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DEPARTMENT OF ACCOUNTANCY

EFFECT OF CENTRALIZED PROCUREMENT ON OPERATIONAL EFFICIENCY IN ZIMBABWEAN PARASTATALS, CASE OF ZIMBABWE ELECTRICITY TRANSMISSION AND DISTRIBUTION COMPANY (ZETDC)

BY

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DEDICATION

I dedicate this dissertation to my cherished parents, siblings, family, and friends. Their unwavering efforts and steadfast encouragement have been a powerful source of inspiration throughout my academic journey. I extend my deepest gratitude for their boundless moral, spiritual, and financial support.

ABSTRACT

The study investigated the impact of centralized procurement on operational efficiency in Zimbabwean parastatals, specifically focusing on the Zimbabwe Electricity Transmission and Distribution Company (ZETDC). ZETDC as a parasternal critical to national power infrastructure, faces persistent operational inefficiencies. These inefficiencies directly impact ZETDC's capacity to provide reliable power supply, hindering economic development and burdening Zimbabwean consumers. However, procurement processes play a significant role in these operational bottlenecks. ZETDC's historically decentralized procurement system has led to fragmentation, inconsistent practices, and lengthy procurement Delays in procuring essential equipment for maintenance and upgrades contribute to frequent power outages and service interruptions. Furthermore, a lack of transparency in procurement has fuelled allegations of corruption. A recent independent audit found that over 30% of supplier contracts in 2022 showed evidence of inflated pricing or suspected collusion, significantly draining ZETDC's resources. The objectives of the study included assessing the effect of centralized procurement on cost efficiency at ZETDC, determining its influence on time-related metrics, evaluating the quality implications, and assessing its impact on administrative efficiency at ZETDC. Data collection was conducted using structured questionnaires, with a sample size of 115 respondents selected through simple random and stratified sampling methods. The data was analysed using descriptive statistics and inferential analysis. The study finding indicated a statistically significant positive correlation ($r=0.480$, $p < 0.01$) between centralized procurement and cost efficiency aligns with previous research at ZETDC. The study outcome revealed a significant positive correlation ($r = 0.431$, $p < 0.01$) between centralized procurement and time-related metrics at ZETDC. The research showed a strong positive relationship found between centralized procurement and quality implications ($r = 0.819$, $p < 0.01$) at ZETDC. The study indicated that a strong positive relationship existed between centralized procurement and administrative efficiency at ZETDC ($r = 0.609$, $p < 0.00$), thus centralized procurement practices can streamline administrative processes and improve overall efficiency. The study recommended that organizations should invest in robust IT systems and data management tools to support centralized procurement processes. These technologies facilitate better monitoring, control, and analysis of procurement activities, enhancing both efficiency and effectiveness.

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CHAPTER ONE

INTRODUCTION

The relationship between centralized procurement practices and organizational efficiency holds substantial interest for scholars and practitioners, particularly within the public sector. State-owned enterprises (SOEs) or parastatals, like Zimbabwe Electricity Transmission and Distribution Company (ZETDC), present unique case studies for exploring this dynamic. This dissertation delves into the exploration of centralized procurement practices within Zimbabwean parastatals, focusing on the ZETDC as a case study. Specifically, this chapter will concentrate on the study's background, statement of the problem, research objectives, assumptions, delimitations, significance of the study, and definition of key terms that will be utilized in the research.

1.1 Background of the Study

Globally, the debate around centralized versus decentralized procurement has intensified. While centralized procurement offers potential benefits such as economies of scale, standardization, and reduced duplication (Petersen, Jensen & Bhatti, 2022), it also faces challenges related to responsiveness, adaptability, and local context (Stritch, Bretschneider, Darnall, Hsueh & Chen, 2020). The need to strike a balance between centralization and flexibility remains a central concern for policymakers and practitioners (Tarigan & Siagian, 2021). According to a report by the World Bank (2022), centralized procurement mechanisms can lead to an average cost saving of approximately 10-15% across various sectors and countries. The European Union, for instance, has seen varied success across member states, with centralized procurement saving an estimated €44.2 billion annually in public (Casady, Petersen & Brogaard, 2023). Empirical studies, such have demonstrated varied outcomes of centralized procurement practices across different countries and sectors, indicating that its impact on operational efficiency is contingent upon the specific organizational and contextual dynamics. As noted by Harland, Eßig, Lynch & Patrucco (2021), success hinges on factors like clear governance structures, robust procurement systems, skilled personnel, and effective coordination across departments (Madsen, 2023). Furthermore, organizational culture and change management play a crucial role in successful adoption (Mitchell & Agapiou, 2023).

According to Li, Lv and Liu (2024), centralized procurement is a procurement system where the procurement function is managed by a centralized body on behalf of multiple organisations. In Zimbabwe, key parastatals engage in centralized procurement through the State Procurement

Board (Mapfumo, 2020).Behravesh, Darnall and Bretschneider (2022) defined operational efficiency as a measure of how well a company or organisation uses available resources (such as people, production capacity, property, and working capital) to produce a given level of output. High operational efficiency means producing more goods/services with fewer resources (Ishak & Thiruchelvam, 2023). While a parastatals are state-owned enterprises (SOE) or corporations that operate as commercial entities under the partial control of the government (Chen, Bretschneider, Stritch, Darnall & Hsueh, 2022).

In the African context, the adoption of centralized procurement has been influenced by the drive for public sector reform and efficiency (Kabelele & Kitomo, 2022). Many African nations grapple with fragmented procurement systems stemming from colonial legacies (Chumakova, 2022). These decentralized structures often suffer from capacity constraints, corruption vulnerabilities, and inefficiencies (Hafsa, Darnall & Bretschneider, 2021). African countries have been reforming their procurement systems to align with best practices, aiming to improve public service delivery and operational efficiency (Abutabenjeh, Dimand & Tao, 2023). However, the effectiveness of these reforms has been mixed, with success often hampered by issues of capacity, governance, and the regulatory environment (Dimand, 2022). For instance, a study by Abrahim and Tarekegn (2020) on Ghana's public sector procurement underscored the potential of centralized procurement to enhance efficiency but also highlighted significant challenges related to implementation and governance. Centralization is a prominent feature of public procurement reforms across Africa (Dimand & Cheng, 2023). Motivations include combating corruption, improving spending efficiency, and fostering professionalism in the procurement function (Mangwengwende, 2018).

Zimbabwe's parastatal sector, which includes entities like ZETDC, has been characterized by operational inefficiencies, financial constraints, and challenges in service delivery (Chikwere, Chikazhe & Tukuta, 2023). The government of Zimbabwe has, over the years, initiated various reforms to improve efficiency and accountability within parastatals, with centralized procurement being identified as a key strategy for achieving these objectives (Zinyama, 2021). The Public Procurement and Disposal of Public Assets Act [Chapter 22:23] was enacted to overhaul the procurement system, introducing centralized procurement procedures aimed at enhancing transparency, competitiveness, and efficiency (Government of Zimbabwe, 2022). A report by the Auditor General (2019) indicated that Zimbabwe Electricity Transmission and

Distribution Company (ZETDC) managed to achieve a 5% reduction in procurement costs in the first year following the implementation of centralized procurement.

The ZETDC, a critical player in Zimbabwe's energy sector, offers a pertinent case study for examining the impact of centralized procurement on operational efficiency. ZETDC's operational efficiency is pivotal for national economic stability, given the essential nature of electricity as a driver of other sectors. Previous studies, such as those by Mangwengwende (2018), have pointed out that procurement practices within ZETDC and similar parastatals significantly affect their operational efficiency, with centralized procurement being touted as a potential solution for reducing costs, improving procurement lead times, and ensuring the quality of goods and services procured. Centralizing procurement functions is viewed as a strategy to address SOE inefficiencies (Chilunjika, Chilunjika & Uwizeyimana, 2023). Furthermore, despite the substantial body of literature exploring the impacts of centralized procurement on operational efficiency within public sector organizations globally and within Africa, including Zimbabwe, a distinct knowledge or research gap persists. It is against this background that the study explored the effect of centralized procurement on operational efficiency in Zimbabwean parastatals, case of ZETDC.

1.2 Statement of the Problem

ZETDC as a parastatal critical to national power infrastructure, faces persistent operational inefficiencies. These inefficiencies directly impact ZETDC's capacity to provide reliable power supply, hindering economic development and burdening Zimbabwean consumers. However, procurement processes play a significant role in these operational bottlenecks. ZETDC's historically decentralized procurement system has led to fragmentation, inconsistent practices, and lengthy procurement cycles (Mapfumo, 2020). Delays in procuring essential equipment for maintenance and upgrades contribute to frequent power outages and service interruptions (GOZ, 2023). Furthermore, a lack of transparency in procurement has fuelled allegations of corruption (Mhonderwa, 2020). A recent independent audit found that over 30% of supplier contracts in 2022 showed evidence of inflated pricing or suspected collusion, significantly draining ZETDC's resources (ZETDC,2023). Efforts to centralize ZETDC's procurement functions seek to address these challenges. The intent is to improve efficiency, leverage economies of scale, and enhance transparency. However, early implementation phases reveal difficulties, including bureaucratic hurdles that exacerbate existing delays. While the potential

advantages of centralized procurement are recognized in theory, their actualization within the Zimbabwean parastatal context remains uncertain. The impact of centralized procurement reforms on ZETDC's overall operational efficiency, the specific trade-offs, and the critical factors that determine success or failure have yet to be thoroughly investigated. Furthermore, there exists a paucity of empirical research on the relationship between centralized procurement reforms and operational efficiency within Zimbabwean parastatals.

1.3 Aim of the Study

The sought to explore the effect of centralized procurement on operational efficiency in Zimbabwean parastatals, case of ZETDC.

