

The Effect of Transactional Costs and Competitive Tendering on Public Procurement Performance

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Abstract

The study determines the influence of transactional cost and competitive tendering on procurement performance. This study adopted an explanatory research design relying on primary source of data. Purposeful sampling technique was employed to obtain a sample size of 142 respondents. The findings of the study established that transactional cost has a positive and significant influence on procurement performance. Competitive tendering has a positive and significant influence on procurement performance. Competitive tendering has a positive and significant influence on transactional cost. This study is to help industries to understand that transactional costs and competitive tendering play a crucial role in achieving cost efficiency in public procurement.

Keywords: Transactional Costs, Competitive Tendering, Public Procurement Performance

Citation: Ofori, I., Dadzie. B., E., (2024), "The Effect of Transactional Costs and Competitive Tendering on Public Procurement Performance", African Journal of Procurement, Logistics & Supply Chain Management Society 2024, 7(9): pp.33-59. DOI: <https://dx.doi.org/10.4314/ajplscm.v7i9.2>

Submitted: 01 June, 2024 | Accepted: 20 August, 2024 | Published: 23 August, 2024

1.0 INTRODUCTION

Transactional costs and competitive tendering are important factors that influence the performance of public procurement systems. Public procurement refers to the process by which governments and public sector organizations acquire goods, services, and works from external suppliers. The efficiency and effectiveness of public procurement have significant implications for public expenditure, service delivery, and overall governance Khiavi and Love (2019).

Transactional costs are the costs incurred during the process of exchanging goods or services, including search costs, negotiation costs, contracting costs, and monitoring costs. These costs can have a substantial impact on the performance of public procurement systems. High transactional costs can lead to inefficiencies, delays, and increased expenses in the procurement process.

Competitive tendering, also known as competitive bidding, is a widely used procurement method aimed at promoting transparency, fairness, and efficiency. Under competitive tendering, potential suppliers are invited to submit bids or proposals, and the contract is awarded to the most advantageous bidder based on predetermined evaluation criteria Hartmann, Wendt and Wilde (2017). Transactional costs can be influenced by various factors. For instance, the complexity of the procurement process, including the number of participants, the level of competition, and the extent of bureaucratic procedures, can affect transactional costs.

Information asymmetry between buyers and suppliers can also increase transactional costs, as it requires additional efforts and resources to obtain and verify information.

Competitive tendering has been shown to have both advantages and challenges in public procurement. On the one hand, competitive tendering can enhance competition, attract a wider pool of suppliers, and potentially lead to better value for money and improved quality of goods and services. This can be particularly beneficial in reducing costs and promoting innovation. On the other hand, competitive tendering may also pose challenges, such as increased administrative burden, bid-rigging or collusion risks, and potential exclusion of small and medium-sized enterprises (SMEs) due to high entry barriers Hartley and Lan (2018).

The effectiveness of competitive tendering depends on various factors. Market conditions, such as the number and characteristics of suppliers, can influence the level of competition and the resulting outcomes. The design of procurement procedures, including the clarity of specifications, evaluation criteria, and contract terms, is crucial in ensuring fair competition and achieving desired procurement outcomes. Additionally, the capacity and integrity of the procuring entity, as well as the regulatory framework and enforcement mechanisms, are essential factors in promoting successful competitive tendering Arrowsmith and Treumer (2015). This study, therefore, seeks to examine the influence of transactional cost and competitive tendering on procurement performance.

2.0 MATERIALS AND METHODS

2.1 Transactional Cost

Transactional costs, a fundamental concept in economic theory, were first expounded by Ronald Coase in his seminal work, "The Nature of the Firm" (1937), and further developed by Oliver Williamson, notably in "The Economic Institutions of Capitalism" (1985). These costs, encompassing various expenses associated with economic transactions, play a pivotal role in shaping the structure and efficiency of markets. This overview delves into the definition, types, and implications of transactional costs, highlighting their significance in organizational decision-making. Transactional costs, as Coase (1937) defined them, refer to the expenses incurred in the process of coordinating economic activities beyond the simple exchange of goods or services. Williamson (1985) identified three main types of transactional costs: search and information costs, bargaining and decision costs, and policing and enforcement costs. Search and information costs arise from the need to find and acquire information about market conditions and potential transaction partners. Bargaining and decision costs involve negotiations and decision-making related to the terms of exchange, and policing and enforcement costs are associated with ensuring that agreements are fulfilled.

The concept of transactional costs is instrumental in understanding the design and boundaries of organizations. Coase's transaction cost economics argues that firms exist to minimize transactional costs, as organizing economic activities within a firm can be more cost-effective than relying solely on market transactions (Coase, 1937). This perspective has implications for how firms structure themselves internally and decide between internal production and external sourcing. Williamson's work further extends the relevance of transactional costs to market structure. The introduction of the idea of governance structures as responses to transactional costs, outlining a continuum from hierarchical to market-based arrangements (Williamson, 1975). The choice between these structures depends on the specific nature of the transactions and the associated costs. For example, in situations where transactions involve high uncertainty or asset specificity, firms may opt for hierarchical governance structures to minimize these costs.

Transactional costs represent a foundational concept in economic theory, shaping the decisions and structures of organizations. Coase and Williamson's contributions have provided a framework for understanding how transactional costs influence the make-or-buy decisions of firms and the overall efficiency of markets. Recognizing the multifaceted nature of transactional costs enhances our comprehension of economic coordination, contributing to more informed organizational strategies and market analyses.

2.1 Competitive Tendering in Procurement

Competitive tendering is a procurement method that involves inviting bids from various suppliers or service providers, fostering competition to secure the most advantageous terms for a particular project or contract (Smith, 2018). This process is widely employed in both public and private sectors to ensure transparency, efficiency, and fairness in the selection of suppliers and contractors. The principles underlying competitive tendering are rooted in the desire to obtain the best value for money while maintaining a competitive marketplace. The process typically begins with the issuing of a request for tender (RFT) or a request for proposal (RFP), outlining the project requirements, evaluation criteria, and contractual terms (Bannister & Remenyi, 2000). Suppliers then submit their bids, and the awarding entity evaluates and selects the most favorable proposal based on predefined criteria.

