and data protection within the system.

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APPENDICES

Appendix 1: Questionnaire

Dear Respondent,

I am Sabiano Karega Wambura, a student at Institute of Accountancy Arusha pursuing a Master in Business Administration in Procurement and Supplies Management (MBA- PSM). I conduct this study as part of the requirements of MBA degree in Procurement and Supplies Management. The purpose of this study is to investigate The Impact of E-Procurement on Public Procurement Processes and Transparency in Tanzania: A case of Tanzania National Roads Agency (TANROADS) Simiyu Region

Thanks for your interest in this study and accepting to answer the questionnaire. Your views will highly confidential and used for purposes of this study only. Feedback of this study will be brought to you for your own use if you desire. Thanks you for your cooperation and for your time. For further clarification, please do not hesitate to contact the researcher on mobile phone numbers:

+255 757980706 or email to: wambura5@yahoo.com

Please indicate the most appropriate answer by a tick in the box. Each question should have only one tick for your chosen answer

Section A: Personal information

Please tick (√) in the most appropriate answer box

1	Gender: Specify your gender	1. ☐ Male 2. ☐ Female
2	Education level: Specify your Education level	1. ☐ Certificate 2. ☐ Diploma 3. ☐ Degree 4. ☐ Postgraduate Degree

Section B: The extent to which the implementation of e-procurement systems has improved transparency in public procurement processes transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

3. To what extent do you agree or disagree that the implementation of e-procurement systems has improved the transparency of procurement processes at TANROADS Simiyu Region?

a) Strongly Disagree
b) Disagree
c) Neutral
d) Agree
e) Strongly Agree

4. How would you rate the accessibility of information related to procurement activities through the e-procurement system?

a) Very Difficult to Access
b) Difficult to Access
c) Neutral
d) Easy to Access
e) Very Easy to Access

5. How effective has the e-procurement system been in providing real-time updates and notifications regarding procurement processes?

a) Not Effective at All
b) Somewhat Ineffective
c) Neutral
d) Somewhat Effective
e) Highly Effective

6. To what extent has the e-procurement system improved accountability in the procurement processes at TANROADS Simiyu Region?

    a) Not Improved at All
    b) Slightly Improved
    c) Neutral
    d) Moderately Improved
    e) Significantly Improved

7. How would you rate the overall transparency of the e-procurement system in terms of ensuring fair competition and equal opportunities for suppliers?

    a) Very Low Transparency
    b) Low Transparency
    c) Neutral
    d) High Transparency
    e) Very High Transparency

C: Barriers to achieving transparency in public procurement through e-procurement systems transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

8. The e-procurement system implemented at TANROADS, Simiyu Region, effectively enhances transparency in public procurement processes. 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree
9. The availability of comprehensive information on procurement opportunities and procedures on the e-procurement platform facilitates transparency in TANROADS' procurement activities. 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree
10. The level of user training and awareness on the e-procurement system at TANROADS, Simiyu Region, is sufficient to promote transparency in public procurement. 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

11. The integration of the e-procurement system with other relevant internal systems at TANROADS, Simiyu Region, effectively contributes to transparency in public procurement processes. 1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

D: The impact of e-procurement on reducing corruption and enhancing accountability in public procurement transparency in Tanzania National Roads Agency (*TANROADS*) Simiyu Region.

12. How familiar are you with the e-procurement system implemented by TANROADS in Simiyu Region? a) Very familiar b) Somewhat familiar c) Not familiar at all
13. In your opinion, has the introduction of e-procurement in TANROADS Simiyu Region helped in reducing corruption in public procurement processes? a) Yes b) No c) Not sure
14. How has the implementation of e-procurement affected the transparency of public procurement processes in TANROADS Simiyu Region? a) Increased transparency significantly b) Increased transparency to some extent c) No significant impact on transparency d) Decreased transparency
15. Do you believe that e-procurement has enhanced accountability in public procurement in TANROADS Simiyu Region? a) Strongly agree b) Agree c) Neutral d) Disagree e) Strongly disagree
16. Have you observed any changes in the efficiency and timeliness of procurement processes after the implementation of e-procurement in TANROADS Simiyu Region? a) Significant improvement b) Some improvement c) No noticeable change d) Decline in efficiency and timeliness
17. Do you believe that proper training and awareness programs are necessary to ensure the successful implementation of e-procurement and to reduce corruption in public procurement? a) Strongly agree b) Agree c) Neutral d) Disagree e) Strongly disagree.

Thanks a lot for your cooperation

APPENDIX 2: INTERVIEW GUIDE

1. How would you describe the level of transparency in public procurement processes before the implementation of e-procurement in TANROADS Simiyu Region?
2. How would you assess the overall effectiveness of the e-procurement system in improving transparency in public procurement processes in TANROADS Simiyu Region?
3. What are the major challenges or barriers that hinder the achievement of transparency in public procurement through the implementation of e-procurement systems in TANROADS Simiyu Region?
4. Based on your experience, what measures or strategies do you think can help overcome the barriers and improve transparency in public procurement through e-procurement systems in TANROADS Simiyu Region?
5. How would you assess the level of corruption in public procurement processes before the implementation of e-procurement in TANROADS Simiyu Region?
6. What accountability mechanisms or features are present in the e-procurement system that have enhanced accountability in public procurement processes in TANROADS Simiyu Region?