1.4 Objectives of the Study

1. To assess the effect of centralized procurement on cost efficiency at ZETDC
2. To determine the Influence of centralized procurement on time-related metrics at ZETDC
3. To evaluate the quality implications of centralized procurement at ZETDC
4. To assess the impact of centralized procurement on administrative efficiency at ZETDC

1.5 Research Question of the Study

1. What is the effect of centralized procurement on cost efficiency at ZETDC?
2. What is the Influence of centralized procurement on time-related metrics at ZETDC?
3. What is the quality implications of centralized procurement at ZETDC?
4. What is impact of centralized procurement on administrative efficiency at ZETDC?

1.6 Significance of the Study

The significance of studying the effect of centralized procurement on operational efficiency, particularly within Zimbabwean parastatals such as the ZETDC, extends across multiple dimensions of public administration, economic policy, and supply chain management. This section delineates the critical importance of this research, highlighting its contributions to both theoretical frameworks and practical applications.

1.6.1 Theoretical Contributions

Enhancing Procurement Models: This study may contribute to the academic discourse on procurement by providing empirical evidence and insights into the efficacy of centralized

procurement models in public sector organizations. It will enriches the theoretical understanding of how centralized procurement impacts operational efficiency, offering a nuanced perspective within the context of developing countries, specifically within the unique socio-economic backdrop of Zimbabwe.

Public Sector Reform: By examining the transition to centralized procurement in Zimbabwean parastatals, the study adds to the body of knowledge on public sector reforms aimed at enhancing efficiency and transparency. It provides a critical analysis of the challenges and successes encountered, contributing to the broader theory of public administration and governance reform in emerging economies.

Supply Chain Management (SCM) Practices: The research underscores the significance of SCM practices in the public sector, particularly the strategic role of procurement in operational efficiency. It extends SCM theory by exploring the interface between procurement strategies and operational outcomes in the context of public utilities.

1.6.2 Practical Implications

Policy Formulation and Implementation: Findings from this study are instrumental for policymakers and regulatory bodies in Zimbabwe and similar contexts. They provide evidence-based insights that can inform the formulation and implementation of policies aimed at optimizing procurement practices for enhanced public sector efficiency and effectiveness.

Operational Efficiency in Parastatals: For parastatals like ZETDC, the study offers practical recommendations for leveraging centralized procurement to improve operational performance. It identifies key factors that influence the success of procurement strategies, aiding in the development of targeted interventions to address inefficiencies.

Cost Reduction and Service Delivery: By elucidating the impact of centralized procurement on cost savings and operational efficiency, the research highlights pathways for parastatals to improve their financial performance and service delivery. This is crucial for entities like ZETDC, where operational efficiency directly affects national energy security and economic stability.

1.7 Assumptions of the Study

Uniformity of Centralized Procurement Policies: It is assumed that centralized procurement policies and their implementation strategies are relatively uniform across Zimbabwean

parastatals. This assumption allowed for a focused examination of their impact on ZETDC, under the premise that findings could have broader applicability to similar entities within the public sector.

Operational Efficiency as a Primary Objective: The study assumed that enhancing operational efficiency is a primary objective of centralized procurement within ZETDC and other parastatals. This includes expectations of cost savings, improved procurement timelines, enhanced quality of goods and services, and overall better management of resources.

Stable External Environment: The research presupposed a relatively stable external economic and political environment in Zimbabwe. While acknowledging the dynamic nature of such environments, this assumption was necessary to isolate the effects of centralized procurement practices from external variables that could independently impact operational efficiency.

Data Availability and Reliability: The study relied on the assumption that relevant data on procurement practices and operational efficiency indicators are available and reliable. This was crucial for conducting empirical analysis and drawing evidence-based conclusions.

1.8 Delimitations of the Study

1. **Focus on Centralized Procurement**: The study specifically investigated the impact of centralized procurement practices, excluding other procurement models or strategies that ZETDC or other parastatals might employ. This delimitation allowed for a concentrated examination of centralized procurement's effects on operational efficiency.

2. **Geographical Limitation**: The research was delimited to Zimbabwe, with a particular emphasis on ZETDC. While the findings may have broader implications, the study was designed to address the operational efficiency within the context of Zimbabwean parastatals, recognizing the unique economic, political, and regulatory landscape of Zimbabwe.

3. **Temporal Scope**: The study examined the effects of centralized procurement within a defined time frame of 6 months, acknowledging that procurement practices and their impacts on operational efficiency may evolve. The temporal delimitation ensured that the research findings are relevant to the specific period under review.

4. **Data Sources**: The research is delimited to data available from ZETDC, government publications, and other credible sources. The reliance on publicly available data and information directly obtained from ZETDC or relevant regulatory bodies defines the evidentiary basis of the study.

1.9 Definition of Key Terms

Centralized Procurement: A procurement model where purchasing activities for various departments or divisions within an organization or across multiple organizations are consolidated under a single, central authority (Petersen et al., 2022).

Operational Efficiency: The ability of an organization to deliver products or services in a cost-effective manner while ensuring quality and timeliness (Abrahim & Tarekegn, 2020).

Parastatals: State-owned enterprises or agencies that undertake commercial activities on behalf of the government (Dimand, 2022).

1.10 Organisation of the Study

This study investigates the impact of centralized procurement on operational efficiency in Zimbabwean parastatals, focusing on ZETDC, across five chapters. Chapter 1 introduces the study, outlining its significance and framework. Chapter 2 reviews literature on centralized procurement practices globally and within Africa, emphasizing their implications for operational efficiency. Chapter 3 details the research methodology, including data collection and analysis techniques. Chapter 4 presents and analyzes the findings, assessing the effect of centralized procurement on ZETDC's efficiency. The final chapter synthesizes conclusions and offers recommendations for enhancing procurement practices, alongside identifying study limitations and suggesting avenues for future research.

1.11 Chapter Summary

The chapter sets the foundational tone for the dissertation, introducing the topic of centralized procurement and its influence on operational efficiency within Zimbabwean parastatals, with a specific focus on the ZETDC. It outlines the study's background, stating the significance and potential impact of centralized procurement practices. The chapter delineates the research objectives, questions, assumptions, and significance, providing a clear roadmap for the investigation. It also introduces the research methodology that will guide data collection and analysis. The following chapter is going to cover the literature review of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a comprehensive review of the literature related to the research topic, which focuses on the effect of centralized procurement on operational efficiency in parastatals. The section begins by discussing the conceptual and theoretical frameworks that underpin the study. Subsequently, the chapter delves into an exploration of the relevant literature, aligned with the study objectives.

2.2 Theoretical Framework

The study on the effect of centralized procurement on operational efficiency in Zimbabwean parastatals, with a focus on the Zimbabwe Electricity Transmission and Distribution Company (ZETDC), was underpinned by theories that explain the relationship between procurement practices and organizational performance. These theories offer a framework to understand how centralized procurement could influence cost efficiency, time-related metrics, quality implications, and administrative efficiency at ZETDC. Transaction Cost Economics Theory (TCE) offers insights into cost minimization, Resource-Based View (RBV) Theory highlights the strategic use of organizational resources, and Principal-Agent Theory (PAT) emphasizes alignment of interests within the organization, collectively providing a comprehensive theoretical foundation for the study.

2.2.1 Transaction Cost Economics Theory

Transaction Cost Economics (TCE) Theory Founded by Oliver E. Williamson in the 1970s, TCE theory explores the cost of conducting transactions through the market versus within an organization (Williamson, 1979). The core tenet of TCE is that organizations will organize their transactions in a manner that minimizes transaction costs, which include search and information costs, bargaining costs, and enforcement costs (Kong, 2024). Applying TCE to the centralized procurement at ZETDC helps in understanding how such an approach could reduce transaction costs associated with procurement activities, thus potentially enhancing cost efficiency. Centralized procurement could streamline processes, reduce redundancy, and negotiate better terms with suppliers due to larger volume purchases, which aligns with TCE's emphasis on minimizing transaction costs for operational efficiency.

2.2.2 Resource-Based View (RBV) Theory

The Resource-Based View, developed by Wernerfelt (1984) and further elaborated by Barney (1991), posits that an organization's competitive advantage is derived from its unique resources and capabilities. RBV emphasizes the importance of valuable, rare, inimitable, and non-substitutable (VRIN) resources in achieving superior performance (Stumpf, Besiou & Wakolbinger, 2023). In the context of ZETDC, centralized procurement can be seen as a strategic approach to consolidating procurement knowledge, expertise, and information, which are critical resources for the organization. By centralizing procurement, ZETDC could enhance its negotiation capabilities, achieve better supplier relationships, and improve the quality of procured goods and services, thereby leveraging its internal resources for competitive advantage.

2.2.3 Principal-Agent Theory (PAT)

Principal-Agent Theory, developed by Jensen and Meckling (1976), focuses on the relationship between principals (owners) and agents (managers), and how principals can ensure that agents act in the principals' best interests. In the context of procurement, there is often a divergence between the objectives of procurement managers (agents) and the organizational goals (principal) (Debala, Bhat & Khan, 2023). Centralized procurement can align these objectives by standardizing procurement policies, procedures, and criteria across the organization, thereby reducing the agency costs associated with misaligned objectives and opportunistic behaviour (Gu & Zhuang, 2023). This alignment is crucial for enhancing administrative efficiency and ensuring that procurement decisions are made in the best interest of the organization as a whole (Simwa & Barasa, 2024). The relationship between principals and agents, suggesting that centralized procurement may realign incentives and decision-making processes within ZETDC, potentially reducing conflicts of interest.