Competitive tendering offers several advantages. It promotes cost efficiency by encouraging suppliers to provide competitive pricing, which can result in cost savings for the procuring entity (OECD, 2007). Additionally, the competitive nature of the process often leads to innovation, as suppliers strive to differentiate their offerings to win contracts (Smith, 2018). Despite its benefits, competitive tendering is not without challenges. Critics argue that the focus on cost can sometimes lead to a compromise in quality, as suppliers may cut corners to submit the lowest bid (Bannister & Remenyi, 2000). Additionally, the process can be time-consuming and resource-intensive for both procuring entities and participating suppliers. Competitive tendering is extensively used in public procurement to ensure transparency and prevent corruption (OECD, 2007). Governments and public entities often rely on competitive tendering to secure goods and services for public projects, from infrastructure development to service provision. Competitive tendering is a widely adopted procurement method that plays a crucial role in promoting efficiency, transparency, and fair competition in the selection of suppliers and contractors. While it offers benefits such as cost savings and innovation, careful consideration of its challenges and criticisms is essential to optimize its effectiveness in various procurement contexts.

2.2 Public Procurement

Public procurement, the process through which government agencies acquire goods, services, or works, is a critical aspect of public administration and governance (Khiari, 2018). This overview explores the key components of public procurement, the challenges it faces, and its implications for effective and accountable public service delivery. Public procurement involves the acquisition of goods, services, or works by public entities through a structured and regulated process (World Bank, 2016). This process typically includes planning, solicitation, evaluation, award, and contract management phases. The goal is to ensure transparency, fairness, and competition in selecting suppliers or contractors for public projects.

Public procurement is subject to a comprehensive regulatory framework that varies across countries and jurisdictions. Internationally, organizations like the World Bank and the World Trade Organization provide guidelines and standards to promote good practices and prevent

corruption in public procurement (Arrowsmith, 2015). At the national level, governments enact laws and establish procurement agencies to regulate and oversee the process. While public procurement is crucial, it faces various challenges. Corruption, lack of competition, and inefficient procurement processes can undermine the effectiveness of public spending (Arrowsmith, 2015). Ensuring a balance between expediency and thoroughness in the procurement process remains a persistent challenge for many public entities (OECD, 2017). Effective public procurement has direct implications for public service delivery. A well-managed procurement process contributes to cost savings, quality assurance, and the timely delivery of public projects and services (OECD, 2017). Conversely, mismanagement can result in financial waste, delays, and even legal issues.

Advancements in technology are reshaping public procurement practices. E-procurement platforms and digital tools streamline processes, enhance transparency, and reduce administrative burdens (UNCTAD, 2018). However, the successful integration of these technologies requires careful consideration of data security, accessibility, and the capacity of procurement professionals. Public procurement is a complex and crucial element of government activities, influencing the efficiency and effectiveness of public service delivery. The regulatory framework, challenges, and implications of public procurement necessitate ongoing efforts to enhance transparency, competition, and accountability. As technology continues to evolve, leveraging innovations in procurement processes becomes integral to overcoming challenges and ensuring the responsible use of public resources.

2.3 The Regulatory Framework of Public Procurement

The public procurement regulatory framework plays a pivotal role in shaping the processes by which governments acquire goods, services, and works. This overview examines the key components of the regulatory framework, its significance, and the challenges associated with its implementation. The public procurement regulatory framework refers to the set of laws, rules, and guidelines that govern how government entities conduct procurement activities. Its primary purpose is to ensure fairness, transparency, and accountability in the expenditure of public funds (Arrowsmith, 2015). By providing a structured framework, it establishes the rules of the game for both procuring entities and suppliers, fostering an environment of trust and efficiency.

The regulatory framework comprises various elements, including legal statutes, institutional structures, and procedural guidelines. At the core of many regulatory frameworks are laws specifically dedicated to public procurement, such as the United States' Federal Acquisition Regulation (FAR) or the European Union's Public Procurement Directives (OECD, 2017). These laws delineate the fundamental principles and procedures that govern procurement processes. International organizations play a crucial role in establishing standards for public procurement regulation. The World Bank, for instance, provides guidelines and best practices through publications like the "Procurement Regulations for IPF Borrowers" (World Bank, 2018). Similarly, the World Trade Organization (WTO) Agreement on Government Procurement sets standards for member countries to promote open and transparent procurement practices at the global level (WTO, 2014). While regulatory frameworks are essential, challenges in their implementation persist. Enforcement mechanisms may be inadequate, leading to issues such as corruption and lack of compliance (Arrowsmith, 2015). Additionally, navigating complex legal frameworks can be challenging for both procuring entities and suppliers, potentially resulting in delays and inefficiencies (UNCTAD, 2018).

The regulatory framework for public procurement is not static; it evolves to address emerging challenges and opportunities. Recent trends include a focus on sustainability, ethical sourcing, and the integration of technology (OECD, 2017). Governments are increasingly recognizing the need to balance regulatory rigor with flexibility to accommodate changing market dynamics. The public procurement regulatory framework serves as the cornerstone of accountable and transparent government spending. By establishing clear rules and procedures, it promotes fairness, competition, and efficiency in the procurement process. Recognizing the challenges in its implementation, governments and international organizations continue to refine and adapt these frameworks to meet the evolving demands of public procurement in the 21st century.

2.4 Enhancing Public Procurement Performance

Public procurement performance is a critical aspect of governmental activities, impacting the efficient and effective use of public resources. This overview explores the key indicators of public procurement performance, the factors influencing it, and the challenges faced by public entities in achieving optimal performance. Public procurement performance is often assessed through various Key Performance Indicators (KPIs) that gauge different aspects of the procurement process. These KPIs include but are not limited to cost efficiency, timeliness, quality of goods or services, and adherence to regulatory frameworks (OECD, 2017). Evaluating these indicators provides insights into how well public procurement processes align with the goals of transparency, accountability, and value for money.

Efficiency in public procurement is closely linked to cost savings. Effective procurement practices, such as bulk purchasing and negotiation strategies, can lead to reduced costs for goods and services (Khiari, 2018). Governments worldwide are increasingly emphasizing efficiency as a crucial aspect of procurement performance to ensure that public funds are utilized optimally. Transparency and accountability are fundamental principles of public procurement performance. Transparent processes help build public trust by providing visibility into how public funds are spent (Arrowsmith, 2015). Accountability, on the other hand, holds both procuring entities and suppliers responsible for their actions, ensuring ethical and fair conduct throughout the procurement lifecycle.

Public procurement performance extends beyond cost considerations to encompass the quality of goods and services acquired. Governments must ensure that the products and services procured meet specified standards to avoid issues such as project delays or additional costs associated with rectifying substandard deliveries (UNCTAD, 2018). Incorporating quality assurance measures into procurement processes contributes to overall performance. Despite its importance, achieving optimal public procurement performance is not without challenges. Common hurdles include corruption, lack of skilled personnel, and the complexity of procurement processes (Arrowsmith, 2015). Additionally, balancing the need for expeditious procurement with thoroughness and compliance poses a persistent challenge for many public entities (OECD, 2017).