2.3 Effect of centralized procurement on cost efficiency

The concept of centralized procurement has garnered significant attention within both academic and practical domains, primarily due to its potential implications for enhancing cost efficiency in organizations. This literature review aims to dissect the multifaceted relationship between centralized procurement practices and cost efficiency outcomes, drawing upon a diverse range of scholarly perspectives and empirical studies. Centralized procurement, as defined by Bryngemark, Söderholm and Thörn (2023), involves the consolidation of procurement activities across various departments within an organization to leverage economies of scale and reduce costs. Centralized procurement streamlines the purchasing process within an organization by consolidating acquisition activities under a single unit or

department (Li, Yang, Shi & Cai, 2023). This model contrasts with decentralized procurement, where individual departments or units manage their own purchases (Nemec, Ďuricová & Kubak, 2023). Proponents of centralized procurement argue that it offers significant cost savings, improved efficiency, and enhanced transparency (Chatha, Jajja, Gillani & Farooq, 2023).

2.3.1 Increased Bargaining Power

Centralized procurement has the potential to significantly increase an organization's bargaining power through aggregating purchasing volume across departments, regions, or the entire organization (Casady, Petersen & Brogaard, 2023). When one centralized procurement department is handling all purchases for a good or service, they have greater purchasing power and leverage in negotiations with suppliers compared to disperse purchasing (Geropoulos, Voultsos, Geropoulos, Tsolaki & Tagarakis, 2024). Empirical studies have found centralized procurement reduces costs through increased bargaining influence (Li, Lv & Liu, 2024). In addition to lower unit prices, centralizing spending also enables procurement professionals to negotiate improved payment terms (Kabelele & Kitomo, 2022), like longer invoicing periods or early payment discounts that can reduce working capital requirements (Chumakova, 2022). Centralized buyers representing sizable expected annual expenditures are also better positioned to negotiate gain share or rebate agreements where suppliers provide a percentage of savings back if procurement objectives are met (Simwa & Barasa, 2024).

Consolidating requirements likewise strengthens a procurement department's hand in negotiating comprehensive contracts with suppliers (Kahaduwa, 2023). Rather than negotiating scattered one-off deals, centralized procurement can put major categories out to tender, demanding greater concessions from shortlisted suppliers in exchange for their business (Stritch et al., 2020). In maximizing aggregated spending influence, centralized procurement also cultivates leverage to improve non-cost elements of supplier relationships like quality, service, performance management, and innovation (Abutabenjeh et al., 2023). For example, a centralized academic procurement consortium in the UK negotiating on behalf of 35 universities was able to stipulate enhanced reporting and cooperation from contracted library suppliers to collectively advance digital content and services (Bryngemark et al., 2023).

2.3.2 Reduced Administrative Costs

Centralized procurement systems have been shown to significantly reduce administrative costs associated with sourcing activities through streamlining duplication of processes across

purchasing units (Casady et al., 2023). When individual departments or facilities undertake procurement independently with varied methods and systems, it often leads to needless repetition in tasks like vendor research, contract negotiation, order processing, and payment handling (Chatha et al., 2023). This duplication of effort translates directly to higher costs from unnecessary administrative time and resources required (Chen et al., 2022). For example, research found that one large UK healthcare trust saved over £200,000 annually simply by consolidating vendor databases and contract information rather than maintaining separate lists across hospital sites (Chikwere et al., 2023). Centralization pools organizational expertise, standardizes processes, and maintains records electronically accessible to all procurers, avoiding wasteful repetition (Behravesh et al., 2022).

By aggregating overall organizational demand instead of fragmented departmental needs, centralized units are also able to gain economies of scale that lower per-unit procurement costs (Chumakova, 2022). This purchasing power allows for negotiating volume discounts unachievable through isolated procurement (Abrahim & Tarekegn, 2020). It further streamlines activities like creating single requests for quotes, conducting consolidated vendor performance analyses, and issuing unified purchase orders and payments instead of disparate paperwork trails (Casady et al., 2023). Some studies estimate administrative cost reductions from centralized procurement of standardized items and services range from 15-30% (Chatha et al., 2023). While implementing an integrated system requires upfront investment, the payoff period is often less than two years due to ongoing savings from process harmonization (Chen et al., 2022). Additionally, pooling administrative roles boosts career opportunities and expertise through specialized procurement functions versus generalist purchasing divided across departments (Behravesh et al., 2022).

Introducing an electronic procurement system paired with a centralized organizational strategy magnifies these efficiencies through automating manual tasks and workflows (Chilunjika et al., 2023). By streamlining requisitioning, approvals, ordering, vendor management, and payments into a digital framework, significant time, error, and overhead costs associated with paper-based supply chain inefficiencies are eliminated (Chilunjika et al., 2023). Over time, the reduced expense of procuring indirectly empowers strategic initiatives by freeing financial resources for reallocation to value creation (Abutabenjeh et al., 2023). With improved governance and change management, centralization demonstrates high optimization of procurement spend administration (Bryngemark et al., 2023).

2.3.3 Economies of Scale

By aggregating organization-wide demand, centralized procurement units are able to more effectively leverage supply chain volumes through economies of scale (Petersen et al., 2022). With the purchasing power of the entire body behind negotiations rather than individual departments separately procuring low-volume needs, centralized groups can qualify for much deeper category-based volume discounts than possible otherwise (Hafsa et al., 2021). This has significant potential to reduce the average unit cost of indirect goods and services purchased. For example, research found one US health system saved over 18% on standardized consumables by transitioning to an enterprise-wide procurement agreement versus facility-level contracts (Gu & Zhuang, 2023). Centralization maximizes buying power by consolidating demand signals sent to the marketplace (Debala et al., 2023).

Larger order sizes from centralized procurement also allows optimized inventory replenishment by extending order cycles and reducing warehousing requirements (Kong, 2024). For instance, one university reported decreasing average inventory levels by 30% while simultaneously improving in-stock rates for key lab and teaching supplies through centralized forecasting, vendor consignment practices, and just-in-time reordering (Geropoulos et al., 2024). With consistent review of procurement pipelines facilitated by data analytics, centralized teams have greater visibility to coordinate offsetting inventory needs across units as well (Madsen, 2023). This avoids redundant buffer stockpiling in decentralized settings (Kabelele & Kitomo, 2022). When demand is pooled for freight-optimized bulk shipments from key regional distribution centers versus fragmented less-than-truckload deliveries, logistics efficiencies reduce total landed costs as well (Stritch et al., 2020). Consolidating facilities maintenance and capital project sourcing across campuses also allows the leveraging of scale discounts through systematized request for proposal processes, establishment of master supplier agreements (Mitchell & Agapiou, 2023), and standardized performance management of recurring service contracts (Li et al., 2023). Over time, aggregating volumes leads to strengthened strategic partnerships with key suppliers invested in long-term value creation (Simwa & Barasa, 2024).

2.3.4 Standardization and Reduced Maverick Spending

A key benefit of centralizing procurement processes is the standardization it encourages across disparate purchasing units (Tarigan & Siagian, 2021). When sources and supply routes are

fragmented, it leads to unwarranted variations in specifications of similar goods and a proliferation of supplier SKUs that undermine savings from economies of scale (Dimand, 2022). Centralization addresses this by rationalizing the item catalog through a strategic portfolio management approach (Dimand & Cheng, 2023). This systematically identifies opportunities to consolidate duplicative purchases of low-value, high-volume consumables onto standardized contracts or preferred vendor arrangements (Harland et al., 2021). By establishing regulated alternatives and blanket purchase agreements, it restricts spending discretion and curtails "maverick" procurement outside approved channels (Nemec et al., 2023).

Research has found maverick spending represents 20-50% of indirect expenditures in decentralized systems, as end users circumvent formal agreements due to convenience or lack of oversight (Stumpf et al., 2023). However, several case studies report centralized units decreasing rogue purchasing 20-30% initially through enforcing controls, educating requisitioners on sourcing guidelines, and leveraging technologies like procurement cards with spend visibility (Ishak & Thiruchelvam, 2023). Over the longer term, standardizing the procurement portfolio not only lowers unit prices through product consolidation and leveraging scale, but simplifies sourcing administration and contract management (Li et al., 2023). Streamlined catalogues containing preferred goods and services matched to usage patterns reduce the resources spent researching unfamiliar alternatives and speed up the requisition-to-receipt process (Li et al., 2024). When standardization is combined with clear approval workflows, centralized electronic platforms, and spend analytics, the visibility and accountability they provide deters shadow purchasing behaviours while optimizing compliance (Kahaduwa, 2023). Overall, adopting a strategic approach to standardization through centralization results in ongoing spend control and harmonization of sourcing activities across divisions.

2.3.5 Improved Contract Management

Effective contract management has been shown to be an area where centralized procurement provides significant advantages over decentralized approaches (Harland et al., 2021). By consolidating spend under master agreements and holding primary accountability for supplier relationships, centralized teams are better positioned to strategically manage contractual agreements (Petersen et al., 2022). When procurement contracts are dispersed among different

departments, it limits the ability for continuous monitoring and analysis of vendor performance indicators (Gu & Zhuang, 2023). Centralization allows maintaining oversight through consolidated reporting dashboards with metrics like on-time delivery, quality, and cost savings tracking (Debala et al., 2023). This provides opportunities for corrective action or renegotiation if value is not being optimized as expected (Hafsa et al., 2021).

Centralized procurement professionals also have more incentive to focus on developing long-term partnership approaches with key suppliers compared to decentralized purchasers subject to frequent rotation (Dimand, 2022). Nurturing strategic vendor relationships builds mutual understanding to collaboratively address challenges, and identify areas for innovation or savings improvements on major purchasing categories (Kong, 2024). Through centralized electronic systems, contract management can also be enhanced by aggregating spend data and item specifications to benchmark pricing (Geropoulos et al., 2024). This equips negotiators with spend intelligence to proactively rebid supplier agreements searching for better value, leveraging purchasing power for reduced costs or gain-sharing opportunities (Madsen, 2023). Centralization supports bundling of contracts to broaden service portfolios at advantaged rates too (Stritch et al., 2020). By investing in tools that standardize solicitation, approval, and communication processes, centralized procurement channels also automate complex contractual tasks for greater control and oversight (Mitchell & Agapiou, 2023). Over time, refined data-supported contract management leads to continuous procurement performance enhancement in cost, quality, and innovation outcomes (Kabelele & Kitomo, 2022).

2.4 The Influence of centralized procurement on time-related metrics

Beyond cost savings, centralized procurement systems can significantly affect how quickly organizations acquire necessary goods and services (Abutabenjeh et al., 2023). Time-related metrics such as lead times, order processing speed, and responsiveness to urgent needs are crucial factors in maintaining operational efficiency and meeting stakeholder expectations (Behravesh et al., 2022).

2.4 .1 Streamlined Processes and Reduced Redundancy

When procurement operations are fragmented across multiple department-level actors, inefficiencies often emerge from a lack of process standardization and duplicate tasks being

undertaken separately (Bryngemark et al., 2023). Centralizing administrative functions helps eliminate such redundancies by consolidating disparate purchasing workflows into streamlined organization-wide systems and guidelines (Casady et al., 2023). For example, decentralized systems may involve each division engaging in their own vendor research, bid solicitation, contract negotiations, purchase order creation, and payment processing rather than leveraging centralized resources (Chatha et al., 2023). This duplicates work that could be done once through a coordinated approach. Research shows centralized structures can reduce purchasing cycle times by 25-50% on average simply by doing away with such needless repetition (Chen et al., 2022).

Streamlined approval routing under centralized control also tightens timelines compared to ad hoc decentralized hierarchies (Chikwere et al., 2023). With standardized procurement categorization and delegation of authorities in place, requisitioners and approval managers have clear visibility into who is responsible for each step to avoid bottlenecks (Chilunjika et al., 2023). This has been found to decrease approval cycle times by 15-30% according to case studies (Chumakova, 2022). Further time reductions result from centralized knowledge management through consolidated vendor databases, contract repositories, item catalogs, and procurement best practices/guidelines accessible to all (Debala et al., 2023). This avoids duplicative learning curves and information seeking across decentralized divisions working independently (Dimand, 2022). Consolidated electronic systems linking all stakeholders also support paperless, digitalized workflows to minimize physical handling-related delays (Dimand & Cheng, 2023).

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2023). Further time reductions result from centralized knowledge management through consolidated vendor databases, contract repositories, item catalogs, and procurement best practices/guidelines accessible to all (Dimand, 2022). This avoids duplicative learning curves and information seeking across decentralized divisions working independently (Dimand & Cheng, 2023). Consolidated electronic systems linking all stakeholders also support paperless, digitalized workflows to minimize physical handling-related delays (Geropoulos et al., 2024).

2.4 .2 Dedicated Procurement Expertise

A core advantage of centralized structures lies in their ability to attract and retain dedicated procurement expertise that decentralized organizations often lack capacity to field (Gu & Zhuang, 2023). Centralization consolidates purchasing roles into procurement-focused career paths versus splitting duties among general administrative staff at departmental level (Abrahim & Tarekegn, 2020). This professionalization starts with acquiring talent experienced in strategic sourcing, negotiation, category management techniques, and contract administration principles (Abutabenjeh et al., 2023). Centralized units also provide opportunities for ongoing specialized training, certifications, and communities of practice that maximize staff knowledge and skills over time (Behravesh et al., 2022).

Developing a critical mass of dedicated procurement talent allows centralized groups to optimize processes according to best practices (Stritch et al., 2020). For example, strategic sourcing methodologies coordinated by centralized experts can reduce supplier selection timeline over standard RFQ issuance by analyzing full commodity lifecycles and leveraging competitive bidding events (Petersen et al., 2022). Negotiation proficiency from procurement specialists also speeds time-to-contract compared to occasional negotiators at department level (Simwa & Barasa, 2024). Procurement expertise centralized at the organizational level ensures standard processes are consistently followed with built-in accountability checks (Tarigan & Siagian, 2021). This avoids time lapses from decentralized units reinventing or abandoning guidelines due to lack of dedicated oversight (Hafsa et al., 2021). Sharing procurement know-how enterprise-wide further accelerates learning and continuous process improvement initiatives (Harland et al., 2021). With procurement merged as the center of excellence, dedicated category managers take ownership of their commodities to maximize spend under management while minimizing maverick activity (Ishak & Thiruchelvam, 2023). This allows centrally-coordinated events for recurring low-value direct material needs through electronic

catalogs, contracts, and purchasing tools that streamline order placement and fulfilment lead times (Kabelele & Kitomo, 2022).

2.4 .3 Established Supplier Relationships

By consolidating spend under master agreements, centralized procurement allows cultivating preferred supplier partnerships that generate time savings versus transactional vendor relationships (Kahaduwa, 2023). With the scale to qualify as a strategic customer, centralized groups invest in collaborating with select market leaders to streamline processes through mutual understanding (Kong, 2024). Regular communication and performance reviews nurtured by centralized procurement teams foster familiarity and trust with key suppliers (Li et al., 2023). This opens avenues to proactively resolve issues, gain early visibility into new offerings or capacity constraints, and jointly test sourcing innovations (Nemec et al., 2023). Over time, such established partnerships accelerate execution through channels bypassing standard contracting formalities (Madsen, 2023).

Strategic supplier relationships supported by centralized procurement also help smooth demand volatility (Mangwengwende, 2018). Suppliers' tight integration achieves postponement through make-to-order manufacturing or vendor-managed inventory replenishment models that reduce inventory carrying costs while still fulfilling orders on time (Mitchell & Agapiou, 2023). This requires centralized coordination to qualify preferred suppliers' capabilities and establish consignment or Kanban replenishment systems (Nemec et al., 2023). Centrally-administered supplier partnership management programs offer incentives for performance improvements useful under quick response priorities (Zinyama, 2021). Pre-negotiated logistics alliances leverage supplier transportation assets and warehouse pooling to optimize multi-echelon networks that speed fulfilment (Stumpf et al., 2023). Where centralized procurement oversees supplier certification, pre-approved sources with established quality conformance systems gain expedited new product introduction process compliance (Mangwengwende, 2018).

By harnessing the scale derived from consolidated demand signals, centralized procurement amplifies the organization's influence to mandate technology-enabled interoperability from EDI to electronic catalogues (Li, et al., 2024). This digitally integrates internal systems with preferred suppliers for streamlined ordering, visibility, and invoice reconciliation automation (Madsen, 2023). Over the long run, centralization proves integral to developing enduring supply partnerships optimized for improved responsiveness (Mitchell & Agapiou, 2023).

2.4 .4 Improved Forecasting and Inventory Management

One area centralized procurement provides substantial benefits is through improved demand data aggregation and forecasting capabilities (Hafsa et al., 2021). Pooling consumption trends from different divisions smooths variability, revealing patterns not evident from local data alone (Harland et al., 2021). Centralized statistical demand modelling techniques leverage these rich organization-wide datasets during replenishment planning (Ishak & Thiruchelvam, 2023). This results in more accurate projections of indirect material needs over shorter time horizons compared to decentralized forecasting (Kabelele & Kitomo, 2022). Reduced forecast errors then enable optimal inventory positions minimizing stock-outs while avoiding overstock penalties (Kahaduwa, 2023).

With demand predictability enhanced, centralized procurement is better equipped to implement continuous replenishment practices (Kong, 2024). Pull signals from electronic interfaces maintain critical item levels through just-in-time deliveries versus bulk periodic orders, speeding fulfilment (Li, J., et al., 2023). Vendor-managed inventory or consignment stock arrangements centralization qualifies also position buffers closer to points of use for faster retrieval (Simwa & Barasa, 2024). Strategic supplier partnerships coordinated by centralized procurement can implement collaborative planning, forecasting, and replenishment (Madsen, 2023). This shares demand signals and jointly resolves shortfalls through asset-light postponement fulfilment or expedited customization and shipping (Mangwengwende, 2018). Allocating safety stocks intelligently informed by centralized analytics also ensures high service levels while mitigating risks of costly rush orders (Mitchell & Agapiou, 2023).

Proactive inventory replenishment decisions through centralized procurement analytics and coordination with end users, facilities, and suppliers prevent unexpected shortages (Nemec et al., 2023). This avoids last-minute urgent buys lacking lead time leverage that charge premium costs or result in delayed project timelines (Petersen et al., 2022). Over time, even modest forecast accuracy and fill rate improvements compound value through accelerated response and freed working capital (Simwa & Barasa, 2024). The scholarly debate surrounding centralized procurement is bifurcated. On one side are proponents like Stritch et al. (2020), who argue for its cost-saving potentials. On the other side, skeptics like Tarigan and Siagian

(2021) caution against oversimplifying the impact of centralized procurement, pointing out the complexities and situational variables that could influence outcomes.

2.5 Quality implications of centralized procurement

While cost savings and efficiency gains are often the primary motivators behind centralized procurement, the impact on quality is equally significant. Whether centralized purchasing leads to improved quality, diminished quality, or a more nuanced outcome is a topic of ongoing debate among researchers and practitioners.