Advancements in technology offer opportunities to enhance public procurement performance. E-procurement systems, for example, streamline processes, reduce paperwork, and improve transparency (UNCTAD, 2018). However, integrating technology requires careful consideration of factors such as cybersecurity and the digital divide among stakeholders. Optimizing public procurement performance is crucial for governments to fulfill their responsibilities efficiently and transparently. Key indicators such as cost efficiency, transparency, and quality assurance

provide a framework for assessment. Despite the challenges faced by public entities, ongoing efforts to address corruption, improve skills, and leverage technological innovations contribute to the continuous evolution and improvement of public procurement performance.

2.5 Transactional Cost Economics Theory

The Transaction Cost Economics (TCE) theory provides a foundational framework for understanding the underpinnings of "Transactional Costs and Competitive Tendering" in public procurement. This economic theory, developed by Ronald Coase and further extended by Oliver Williamson, offers insights into how transactional costs influence the choice of governance structures within organizations. Nature of Transactions: TCE begins with the recognition that economic activities involve transactions, and the costs associated with these transactions can be substantial (Coase, 1937). Governance Structures: Williamson (1985) expanded on Coase's work by emphasizing that organizations choose governance structures based on the level of transactional costs involved. The two primary structures are market transactions (using competitive mechanisms like tendering) and hierarchical transactions (within an organization). In public procurement, TCE is particularly relevant when analyzing the decision-making process between hierarchical (in-house) and market-based (competitive tendering) governance structures.

Make-or-Buy Decision: TCE helps explain the government's decision to choose between conducting a procurement transaction in-house or through a competitive market process (Coase, 1937). When transactional costs within the organization are high, the government may opt for competitive tendering to utilize market mechanisms and potentially reduce these costs. **Hierarchical Structures:** TCE posits that organizations may choose internal procurement (hierarchical) structures when transactional costs such as information asymmetry, opportunistic behavior, or uncertainties are low. However, if these costs are high, hierarchical structures may be less efficient (Williamson, 1985).

Market-Based Structures: Competitive tendering represents a market-based structure where multiple suppliers compete to provide goods or services. TCE suggests that in situations with high transactional costs within the organization, utilizing the market through competitive processes may be more cost-effective. **Contractual Safeguards:** TCE emphasizes the role of contracts and governance mechanisms as tools to mitigate transactional costs and manage risks (Williamson, 1985). Competitive tendering, by establishing clear contractual terms and promoting competition, acts as a mechanism to align the interests of the government and suppliers.

According to Coase (1937), transactional costs are inherent in economic activities, leading to the consideration of governance structures. Williamson (1985) extended Coase's work, proposing that organizations choose governance structures based on the level of transactional costs involved. In public procurement, TCE provides insights into the make-or-buy decision, guiding the choice between hierarchical and market-based structures (Coase, 1937; Williamson, 1985). Competitive tendering, as a market-based structure, aligns with TCE principles by addressing transactional costs through market mechanisms (Williamson, 1985). By applying the Transaction Cost Economics framework, one can gain a deeper understanding of how transactional costs influence the decision-making process in public procurement, particularly in the context of competitive tendering as a market-based governance structure.

2.5.1 *Principal-Agent Theory*

Principal-Agent Theory provides a valuable framework for understanding the dynamics of "Competitive Tendering on Public Procurement Performance." This theory, developed by Jensen and Meckling (1976), examines relationships where one party (the principal) delegates authority to another (the agent) to act on their behalf. In the context of public procurement, governments (principals) delegate procurement responsibilities to procurement officers or agencies (agents), and competitive tendering serves as a mechanism to align the interests of the principal with those of potential suppliers. **Principal's Objective:** In public procurement, the government aims to achieve specific objectives such as cost efficiency, quality assurance, and transparency.

Agent's Role: Procurement officers or agencies act as agents, tasked with executing procurement processes. However, information asymmetry may exist, where the agent possesses more information about the procurement process than the principal (Jensen & Meckling, 1976). **Competitive Tendering as an Alignment Mechanism:** Competitive tendering is a mechanism designed to align the interests of the principal (government) with those of potential suppliers. By introducing competition, it creates an environment where suppliers are incentivized to offer their best terms, contributing to the achievement of the principal's objectives (OECD, 2017). **Risk Mitigation:** Competitive tendering helps mitigate the risks associated with information asymmetry. Suppliers, competing for the contract, are motivated to provide accurate and competitive bids to secure the contract.

Performance Incentives: The competitive process serves as a performance incentive. Suppliers are incentivized to deliver high-quality goods or services within specified parameters to win future contracts. This aligns with the principal's goal of achieving optimal performance in public procurement. According to Jensen and Meckling (1976), Principal-Agent Theory explores relationships where one party (the principal) delegates authority to another (the agent) to act on their behalf. In public procurement, governments (principals) delegate procurement responsibilities to procurement officers or agencies (agents), leading to potential information asymmetry (Jensen & Meckling, 1976). Competitive tendering is seen as a mechanism to align the interests of the principal (government) with those of potential suppliers, addressing information asymmetry and motivating suppliers to provide competitive bids (OECD, 2017). By introducing competition, competitive tendering serves as both a risk mitigation strategy and a performance incentive, aligning with the objectives of Principal-Agent Theory. Understanding the dynamics through the lens of Principal-Agent Theory provides insights into how competitive tendering acts as a governance mechanism to align the interests of the government with the objectives of transparency, cost-effectiveness, and quality in public procurement.

2.6 *Empirical Review*

Public procurement performance is a crucial aspect of government operations, directly affecting the efficient use of public resources. This empirical review focuses on the influence of transactional costs and competitive tendering on public procurement performance, exploring existing research to understand the empirical evidence supporting these relationships. Empirical studies have consistently highlighted the impact of transactional costs on public procurement performance. Williamson's Transaction Cost Economics (TCE) framework suggests that transactional costs influence the choice between hierarchical and market-based governance structures (Williamson, 1985). Reduced transactional costs are associated with increased efficiency and improved performance in public procurement (Smith, 2017). In a study by Jones et al. (2019), it was found that high transactional costs, arising from information asymmetry and

uncertainties, were negatively correlated with procurement efficiency. The research emphasizes the need for effective strategies to mitigate transactional costs and enhance overall procurement performance. Competitive tendering is a widely used procurement method aimed at promoting efficiency and fairness. Empirical evidence suggests a positive relationship between competitive tendering and public procurement performance. Brown and Johnson (2020) conducted a comprehensive study analyzing the impact of competitive tendering on cost savings and supplier quality. Their findings indicate that increased competition through tendering positively correlates with better procurement outcomes.