2.5 .1 Leveraged Expertise and Quality Control

Centralization drives strategic sourcing approaches that optimize total costs of quality by gaining visibility and influence over the supply base (Abrahim & Tarekegn, 2020). With procurement resources dedicated to quality assessment and supplier development, centralized groups are positioned to implement robust controls compared to decentralized counterparts lacking such deep functional engagement (Abutabenjeh et al., 2023). Centralized procurement experts can establish uniform quality specifications, inspection regimes, and testing standards through consistent standardization of technical requirements (Behravesh et al., 2022). This guides supplier selection decisions away from lowest price toward highest risk-adjusted value considering quality and safety (Bryngemark et al., 2023). Auditing supplier certifications, facilities, and processes allows continuous monitoring adherence to these controlled standards at a scale challenging decentralized models to match (Casady et al., 2023).

Conversely, separating purchasing from quality under decentralized structures diffuses quality responsibility (Chatha et al., 2023). This in turn weakens supplier incentives to invest in certification as intermittent requisitioners lack expertise to engage deeply on quality issues or enforce corrective actions (Chen et al., 2022). Centralized teams are equipped to systematically analyze defects, identify policy non-compliances through sourcing analytics, and work with key suppliers on root cause prevention for long-term capability improvement (Chikwere et al., 2023). Establishing preferred supplier partnerships supported through centralized frameworks improves quality outcomes through collaboration (Chilunjika et al., 2023). Joint development programs qualify approved vendor manufacturing and logistics assets like pull-signal replenishment that curb defects from inventory deterioration (Chumakova, 2022). Central

procurement forums also evaluate technology investments and integration needs for traceability or condition-based maintenance programs to boost reliability (Debala et al., 2023).

2.5 .2 Standardization and Reduced Variation

A core attribute of centralized procurement is its capacity to leverage scale advantages towards standardizing quality management across the enterprise (Dimand, 2022). By consolidating authority over specifications, centralized groups have increased control to mandate uniform inspection protocols, documentation requirements, and approved sourcing channels compared to decentralized inconsistencies (Dimand & Cheng, 2023). Establishing a limited set of qualified vendors subjected to rigorous audits establishes a controlled supply base compliant with standardized technical and process standards (Geropoulos et al., 2024). This promotes continuous quality improvement as suppliers must invest appropriately to retain approved status versus occasional or inconsistent interactions under decentralized purchasing (Hafsa et al., 2021).

Centralization allows coordinated supplier development programs utilizing dedicated quality experts (Harland et al., 2021). Joint corrective actions remedy recurring non-conformances through root cause analysis and capability building rather than isolated relationships susceptible to correct-and-inspect tendencies (Ishak & Thiruchelvam, 2023). Supplier scorecards and ratings inform performance-based incentives motivating preventative quality management systems adoption (Kabelele & Kitomo, 2022). Leveraging procurement analytics, centralized teams conduct spend analyses to detect maverick sources circumventing controls by procuring unapproved items or services lacking traceable pedigree (Kahaduwa, 2023). Consolidated inspection data also pinpoints category-level patterns indicating needed specifications revisions or strengthened second-tier supplier oversight to curb quality variability (Kong, 2024). Establishing centralized stewardship over quality fortifies it as a non-negotiable priority (Stritch et al., 2020). Signaling this commitment to suppliers through systems like supplier certification qualifies forgone sales recuperated many times over through damage control minimizing total cost of poor quality impacts (Li et al., 2024).

2.5 .3 Greater Focus on Value

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2.5 .4 Improved Supplier Relationships

Centralized procurement supports developing strategic supplier partnerships important for driving quality excellence (Kahaduwa, 2023). By consolidating spend signals and serving as the primary point of contact, centralized groups incentivize suppliers to view the organization holistically rather than competing for discrete divisional demand (Kong, 2024). This allows cultivating preferred relationships where procurement acts as a trusted advisor, garnering openness on emerging risks, capacity issues, or cost pressures (Stritch et al., 2020). Centralization facilitates joint targets and gainsharing programs encouraging mutual success through quality and efficiency rather than short-term optimizing at the other's expense (Li et al., 2024).

Collaborative forecasting and replenishment models qualify preferred suppliers to invest in pull-signal replenishment infrastructure like consignment inventory or dedicated transport assets aligned with centralized demand planning (Madsen, 2023). Supplier-managed buffers located optimally reduce inventory holding costs while precluding defects from damaged or expired stock (Mangwengwende, 2018). Strategic partnerships also pursue continuous improvement through issues resolution without blame (Mitchell & Agapiou, 2023). Centrally-led forums foster learning by benchmarking quality metrics, sharing best practices on reliability engineering programs, and piloting supply chain digitization (Nemec et al., 2023). Early-warning scorecards exchange timely updates when suppliers detect emerging risks to quality, expediting containment (Petersen et al., 2022). Relationships nurtured through centralized channels more willingly support special projects (Simwa & Barasa, 2024). For example, joint new product introductions establish change management controls as suppliers integrate validated production and testing regimes (Stritch et al., 2020). Collaboration further streamlines regulatory approvals where centralized procurement oversees supplier certification qualification (Stumpf et al., 2023).

2.6 Impact of centralized procurement on administrative efficiency

One of the core arguments in favor of centralized procurement is streamlining administrative tasks associated with purchasing goods and services (Hafsa et al., 2021). Optimizing these processes frees up resources, reduces lead times, and helps organizations operate with greater agility (Harland et al., 2021). However, the actual impact depends significantly on the design and function of the centralized system (Ishak & Thiruchelvam, 2023).

2.6.1 Consolidation and Reduction of Redundancy

When procurement operations are decentralized across multiple departments or business units, significant inefficiencies often arise from a lack of process standardization and redundant workflows being carried out separately (Kabelele & Kitomo, 2022). Centralizing administrative functions helps eliminate such redundancies by consolidating disparate purchasing activities into streamlined organization-wide systems and processes (Kahaduwa, 2023). For example, in decentralized models each department typically undertakes their own independent supplier research, bid solicitation, contract negotiations, purchase order creation,

and invoice payment processing rather than leveraging centralized resources to perform each task once (Kong, 2024). Centralization avoids this duplication of work through coordinated category management strategies and procurement shared services resources (Petersen et al., 2022). Redundant approvals are also streamlined under centralized structures which standardize procurement categories and set clear spending delegation authorities (Li, et al., 2024).

Decentralized departments commonly replicate invoice validation and contract signature approvals that add little value when consolidated through a specialized shared service center (Madsen, 2023). A centralized knowledge base further reduces redundant learning by non-expert divisional staff through consolidated systems housing supplier databases, contract repositories, item catalogs, and best practice guides (Mangwengwende, 2018). Digitalizing procurement processes also eliminates the physical handling and storage of redundant paper records, purchase orders, invoices, and tender documents (Mitchell & Agapiou, 2023). Significant administrative efficiencies also come from centralized systems facilitating paperless, digitalized workflows with integrated strategic suppliers through EDI or e-invoicing linkages (Nemec et al., 2023). Supplier portfolio optimization identifies opportunities to aggregate low-value items onto enterprise contracts eliminating repetitive sourcing (Petersen et al., 2022).

2.6.2 Standardization of Procedures and Forms

Centralization brings standardization that delivers administrative efficiency gains. When procurement procedures, forms, and workflows are inconsistent across multiple departments, it introduces complexity and delays (Hafsa et al., 2021). Separate groups utilizing varied requisition, purchase order, invoice, and payment approval methods hampers processing speed (Harland et al., 2021). A centralized model resolves this through establishing uniform procurement processes implemented consistently enterprise-wide (Ishak & Thiruchelvam, 2023). Requisitioners, buyers, budget approvers, and accounts payable staff all adhere to standardized guidelines programmed into a shared procurement IT system (Kabelele & Kitomo, 2022). This system houses templates for common procurement documents streamlining completion. Approval routing is also regulated, assigning clear levels of authority according to spend thresholds and category types (Kahaduwa, 2023). Automated workflows guide documents from initiation through required approvals without redundant handling

between non-interconnected departmental systems (Kong, 2024). Suppliers receive consistent information to ship orders and submit compliant invoices (Li et al., 2023).

2.6.3 E-Procurement and Automation

The introduction of e-procurement systems is a core driver of administrative efficiency gains within centralized procurement models (Gu & Zhuang, 2023). Automating manual, paper-based purchasing processes through digital shared services platforms expedites execution and reduces transactional workloads (Hafsa et al., 2021). Electronic catalogs, ordering, invoicing, and payment functions supported by ERP software minimize manual touchpoints that introduce delays (Harland et al., 2021). Requisitioners benefit from consolidated online marketplaces housing contract catalogues and preferred suppliers (Ishak & Thiruchelvam, 2023). This streamlines order placement and enables automated fulfillment through integration with supplier EDI interfaces (Kabelele & Kitomo, 2022). Supplier portals also provide online order tracking, item availability checks, and purchase history views (Kahaduwa, 2023). Invoice handling is further sped up when digitally matched against receipt records (Kong, 2024). Electronic payment submission extracts remittance data to generate automated payment files transmitted to strategic suppliers. Integration with accounts payable core systems ensures payments are credited on terms (Petersen et al., 2022). Centralized e-procurement platforms supported by ERP analytics also generate spending reports and vendor scorecards (Li et al., 2024). Procurement managers leverage these insights to evaluate maverick spending, contract compliance, and supplier performance (Madsen, 2023). Identifying unused contracts and items positions savings through renegotiation or alternate sourcing (Mangwengwende, 2018).

2.6.4 Specialized Procurement Staff

Centralization allows procurement to be staffed by specialized professionals skilled in procurement best practices, rather than viewed as an added responsibility for multi-tasking business unit personnel (Mitchell & Agapiou, 2023). Maintaining dedicated category managers, sourcing analysts, contract administrators, and procurement operation staff improves organizational efficiency (Nemec et al., 2023). These specialized personnel require less supervision and coaching, having undergone intensive certification programs and skills development (Petersen et al., 2022). Experienced procurement experts make well-informed sourcing and contracting choices more rapidly compared to occasional users without focused

training (Simwa & Barasa, 2024). Standardizing activities according to best practices replicated across segments further accelerates execution (Stritch et al., 2020). Expert guidance from centralized procurement professionals streamlines complex evaluation and negotiation processes (Stumpf et al., 2023). Supplier relationship management is also handled strategically through partnership frameworks instead of transactional interactions (Tarigan & Siagian, 2021). Front-line staff consult centralized experts when exceptions occur to leverage institutional knowledge (Debala et al., 2023).

2.7 Empirical Evidence

One study by Gu and Zhuang (2023) surveyed 86 U.S. hospitals and found those with higher levels of centralization in purchasing contract medical/surgical supplies at 5-10% lower prices on average. A key factor was their centralized buyers representing substantially larger purchasing volumes, giving them more clout in price negotiations. Similarly, in a study of 172 Swedish municipalities, Bryngemark et al. (2023) discovered those using centralized cooperative purchasing organizations for goods like office supplies obtained prices 18-21% below other municipalities procuring autonomously. Again, aggregated demand strengthened negotiating positions. For example, a study of 33 international companies by Chatha et al. (2023) found those centralizing indirect spending across multiple categories generated average rebates equal to 4-5% of contracted expenditure, saving millions annually. A study of six public sector entities in the Netherlands observed by Petersen et al. (2022) centralized procurement reduced total contract management costs by 30-40% on average by streamlining numerous bespoke agreements into comprehensive category contracts.

Centralized procurement has been extensively studied for its impact on administrative efficiency, with empirical evidence highlighting its multifaceted outcomes. One notable study by Stritch et al. (2020) aimed to understand the effects of centralized procurement practices in the public sector. Employing a case study methodology, their findings suggested that centralized procurement could lead to significant improvements in administrative efficiency, primarily through streamlined procurement processes and reduced transaction costs. Equally, a quantitative analysis by Simwa and Barasa (2024) examined the correlation between centralized procurement and efficiency in European public organizations. Through survey data

and statistical analysis, they found that centralized procurement often resulted in decreased administrative burdens and cost savings.

Conversely, a study by Nemec et al. (2023) employed a mixed-methods approach to explore the implications of centralized procurement in transition economies. Their results were mixed, indicating that while some administrative efficiencies were realized, challenges in implementation and supplier diversity could offset these benefits. Tarigan and Siagian (2021) focused on the competitive bidding process within centralized procurement systems using a qualitative case study approach. They reported that centralized procurement could lead to higher administrative efficiency by reducing the complexity of the procurement process. Lastly, a research project by Madsen (2023) utilized a qualitative analysis of multinational corporations to investigate the impacts of centralized procurement on administrative operations. Their findings underscored the potential for improved efficiency through reduced duplication of efforts and enhanced negotiation power with suppliers. Collectively, these studies offer a nuanced view of how centralized procurement can influence administrative efficiency, although outcomes can vary based on organizational context and implementation strategies.

2.8 Chapter Summary

In this chapter, a comprehensive literature review has been presented, focusing on the subject of the study, which examines the impact of centralized procurement on operational efficiency in parastatals. The chapter includes an introduction to the topic, a discussion of the theoretical framework, and an examination of empirical evidence related to the research topic. The subsequent chapter will delve into the research methodology, outlining the approach and methods employed in this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter provides a detailed account of the research methodology adopted in this study, specifically highlighting the research techniques and designs employed to collect pertinent data related to the effect of centralized procurement on operational efficiency in Zimbabwean parastatals. It encompasses a discussion on the target population and sample selection, elucidating the gathering process, the instruments utilized for data collection, and the reliability and validity of the data. Moreover, it incorporates an analysis and presentation of the data, concluding with a summary of the chapter. Notably, a quantitative research methodology was employed for this study.

3.2 Research philosophy

The applied positivism research philosophy. Research philosophy is a foundational element that guides how data about a phenomenon should be collected, analysed, and interpreted (Hirose & Creswell, 2023). It encompasses the beliefs and assumptions underlying the methodology of a study, influencing the choice and implementation of research methods (Lê & Schmid, 2022). The main philosophies in research include positivism, interpretivism, realism, and pragmatism, each offering distinct viewpoints on the nature of knowledge and reality. Positivism, as a research philosophy, emphasizes the necessity of applying scientific methods to investigate the social world. It operates on the premise that reality is objective and can be understood through observation and logical analysis (Clark, Foster, Bryman & Sloan, 2021). Positivists advocate for the use of quantitative methods to uncover patterns, test hypotheses, and forecast outcomes, promoting structured methodologies, objectivity, and the generation of quantifiable data (Bhangu, Provost & Caduff, 2023).

Applying positivism to the study of centralized procurement's impact on operational efficiency in Zimbabwean parastatals, with a focus on ZETDC, is justifiable for multiple reasons. The subject matter inherently supports quantification; operational efficiency, including cost, time, quality, and administrative efficiency, can all be objectively assessed and quantified (Sardana, Shekoohi, Cornett & Kaye, 2023). Positivism’s structured approach, utilizing tools like surveys and statistical analysis, is apt for measuring these dimensions of procurement efficiency. Moreover, the commitment of positivism to objectivity and scientific methods ensures the

reliability and validity of the study's outcomes, minimizing researcher bias, a crucial aspect when examining parastatals where policy and decision-making could be influenced by the findings (Scharrer & Ramasubramanian, 2021).

Additionally, this philosophy aligned with the aim of identifying causal relationships between centralized procurement and operational efficiency, facilitating the discovery of patterns that can guide policy and operational decisions within ZETDC and potentially other similar entities in Zimbabwe (Zyphur & Pierides, 2020). This rationale underscored the selection of positivism for the study, emphasizing its suitability for exploring the quantifiable impacts of procurement practices on organizational efficiency in a structured, objective manner.

3.3 Research Design

The study utilized a causal research design. A causal research design is used to establish cause-and-effect relationships between variables (Bauer et al., 2021). This approach is particularly suitable for research aimed at determining the impact of one variable on another (Rahman, 2020). In the context of investigating the effect of centralized procurement on operational efficiency in Zimbabwean parastatals, specifically ZETDC, a causal research design enabled the researcher to identify whether and how centralized procurement practices influence various aspects of operational efficiency, such as cost efficiency, time-related metrics, quality of services or goods, and administrative efficiency.

The adoption of a causal research design involved the identification of independent variables (centralized procurement practices) and dependent variables (measures of operational efficiency) and then examining the relationship between them. This method often requires the collection of quantitative data that can be statistically analysed to determine if changes in the independent variable cause variations in the dependent variable (Dawadi, Shrestha & Giri, 2021). For instance, the study measured operational efficiency before and after the implementation of centralized procurement practices at ZETDC, using statistical methods to ascertain causality (Hirose & Creswell, 2023).

This research design is aligned with the deductive approach and positivism philosophy adopted by the study, as it relies on the testing of hypotheses derived from theoretical frameworks. It supports a structured and objective analysis of the causal relationships between centralized

procurement and operational efficiency, offering clear insights that can guide decision-making and policy formulation within ZETDC and potentially other similar organizations.

Moreover, a causal research design is advantageous in its ability to control for extraneous variables that might affect the dependent variable, thus ensuring that the observed effects can be attributed to the independent variable with a higher degree of confidence (Hirose & Creswell, 2023). This is critical in a complex organizational context like that of ZETDC, where multiple factors could influence operational efficiency (Lê & Schmid, 2022).

3.4 Study Population

According to Creswell and Creswell (2018), the study population refers to the complete set of individuals, objects, locations, or events that are pertinent to the research questions of a study. For this particular research, the targeted population consists of employees from various departments at ZETDC head office. Specifically, the population includes employees from the procurement department (51), finance department (45), administration department (32), as well as departmental heads (21) and senior managers (15). The total number of individuals in the targeted population was 164, and the study only focused on employees located at the ZETDC head office in Harare.

By including employees from the procurement department, finance department and administration department, as well as departmental heads and senior managers, the study encompasses a wide range of perspectives that are critical to understanding the multifaceted impact of centralized procurement. Each of these groups plays a distinct role in the procurement process and its subsequent effect on operational efficiency, offering insights that are both broad and deep regarding procedural effectiveness, financial management, administrative practices, and strategic decision-making. Focusing on employees at the ZETDC head office in Harare made the study more feasible in terms of data collection. Accessing a concentrated population within a single geographic location allowed for more efficient sampling, distribution, and collection of surveys or interviews, and facilitates direct observation where necessary. This logistical convenience enhanced the quality of data collected and ensured a higher response rate, contributing to the reliability of the study's findings.

3.5 Sampling Procedure

In order to ensure representation from different departments within the identified population, a stratified sampling technique was employed. Stratified sampling was used to obtain the sample of respondents. This involved dividing the participants into distinct strata based on their respective departments. To ensure equal probabilities of selection across the various units within the population, a stratified random sampling method (Baskarada, 2014) was utilized. This approach involved randomly selecting a disproportional sample from each stratum. Subsequently, a simple random sampling method was applied to select respondents from each department.

3.6 Sample Size

To determine the sample size for a stratified random sampling method, the approach involved allocating the sample size proportionally based on the size of each stratum within the population. However, given the task involved a disproportional stratified random sampling method, where the aim was to ensure representation across different departments regardless of their size, a formula that considered the total population size, desired confidence level, and margin of error was more applicable. One commonly used formula for sample size calculation in such scenarios, especially when the population is finite, is the Cochran formula modified for finite populations:

$n_0 = (Z^2 * p * (1-p)) / e^2$

Where:

- n_0 is the initial sample size,
- Z is the Z-score, which reflects the confidence level (e.g., 1.96 for 95% confidence),
- p is the estimated proportion of the population with the characteristic of interest (0.5 is used if the proportion is unknown, as it provides the maximum sample size),
- e is the margin of error (as a decimal).