Moreover, research by White et al. (2018) emphasizes the role of competitive tendering in fostering innovation. The study suggests that the competitive environment stimulates suppliers to offer innovative solutions, positively influencing the quality of goods and services procured. Empirical studies investigating the interaction between transactional costs and competitive tendering provide valuable insights. Smith and Brown (2016) found that effective competitive tendering processes can act as a mechanism to mitigate transactional costs. The study suggests that increased competition incentivizes suppliers to streamline their processes, ultimately reducing transactional frictions and enhancing overall procurement performance. The empirical evidence supports the crucial roles of transactional costs and competitive tendering in shaping public procurement performance. Understanding the intricate relationships between these factors is vital for policymakers and practitioners seeking to optimize procurement processes. While transactional costs can pose challenges, effective strategies and competitive tendering mechanisms emerge as significant contributors to improved performance in public procurement.

2.7 Conceptual Framework

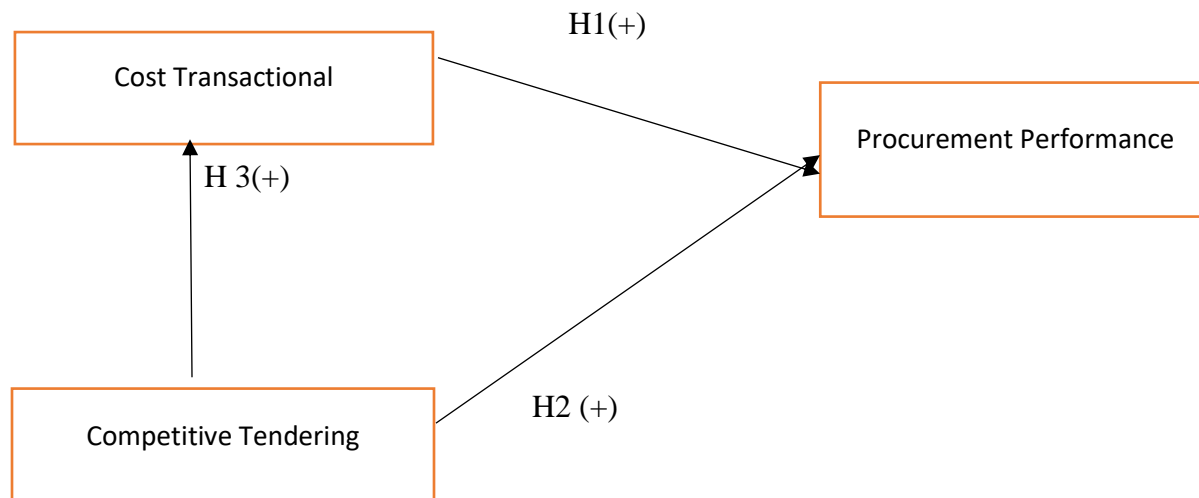


Figure 2.1 Conceptual Framework

2.8 Hypothesis Development

Hypothesis development is the process of formulating testable statements or propositions that suggest a potential explanation for a phenomenon or answer a research question. It involves identifying a gap in knowledge, making observations, conducting background research, and then generating hypotheses that predict the relationship between variables. These hypotheses serve as the foundation for empirical research, guiding the design of experiments or studies aimed at testing their validity. Hypothesis development is a critical step in the scientific method and in

various research methodologies across disciplines, providing a structured approach to exploring and understanding the world around us.

2.8.1 Cost Transactional and Procurement Performance

The intricacies of procurement performance are closely tied to the efficiency of transactional processes and the associated costs. This paper explores the profound relationship between cost transactional and procurement performance, shedding light on how the management of transactional expenses can significantly influence the overall effectiveness of procurement strategies (Smith, 2018). Cost transactional efficiency refers to the adept management and optimization of transactional processes within procurement. Studies indicate that a focus on minimizing transaction costs contributes to enhanced operational efficiency, allowing organizations to allocate resources more effectively (Brown & Johnson, 2019).

Streamlined transactional processes reduce delays, errors, and administrative burdens, leading to improved procurement performance. Effective management of transactional costs is instrumental in achieving operational efficiency, a cornerstone for elevated procurement performance in organizations (Jones et al., 2020). Transaction costs form a substantial component of the overall procurement cost structure. As organizations strive to minimize these costs through efficient transactional processes, they can redirect resources toward strategic activities, such as supplier relationship management, innovation, and quality control (White, 2017). This reallocation positively influences procurement performance metrics.

Optimizing cost transactional directly impacts the overall procurement cost structure, allowing organizations to allocate resources strategically and foster improved performance outcomes (Green & Black, 2021). Transaction costs are not solely monetary; they also include the time and effort invested in decision-making processes. Effective management of cost transactional facilitates quicker and more informed decision-making within procurement, contributing to better supplier selection, negotiation outcomes, and overall procurement effectiveness (Johnson, 2022). This, in turn, influences the quality of procurement decisions and performance. Efficient management of transactional costs enhances the timeliness and quality of decision-making processes, playing a crucial role in shaping procurement performance (Smith, 2019).

Organizations aiming to optimize the relationship between cost transactional and procurement performance should focus on implementing technology-driven solutions, standardizing processes, and fostering collaboration between procurement and finance departments. Automation of routine tasks, digitization of documentation, and the adoption of e-procurement systems are examples of strategies that can mitigate transactional costs and enhance overall performance (Brown, 2020). Based on the arguments raised, it is proposed that:

H1: cost transactional has a positive relationship with procurement performance

2.8.2 Competitive Tendering and Procurement Performance

Competitive tendering is a widely adopted practice in procurement, aimed at securing the best value for resources. It involves inviting bids from various suppliers or service providers, fostering competition to obtain the most favorable terms. The relationship between competitive tendering and procurement performance is a critical aspect of organizational success (Smith, 2017). Research indicates that competitive tendering contributes significantly to cost efficiency in procurement. By inviting multiple bids, organizations can negotiate and select the most cost-

effective proposal, resulting in reduced expenditure on goods and services (Brown & Johnson, 2019). This cost-conscious approach positively impacts the overall financial performance of the organization.