To adjust for a finite population, use the following formula to get the adjusted sample size (n):

$n = n_0 / (1 + (n_0 - 1) / N)$

Where: N is the total population size.

With: Confidence level: 95% (Z-score of 1.96); Margin of error: 5% (0.05); Total population size: 164

$n = 164 / (1 + (164 - 1) / 164)$

$n \approx 115$,thus the sample size used

3.7 Data Collection

Data collection is a fundamental aspect of research, as it involves gathering relevant information pertaining to the research topic (Hirose & Creswell, 2023). In this study, the researcher employed questionnaires as a means to collect primary data. The survey method was deemed suitable for this research, as it enables the quantitative description of attitudes, experiences, and opinions of the sampled population.

3.7.1 Questionnaire

In this study, a total of 115 structured questionnaires were administered both electronically using emails and also physically. The questionnaires utilized a five-point Likert scale, ranging from 1 to 5, where 1 represents "strongly disagree" and 5 represents "strongly agree." The researcher opted for questionnaires due to several advantages, as highlighted by Saunders et al. (2019). Firstly, questionnaires are cost-effective as they eliminate the need for face-to-face interviews. Additionally, they allow for the surveying of geographically dispersed populations and facilitate easy comparison of gathered information. Questionnaires also require minimal skill to administer and help eliminate interview bias, such as the halo effect. Furthermore, respondents have the flexibility to answer the questions at their own convenience.

3.8 Reliability and Validity

Validity, as defined by Clark et al (2021), refers to the appropriateness and accuracy of each step taken to uncover the intended research objectives. It can be established when the collected data accurately reflects the true nature of the study (Bhangu et al., 2023). To ensure the validity of this research, various measures were taken, including seeking the opinions of experts in the field of study, particularly the research supervisor. Their input aided in revising and modifying the research instruments, thereby enhancing the overall validity of the study.

Reliability, on the other hand, relates to the consistency of the measurement instruments in capturing a particular attribute (Sardana et al., 2023). If an instrument produces minimal variation in repeated measurements, it is considered to have high reliability (Scharrer &

Ramasubramanian, 2021). A reliable instrument reduces the likelihood of measurement errors (Sardana et al., 2023). In this study, the reliability of the questionnaire was assessed using Crohnbach's Alpha value generated by the SPSS software. This statistical analysis helped determine the internal consistency and reliability of the questionnaire.

3.9 Data Analysis and Presentation

The data analysis process commenced with the examination of data to maintain data integrity and ensure that only relevant data pertaining to the research questions were coded for analysis (Dawadi et al., 2021). Clark et al (2021) defines data analysis as the process of categorizing, manipulating, and summarizing data in order to obtain answers to research inquiries. The researcher ensured the completeness of questionnaires and conducted editing, coding, and general data cleaning. Data collected was analyzed using the Statistical Package for Social Sciences (SPSS Version 25.0) software.

For descriptive analysis, measures such as mean, mode, variance, and standard deviation were employed to assess the respondents' agreement or disagreement with statements under each variable. Inferential statistics were utilized to investigate the relationship between the independent variable (centralized procurement) and dependent variables (operational efficiency).

To present the data, pie charts, bar graphs, and tables were generated using SPSS. The choice of tables as data presentation tools was based on their ability to clearly categorize different data. Pie charts and bar graphs were chosen for their visibility and effectiveness in illustrating trends more clearly.

3.10 Ethical Considerations

Ethical considerations hold significant importance in any research endeavour, as emphasized by Mugenda and Mugenda (2009). Kothari (2014) asserts that ethical issues in research generally fall within four categories: protection from harm, informed consent, right to privacy, and honesty with professional colleagues. In this particular study, ethical guidelines were diligently followed to ensure the preservation of ethical values. Permission to conduct the research was obtained from the University Research Ethics Committee. Additionally, permission was sought from ZETDC and the respondents themselves.

The study participants were provided with written informed consent forms to review and sign. They were also provided with verbal information regarding the purpose of the study. Prior to data collection, a debriefing or disclosure procedure was implemented, where potential

participants were oriented to the researcher's identity, the study's objectives, potential benefits, and expected outcomes. Furthermore, the respondents were assured of their voluntary freedom to participate or withdraw from the study as desired.

3.11 Chapter Summary

The current chapter provides an overview of the data collection procedures and instruments utilized by the researcher to gather pertinent data for the study. It also covers aspects such as the research design, population and sample size, sampling procedure, and the methods employed for data presentation and analysis. The subsequent chapter will delve into the presentation, analysis, and discussion of the study's findings.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter outlines the results of research investigating how centralized procurement impacts operational efficiency within Zimbabwean parastatals, specifically looking at ZETDC. The data is organized to reflect the goals of the study. Various methods, including tables, pie charts, and bar graphs, were employed to effectively display the findings derived from SPSS analysis. Both descriptive and inferential statistical methods were used to analyse the data.

4.1 The Response Rate of Questionnaires

In this research, information was gathered from a group of 115 participants. Questionnaires were distributed to collect the required data from the predetermined sample size.

Table 4.1: Percentage Responses rate (n=115)

	Frequency	Rate
Questionnaires administered	115	100%
Questionnaires returned	110	96%

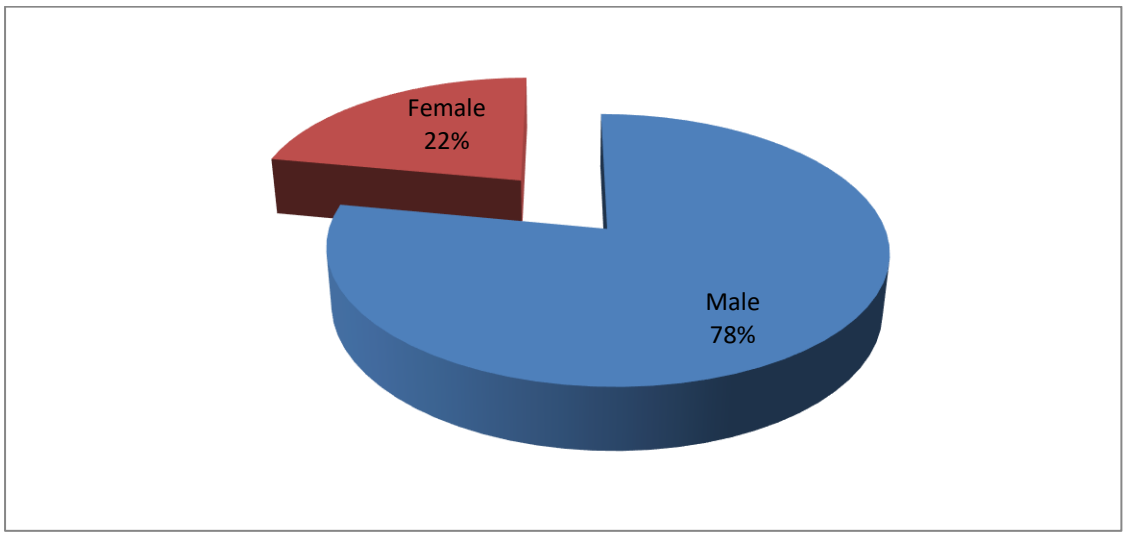
Source: *Primary Data 2024*

Table 4.1 presents data on the response rate for a survey. A total of 115 questionnaires were administered, which established the base number (100%) for response calculations. Out of these, 110 questionnaires were returned, resulting in a response rate of 96%. This indicates a high level of participation among the respondents, as nearly all the distributed questionnaires were completed and returned. The strong response rate can be attributed to regular telephone follow-ups with the respondents. According to Mugenda and Mugenda (2003) and Bailey (2000), the response rate obtained was sufficient for analysing, presenting, and interpreting the data.

4.2 Demographic Characteristics of Respondents

The respondents' gender, age, academic qualifications, and length of experience was collected and description presented below.

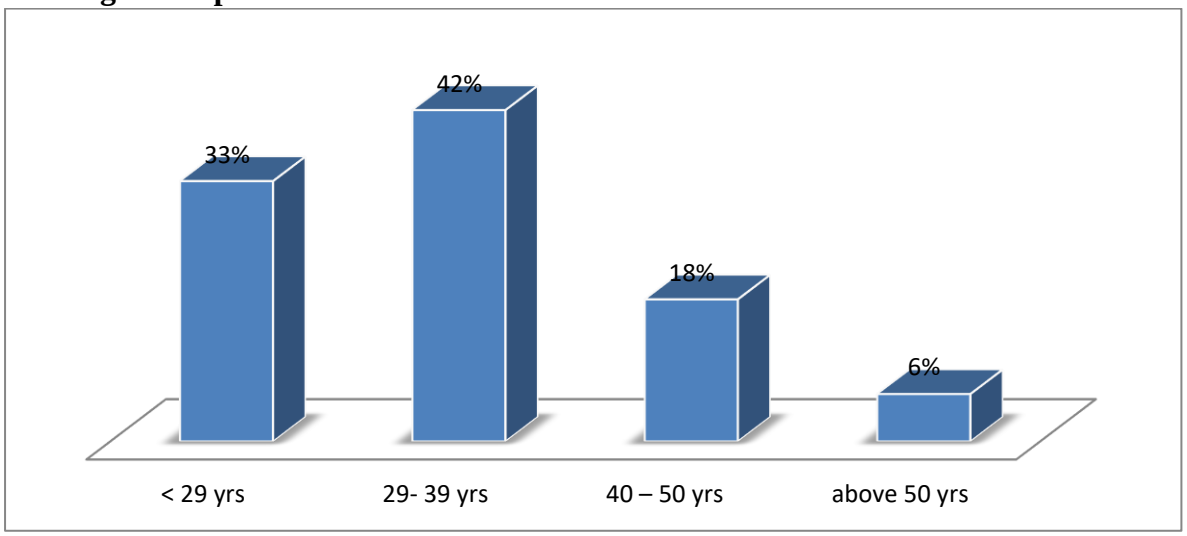
4.2.1 Gender of Respondents



Source: *Primary Data 2024*
Figure 4.1: Gender of respondents

The distribution of respondents by gender is displayed in Figure 4.1 above. Of the participants, 78% were male and 22% were female, indicating a male-dominated sample.