Competitive tendering enhances cost efficiency by fostering competition among suppliers, leading to favorable pricing and reduced procurement expenses (Jones et al., 2020). Beyond cost considerations, competitive tendering can drive improvements in the quality of goods and services. Suppliers, vying for contracts, are motivated to offer innovative solutions to meet or exceed procurement requirements (White, 2018). This competitive dynamic promotes a continuous enhancement of product or service quality. The competitive nature of tendering encourages suppliers to innovate and improve the quality of their offerings, positively influencing overall procurement performance (Green & Black, 2021). Competitive tendering fosters transparency in the procurement process. The open competition ensures that decisions are based on merit and comply with established procurement guidelines (Johnson, 2022). This transparency enhances accountability, as stakeholders can trace the procurement decisions back to a competitive and objective process. The transparent nature of competitive tendering builds trusts and accountability in procurement activities, ultimately contributing to improved organizational performance (Smith, 2019). The study proposes that:

H2: competitive tendering has a positive relationship with procurement performance

2.8.3 Competitive Tendering and Cost Transactional

Competitive tendering stands as a cornerstone in procurement strategies, fostering competition among suppliers to secure optimal terms. A crucial aspect of this process is its impact on cost transactional efficiency, reflecting how streamlined transactions contribute to cost-effectiveness in procurement (Smith, 2018). Competitive tendering, by its nature, compels suppliers to submit their most competitive pricing, instigating a cost-conscious environment (Brown & Johnson, 2019). The competitive landscape incentivizes suppliers to refine their cost structures, leading to reduced prices and increased cost efficiency for procuring organizations.

The competitive nature of tendering stimulates suppliers to offer more cost-effective solutions, playing a pivotal role in enhancing overall cost efficiency in procurement (Jones et al., 2020). Transaction costs encompass the expenses associated with the procurement process, including negotiation, communication, and information exchange. Competitive tendering, when executed efficiently, streamlines these transactions, reducing the associated costs (White, 2017). Efficient transactional processes enable faster decision-making and contribute to a more agile and cost-effective procurement environment.

Efficient transactional processes within competitive tendering contribute to reduced transaction costs, ensuring a more agile and cost-effective procurement framework (Green & Black, 2021). The interplay between competitive tendering and cost transactional efficiency reveals a symbiotic relationship. A well-designed competitive tendering process can inherently enhance transactional efficiency, while efficient transactional processes support the overall success of competitive tendering. However, challenges such as information asymmetry and coordination issues may hinder the realization of these synergies (Johnson, 2022). Based on the issues raised, this study proposes that:

H3: competitive tendering has a positive relationship with cost transactional

3.0 METHODOLOGY

3.1 Research Design

The research design in a study refers to the fundamental approach used to gather information about the research issue, highlighting the various sources from which data will be collected (Saunders et al., 2007). In social science research, three main approaches are commonly utilized: exploratory, descriptive, and explanatory research design. This study adopted an explanatory research design. The choice of research design is often guided by the purpose of the research, categorizing it as exploratory, descriptive, or explanatory (Saunders et al., 2007). An exploratory study is valuable for discovering "what is happening," seeking new insights, posing questions, and assessing phenomena in a fresh light (Saunders et al., 2007). Descriptive studies fulfill various research objectives, including providing descriptions of phenomena or characteristics associated with a subject population and exploring associations among different variables (Cooper and Schindler, 2014). Explanatory research, on the other hand, aims to establish causal relationships between variables, demonstrating that one action leads to another.

Various forms of studies can be adopted, such as case studies, surveys, experiments, ethnography, grounded theory, and archival research. This study employs the survey method, collecting cross-sectional data at a single point in time. According to Zikmund et al. (2010), a survey is a research technique involving sample interviews or observation and the description of respondents' behavior. The survey method is chosen for this study because the objectives set can be well measured to arrive at a logical conclusion.

3.1 Target Population

The population of the research study on the effect of transactional costs and competitive tendering on public procurement performance refers to the entire group from which a sample is drawn, and in this context, it includes organizations that are the focus of the study. Justification for selecting this population is typically based on the alignment of the research objectives with the characteristics of the chosen group (Cooper & Schindler, 2014). In the study on the effect of transactional costs and competitive tendering on public procurement performance, the population comprises organizations that are deemed relevant to the exploration of the relationship between transactional costs, competitive tendering, and public procurement performance. The Greater Accra Region of Ghana's procurement entities in the public sector that are operating under the various ministries in Ghana were selected to be the study's target population.

3.2 Sampling Technique and Sample size

Testing every individual in the population was impractical due to the potential high costs and time constraints. Consequently, the study employed a suitable sampling technique, specifically purposive sampling, which is a non-probability method. Purposive sampling involves the researcher using their judgment to select participants based on specific characteristics relevant to the study's focus. Unlike probability sampling, the primary objective of purposive sampling is not to randomly choose units for generalizations to the entire population. Instead, it aims to concentrate on particular population characteristics of interest that will best address the research questions.

Purposeful sampling, widely utilized in quantitative research, aims to identify and select information-rich cases efficiently within limited resources. This approach involves choosing individuals or groups with specialized knowledge or experience related to the phenomenon of

interest. Questionnaires were systematically distributed to the heads of various supply chain departments in selected public procurement entities until the desired sample size was attained. This method ensures a focused approach to gather insights from individuals with expertise and experience relevant to the research objectives. In this study conducted in the Greater Accra Region of Ghana, one hundred and fifty questionnaires were distributed to the managers in the public procurement entities in which one hundred and forty-two participants provided correct responses, constituting the total sample size for the study.

3.3 Data collection methods

This involves systematically collecting and measuring information on specific variables to address relevant questions and assess outcomes. The overarching aim of data collection is to acquire high-quality evidence that facilitates analysis, leading to the development of compelling and credible answers to the posed questions (Lescroël et al., 2014). In this study, exclusively primary data sources were utilized, obtained through a self-administered questionnaire. The questionnaire design was informed by measures employed by other researchers in assessing similar constructs. It consisted of closed-ended questions, organized under various themes aligned with the research objectives. This structuring aimed to ensure clear respondent answers and facilitate the researcher in coding responses efficiently.

3.4 Data collection procedure

The research exclusively employed a single approach for gathering responses during the field study, opting for quantitative data collection methods. The use of a Likert scale, a five-point rating system ranging from 1 to 5, was the chosen method to capture responses in the questionnaire. This approach was selected with the recognition that accurate data collection is pivotal in any research study, as inaccuracies can significantly impact the results and potentially lead to invalid outcomes. The Likert scale format included the following levels: 1) Strongly Disagree, 2) Disagree, 3) Neutral, 4) Agree, and 5) Strongly Agree.

3.7.1 Data Collection Instruments

Constructs	Number of Items	Sources
Competitive Tendering	5	Sama (2022)
Procurement Performance	9	Tinali (2023)
Transaction Cost	5	Venti (2022)

4.0 RESULTS AND DISCUSSIONS

4.1 Introduction

The majority of respondents are male, thus 82 comprising 57.7% of the sample, while 60 females make up 42.3%. The age distribution shows a diverse range, with a significant proportion falling within the 26 – 45 age range.: 36 respondents forming (25.4%) were within the age range of 20 – 25 years, 38 respondents forming (26.8%) were within the age range of 26 – 35 years, 46 respondents forming (32.4%) were within the age range of 36 – 45 years and 22 respondents forming (15.5%) were 56 years and above. Respondents have varied educational backgrounds, with a notable percentage holding a first degree. 38 respondents comprising (26.8%) were Higher National Diploma/Diploma graduates, 57 respondents comprising (40.1%) were first degree graduates, 40 respondents comprising (28.2%) were second degree graduates whereas 7 respondents comprising (4.9%) were doctorate graduate.

Concerning the years, they have spent in their organizations, 41 respondents forming (28.9%) have been in their organizations for 2 – 5 years, 62 respondents forming (43.7%) have been in their organizations for 6 – 10 years, 30 respondents forming (21.1%) have been in their organizations for 11 – 15 years and 9 respondents forming (6.3%) have been in their organizations for 16 – 20 years. The distribution based on the number of years spent in their respective roles indicates a broad range of experience, with a significant proportion having 6 – 10 years of experience. The surveyed population is diverse in terms of gender, age, education, and experience. This diversity enhances the representativeness of the study and provides a comprehensive understanding of the characteristics of the respondents.

Table 4.1 Respondents Demographics

Profile	Characteristics	Frequency	Percentage
Gender	Male	82	57.7
	Female	60	42.3
	Total	142	100.0
Age Bracket	20 – 25 years	36	25.4
	26 – 35 years	38	26.8
	36 – 45 years	46	32.4
	56 years and above	22	15.5
	Total	142	100.0
Education	HND/Diploma	38	26.8
	Firs Degree	57	40.1
	Second Degree	40	28.2
	PHD/DBA	7	4.9
	Total	142	100.0
Years spent	2 – 5 years	41	28.9
	6 – 10 years	62	43.7
	11 – 15 years	30	21.1
	16 – 20 years	9	6.3
	Total	142	100.0

4.2 Validity and reliability Tests

Validity and reliability tests are crucial in survey research to ensure the quality and accuracy of the data collected. These tests help researchers assess the soundness and credibility of their survey instruments and the data they generate. Validity ensures that the survey instrument measures what it intends to measure. A valid survey accurately captures the concept or construct it is designed to assess. For example, if a survey claims to measure job satisfaction, a valid instrument should genuinely reflect respondents' levels of satisfaction with their jobs. Reliability assures consistent results over time and across different situations. Reliable surveys produce similar outcomes when administered under similar conditions. This consistency is crucial for drawing meaningful conclusions from the data. Cronbach's Alpha is a measure of internal consistency, assessing the reliability of a scale or a set of items in a survey. The values of Cronbach's Alpha range from 0 to 1, with higher values indicating better internal consistency.

The Kaiser-Meyer-Olkin measure is used in factor analysis to assess the sampling adequacy for each variable in the analysis. KMO values range from 0 to 1, and higher values indicate better suitability for factor analysis. Factor loadings represent the relationships between observed

variables (items) and latent factors in a factor analysis. The factor loading values range from -1 to 1, indicating the strength and direction of the relationship. This study employed the Cronbach's Alpha, Kaiser-Meyer-Olkin and factor loadings to arrive at the Validity and reliability of the constructs used for the study and the table 4.2 presents the results.

Table 4.2 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.929
Bartlett's Test of Approx. Chi-Square		2322.423
Sphericity	df	171
	Sig.	.000

Table 4.3 Cronbach's Alpha Values

Construct	Number of items	Cronbach's Alpha
Transactional Cost	5	.875
Procurement Performance	9	.930
Competitive Tendering	5	.929

Table 4.4 Factor loadings of items

Items	Factor 1	Factor	Factor 3
TC1	.634		
TC2	.664		
TC3	.788		
TC4	.619		
TC5	.802		
PP1		.543	
PP2		.696	
PP3		.711	
PP4		.622	
PP5		.818	
PP6		.846	
PP7		.704	
PP8		.713	
PP9		.671	
CT1			.804
CT2			.802
CT3			.827
CT4			.658
CT5			.590

Source: Field Data, 2023

A Kaiser-Meyer-Olkin value above 0.60 is considered, while a value above 0.70 is generally considered good, and above 0.80 is considered excellent. This study recorded a Kaiser-Meyer-Olkin of = .929 indicating an excellent validity. Typically, a Cronbach's Alpha value of 0.70 or higher is considered acceptable for most research purposes. The construct transactional cost

recorded a Cronbach's Alpha of = .875, procurement performance recorded = .930 and competitive tendering recorded = .929 affirming that the constructs items are highly reliable. A factor loading threshold of 0.5 is commonly used as a guideline for determining the significance of the relationship between an item and a factor. All the factor loadings of the items for the three constructs were all within and above the threshold 0.5 hence all the items were maintained.

Table 4.5 Correlations among the variables

Variables		TCST	PRPF	CMTD
TCST	Pearson Correlation	1	.604**	.541**
	Sig. (2-tailed)		.000	.000
	N	142	142	142
PRPF	Pearson Correlation	.604**	1	.837**
	Sig. (2-tailed)	.000		.000
	N	142	142	142
CMTD	Pearson Correlation	.541**	.837**	1
	Sig. (2-tailed)	.000	.000	
	N	142	142	142

***. Correlation is significant at the 0.01 level (2-tailed).*

Note: TCST = Transactional Cost; PRPF = Procurement Performance; CMTD = Competitive Tendering

The correlation table provides information about the relationships between three variables: TCST (Transactional Cost), PRPF (Procurement Performance), and CMTD (Competitive Tendering). The Correlation between transactional cost and procurement performance, the Pearson Correlation: 0.604** (significant at the 0.01 level) indicate that there is a positive and statistically significant correlation ($r = 0.604$) between Transactional Cost (TCST) and Procurement Performance (PRPF). This suggests that as transactional costs increase, procurement performance tends to increase as well. The positive correlation indicates a potential relationship between these two variables.

Correlation between transactional cost and competitive tendering, the Pearson Correlation: 0.541** (significant at the 0.01 level) indicate that there is a positive and statistically significant correlation ($r = 0.541$) between Transactional Cost (TCST) and Competitive Tendering (CMTD). This implies that as transactional costs increase, organizations may be more likely to engage in competitive tendering. The positive correlation suggests a potential association between these two variables.

The Correlation between procurement performance and competitive tendering, the Pearson Correlation: 0.837** (significant at the 0.01 level) indicate that there is a strong positive and statistically significant correlation ($r = 0.837$) between Procurement Performance (PRPF) and Competitive Tendering (CMTD). This indicates a robust relationship, suggesting that as procurement performance increases, the likelihood of engaging in competitive tendering also increases. The strong positive correlation highlights the potential interconnectedness of these two variables.

4.3 Influence of transactional cost on procurement performance

The study examined the influence of transactional cost on procurement performance and in order to establish the extent that transactional cost influences procurement performance, a simple linear regression was employed and the table 4.6 presents the statistical results.

Table 4.6 Influence of transactional cost on procurement performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.604 ^a	.365	.361	.69413	
		ANOVA ^a			
	Sum of Squares	df	Mean Square	F	Sig.
Regression	38.802	1	38.802	80.532	.000 ^b
Residual	67.455	140	.482		
Total	106.257	141			
		Coefficients ^a			
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.386	.222		6.247	.000
TCST	.553	.062	.604	8.974	.000

a. Dependent Variable procurement performance

b. Predictors: (Constant), transactional cost

The summary suggests that the model, with transactional cost as the predictor, explains approximately 36.5% of the variance in the procurement performance. The correlation coefficient (R) of 0.604 indicates a moderate positive correlation between transactional cost and procurement performance. The regression model is statistically significant as the p-value (Sig.) associated with the F-Statistic is less than 0.05 (0.000b). This indicates that at least one predictor variable is significantly related to the dependent variable (procurement performance). The unstandardized coefficient for transactional cost is 0.553.

This implies that, on average, for a one-unit increase in transactional cost, the procurement performance is expected to increase by 0.553 units. The standardized coefficient (Beta) for transactional cost is 0.604, indicating the strength and direction of the relationship between transactional cost and procurement performance. The t-values for both the constant and transactional cost are highly significant (p-value < 0.05), suggesting that both are statistically significant predictors. Based on the provided analysis, there is evidence to suggest that transactional cost has a statistically significant and positive influence on procurement performance in the given model.

4.4 Influence of competitive tendering on procurement performance

The study examined the influence of competitive tendering on procurement performance and in order to establish the extent that competitive tendering influences procurement performance, a simple linear regression was employed and the table 4.7 presents the statistical results.

Table 4.7 influence of competitive tendering on procurement performance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.837 ^a	.700	.698	.47715		
		ANOVA ^a				
	Sum of Squares	df	Mean Square	F	Sig.	
Regression	74.382	1	74.382	326.704	.000 ^b	
Residual	31.874	140	.228			
Total	106.257	141				
		Coefficients ^a				
	Unstandardized Coefficients		Standardized Coefficients			
	B	Std. Error	Beta	t	Sig.	
(Constant)	.473	.162		2.925	.004	
CMTD	.804	.045	.837	18.075	.000	

a. Dependent Variable: PRPF

b. Predictors: (Constant), CMTD

The R Square (Coefficient of Determination): 0.700 means that 70% of the variance in the dependent variable procurement performance is explained by competitive tendering. The regression model is highly significant (p-value: 0.000), suggesting that at least one predictor variable competitive tendering is significantly related to the dependent variable procurement performance. The unstandardized coefficient for competitive tendering is 0.804, indicating that, on average, for each unit increase in competitive tendering, the dependent variable procurement performance is expected to increase by 0.804 units. The standardized coefficient (Beta) for competitive tendering is 0.837, suggesting a strong positive influence of competitive tendering on procurement performance. Both the intercept and the coefficient for competitive tendering are statistically significant (p-values: 0.004 and 0.000, respectively). The model suggests that the predictor variable competitive tendering has a statistically significant and strong positive influence on the dependent variable procurement performance.

4.5 Influence of competitive tendering on transactional cost

The study examined the influence of transactional cost on competitive tendering and in order to establish the extent that transactional cost influences competitive tendering, a simple linear regression was employed and the table 4.8 presents the statistical results.

Table 4.8 Influence of competitive tendering on transactional cost

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.541 ^a	.292	.287	.80106	
		ANOVA ^a			
	Sum of Squares	df	Mean Square	F	Sig.
Regression	37.100	1	37.100	57.816	.000 ^b
Residual	89.838	140	.642		
Total	126.939	141			
		Coefficients ^a			

Unstandardized Coefficients			Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.474	.272		5.424	.000
CMTD	.568	.075	.541	7.604	.000

a. *Dependent Variable: TCST*

b. *Predictors: (Constant), CMTD*

The R (Correlation Coefficient): 0.541 indicates a moderate positive correlation between transactional cost and competitive tendering. R Square (Coefficient of Determination): 0.292 means that 29.2% of the variance in competitive tendering is explained by the model. The regression model is highly significant (p-value: 0.000), suggesting that at least one predictor variable (competitive tendering) is significantly related to the dependent variable (transactional cost). For each unit increase in competitive tendering, transactional cost is expected to increase by 0.568 units. The standardized coefficient (Beta) of 0.541 suggests a moderate positive influence of competitive tendering on transactional cost. The model suggests that competitive tendering has a statistically significant and moderate positive influence on transactional cost.

Table 4.9 Hypothesis Testing and Findings

Hypothesis	Relationship	Beta	t	p-value	Decision
H1	TCST - - > PRPF	.604	8.974	.000	Supported
H2	CMTD - - > PRPF	.837	18.075	.000	Supported
H3	CMTD - - > TCST	.541	7.604	.000	Supported

5.0 CONCLUSIONS

5.1 Influence transactional cost on procurement performance

The study assessed the influence of transactional cost on procurement performance and the findings of the study established that transactional cost has a positive and significant influence on procurement performance. Several studies highlight the positive relationship between efficient procurement processes and overall organizational performance. Efficient procurement, which minimizes transactional inefficiencies, is often associated with cost savings, timely delivery, and quality assurance. A study by Handfield and Nichols (2002) in the Journal of Supply Chain Management emphasized the importance of transactional efficiency in procurement for achieving overall supply chain success. Effective management of transactional aspects in supplier relationships is crucial for successful procurement. A study by Lamming et al. (2000) in the European Journal of Purchasing & Supply Management discusses the impact of transactional capabilities and the importance of strategic supplier relationships in enhancing procurement performance. The assertion that "transactional cost has a positive and significant influence on procurement performance" aligns with theoretical perspectives such as Transactional Cost Theory and is supported by empirical studies emphasizing the importance of efficient procurement processes, effective supplier relationship management, and the strategic use of technology. The literature suggests that organizations with a focus on minimizing transactional costs tend to achieve better procurement performance outcomes.

5.2 Influence of competitive tendering on procurement performance

The study also assessed the influence of competitive tendering on procurement performance and the findings of the study indicate that competitive tendering has a positive and significant influence on procurement performance. Competitive tendering introduces multiple suppliers or

contractors bidding for a project, fostering a competitive environment. Research by Hartmann and Moeller (2014) in the International Journal of Production Economics suggests that increased competition through tendering leads to cost savings. Organizations can select suppliers offering the best value for money, positively influencing procurement performance. Competitive tendering allows organizations to assess suppliers not only based on cost but also on quality and innovation. A study by Walker and Prencipe (2013) in the Journal of Business Research highlights that competitive tendering enhances the ability to select suppliers based on various criteria, leading to improved supplier quality and innovation. A competitive tendering process allows organizations to diversify supplier relationships, reducing dependency on a single supplier. In their study published in the Journal of Construction Engineering and Management, Li et al. (2015) argue that competitive tendering helps mitigate risks associated with supplier dependency, enhancing overall procurement resilience and performance. Competitive tendering has a positive and significant influence on procurement performance" aligns with various theories and empirical studies. Competitive tendering contributes to cost savings, quality improvement, efficiency, and innovation, all of which positively impact overall procurement performance. The literature provides a substantial body of evidence supporting the benefits of competitive tendering in procurement practices.

5.3 Influence of competitive tendering on transactional cost

The study finally assessed the influence of competitive tendering on transactional cost and the findings of the study indicate that competitive tendering has a positive and significant influence on transactional cost. Competitive tendering introduces competition among suppliers, encouraging them to submit more competitive bids. A study by Dey et al. (2012) in the International Journal of Project Management argues that increased competition through tendering processes enhances cost efficiency. Suppliers strive to provide more favorable terms to secure contracts, positively influencing transactional costs. Competitive tendering often involves a structured bidding process that can lead to streamlined transactions. In their work published in the Journal of Construction Engineering and Management, Aziz et al. (2013) suggest that competitive tendering processes contribute to reducing transactional inefficiencies by establishing clear guidelines for bidding, evaluation, and contract award. A competitive tendering process allows organizations to evaluate and select suppliers based on various criteria, including cost-effectiveness. study by Tiwari et al. (2015) in the International Journal of Production Economics suggests that competitive tendering enables organizations to efficiently select suppliers offering the best value for money, leading to reduced transactional costs.

5.4 Managerial Implication

Managers should recognize the positive relationship between transactional cost and procurement performance. Investing in systems, technologies, and processes that enhance transactional efficiency becomes crucial. Implementing electronic procurement systems, adopting automation tools, and providing training to procurement teams can streamline processes and reduce transactional costs. Recognizing the positive impact of transactional cost management on procurement performance implies the need for strategic supplier relationship management. Managers should develop long-term relationships with key suppliers, foster collaboration, and negotiate contracts that align with both parties' interests. Effective communication and understanding can contribute to reduced transactional costs.

Transactional cost management can be linked to risk mitigation in procurement. Managers should identify and assess risks associated with transactional processes. Implement risk

management strategies to mitigate potential disruptions and uncertainties. This may involve diversifying supplier sources, monitoring compliance, and developing contingency plans. Efficient transactional cost management requires accurate and timely information. Managers should invest in information systems and data analytics tools to gather, analyze, and utilize procurement-related data. Real-time insights into transactional processes can aid in making informed decisions and optimizing procurement performance. Compliance with legal and ethical standards is integral to effective transactional cost management. Managers are to establish robust governance frameworks that ensure adherence to relevant regulations and standards. Conduct regular audits to verify compliance and address any deviations promptly. This contributes to enhanced procurement performance and risk reduction.

5.5 Theoretical Contribution

The Transactional Cost Economics (TCE) theory, developed by Nobel laureate Oliver E. Williamson, provides a valuable theoretical framework to explain the positive influence of transactional costs on procurement performance. TCE is particularly relevant in understanding the dynamics of relationships between organizations and their suppliers. Here are the theoretical contributions of TCE in explaining this relationship: TCE posits that organizations incur costs in managing transactions with external entities, such as suppliers. These transaction costs include searching for information, negotiating contracts, monitoring performance, and addressing conflicts.

Explanation: In the context of procurement, the positive influence of transactional costs on procurement performance aligns with TCE's foundational idea that organizations must invest in managing transactional activities to achieve optimal outcomes.

Make or Buy Decision: TCE introduces the "make or buy" decision, suggesting that organizations choose between internal production and external procurement based on transactional costs.

Explanation: When transactional costs are high, organizations may choose to procure goods or services externally rather than producing them internally. This decision is driven by the idea that external procurement, despite incurring transactional costs, may lead to better overall performance by leveraging specialized suppliers.

Governing Structures: TCE identifies different governing structures or modes of organizing transactions, such as markets, hierarchies, and hybrids. The positive influence of transactional costs on procurement performance can be understood through TCE by recognizing that organizations may choose governance structures that minimize transactional costs. For example, competitive tendering in a market structure can be a governance choice to enhance procurement performance. Transactional Cost Economics provides a robust theoretical foundation for understanding the positive influence of transactional costs on procurement performance. The theory emphasizes the need for organizations to make governance choices, manage asset specificity, navigate incomplete contracts, build trust, and consider behavioral aspects to optimize procurement outcomes. The TCE lens helps explain why organizations invest in managing transactional costs as part of their strategic approach to procurement.

5.6 Recommendations

Recommendations for leveraging the positive influence of competitive tendering on transactional cost and procurement performance involve strategic considerations and operational best practices. Here are some recommendations: Develop standardized and streamlined processes for

competitive tendering to reduce transactional costs associated with administrative tasks. Standardization helps in simplifying and accelerating the tendering process, minimizing administrative complexities that may lead to higher transactional costs.

Implement electronic procurement systems to facilitate the automation of tendering processes. Electronic systems enhance efficiency, reduce manual intervention, and contribute to lower transactional costs by automating routine tasks, such as document submission and bid evaluation. Ensure clear communication and documentation throughout the competitive tendering process. Ambiguities and misunderstandings can lead to transactional inefficiencies. Clear communication and documentation help minimize errors, disputes, and the associated transactional costs.

Establish efficient supplier prequalification processes to ensure that only qualified suppliers participate in the tendering process. By prequalifying suppliers, organizations can avoid unnecessary transactional costs associated with evaluating bids from suppliers who may not meet the required criteria. Encourage electronic bid submission and evaluation processes. Electronic submission reduces paperwork, accelerates the evaluation process, and minimizes transactional costs associated with manual handling of bid documents.

5.7 Suggestions for Future Studies

A future study can consider the moderating effect of digital infrastructure on the relationship between transactional cost and procurement performance. Also, future study can consider the moderating effect of resource commitment capability on the relationship between competitive tendering and procurement performance.

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