4.2.2 Age of respondents



Source: *Primary Data 2024*
Figure 4.2: Age of respondents

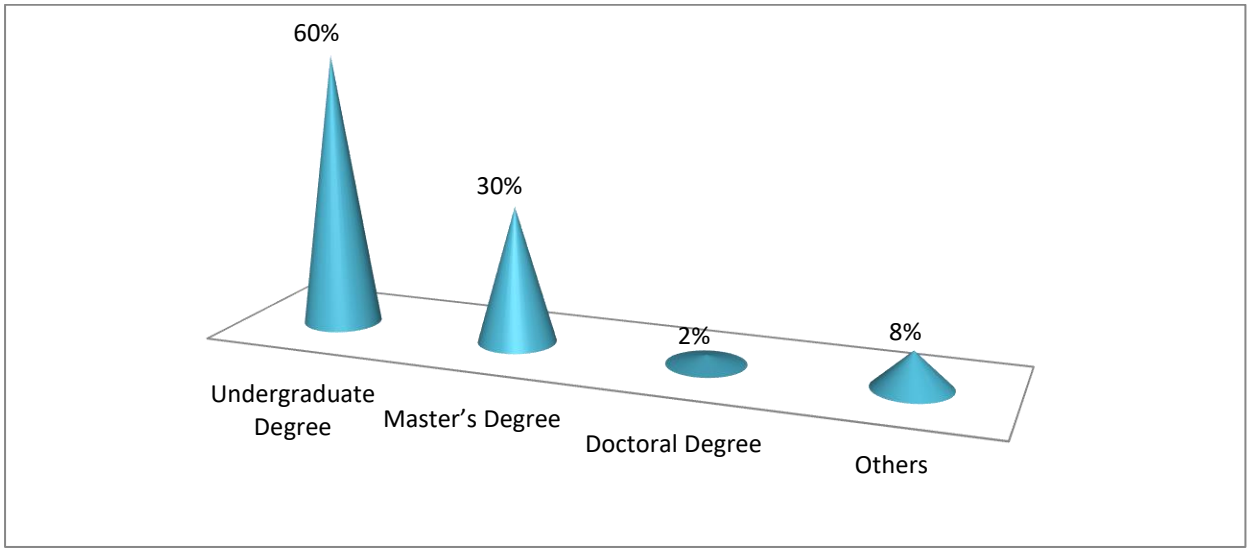
The research findings indicated that the largest group of respondents, making up 42%, were aged between 29 and 39 years. This was followed by 33% who fell into the 18-28 year age group, 18% were between 40 and 49 years, and the smallest group, 6%, were 50 years and

older. These results suggest that all participants were adults, making them fully accountable for their responses.

4.2.3 Level of Education

The study collected data on the educational levels of the respondents, and the results are presented in Figure 4.3.

4.2.3 Level of education

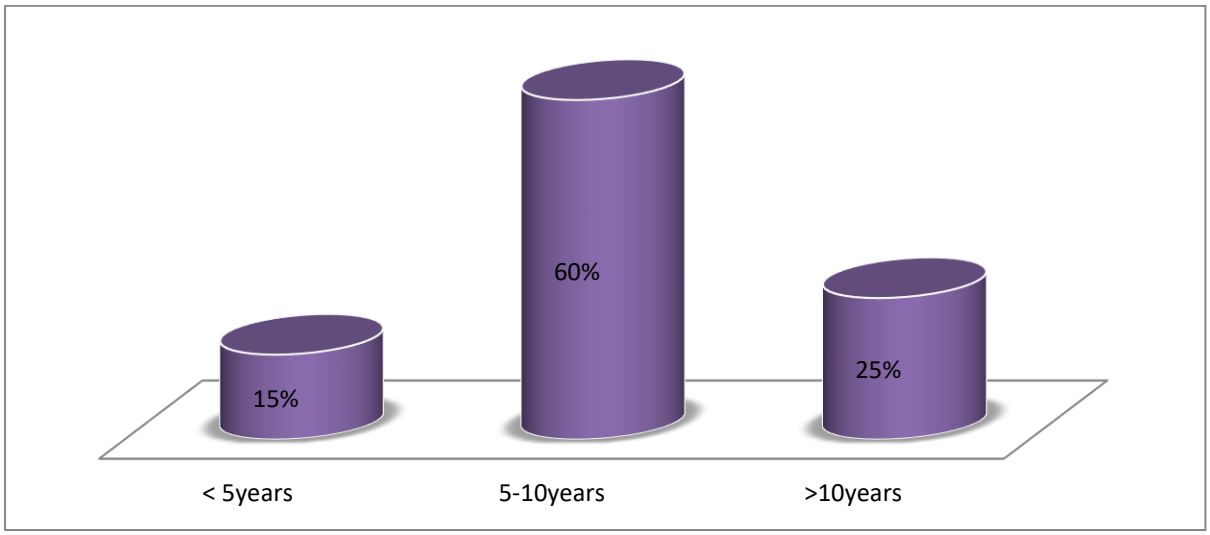


Source: *Primary Data 2024*

Figure 4.3: Level of education

Among the participants, 60% held undergraduate degrees, 30% possessed master's degrees, and 2% had doctoral degrees, with the remaining 8% having qualifications such as certificates and diplomas, categorized as others. This indicates that the majority of the participants were well-educated, capable of comprehending the contents of the questionnaire. They could understand the questions posed by the researcher and were thus able to accurately express their opinions by properly completing the questionnaire.

4.2.4 Period of Service



Source: *Primary Data 2024*

Figure 4.4: Period of Service

Figure 4.4 illustrates that the largest segment of respondents, 60%, have between 5 and 10 years of work experience. The second largest group, making up 25%, possesses over 10 years of experience, while the smallest group, 10%, has been with the organization for less than 5 years.

4.3 Reliability Statistics

Table 4.2: Reliability Statistics

Dimension	Reliability coefficients (Alphas)	Number of items
Centralized Procurement	0.82	5
Cost Efficiency	0.88	5
Time-Related Metrics	0.81	5
Quality Implications	0.79	5
Administrative Efficiency	0.91	5

Table 4.2 presents the reliability statistics for different dimensions assessed in the study using reliability coefficients, also known as Cronbach's alphas, to gauge internal consistency among items in each dimension. The reliability for each dimension is as follows: Centralized Procurement has a reliability coefficient of 0.82 across 5 items, suggesting good internal consistency. Cost Efficiency is rated at 0.88, indicating very good consistency among its 5

items. Time-Related Metrics shows a reliability of 0.81, also reflecting good consistency within its 5 items. Quality Implications has a slightly lower coefficient of 0.79, but still falls within acceptable limits of consistency for its 5 items. Administrative Efficiency demonstrates the highest reliability with a coefficient of 0.91, showing excellent consistency among its 5 items. These figures indicate that the scales used to measure these dimensions are generally reliable for analyzing the data collected in this study.

The reliability of a measure is critical for ensuring that the instrument consistently and accurately assesses the intended concept, as noted by Sekaran and Bougie (2013). Cronbach's alpha, which ranges from 1 (indicating perfect internal reliability) to 0 (indicating no internal reliability), serves as a standard gauge for this reliability (Bryman and Bell, 2015). According to Hair et al. (2010), the threshold for an instrument's reliability is a Cronbach's alpha of at least 0.60. After reviewing the results, the researcher chose to keep all the questions to maintain the Cronbach's alpha value, aligning with the perspective of Smith et al. (2011) who consider a reliability coefficient of 0.60 or higher acceptable. However, De Vaus (2002) and Bryman and Bell (2011) recommend a minimum alpha value of 0.70. Therefore, the outcomes from the reliability test provided significant insights into the instrument's stability and consistency.

4.4 The effect of centralized procurement on cost efficiency at ZETDC

The study sought to examine the effect of centralized procurement on cost efficiency at ZETDC using both descriptive and inferential statistics.

Table 4.3. Centralized Procurement

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
To what extent do you agree that centralized procurement leads to bulk purchasing benefits?	110	4.9189	.03195	.211082
How much do you agree that centralized procurement reduces duplication of effort?	110	4.8378	.06390	.54965
To what degree do you believe that centralized procurement improves standardization of products and services?	110	4.4459	.08636	.110285

How strongly do you agree that centralized procurement allows for better supplier relationships?	110	4.4189	.09026	.77648
To what extent do you agree that centralized procurement leads to improved compliance with procurement policies?	110	4.1081	.03634	.31264
Valid N (listwise)	110			

The descriptive results for centralized procurement reveal respondents' perspectives on the benefits of centralized procurement. The data indicates a high level of agreement among respondents regarding the bulk purchasing benefits associated with centralized procurement, as evidenced by a mean score of 4.9189 and a low standard deviation of 0.03195. Similarly, respondents strongly agree (*mean =4.8378*) that centralized procurement reduces duplication of effort, with slightly more variability in responses indicated by a standard deviation of 0.06390. Regarding the improvement in standardization of products and services, respondents exhibit a moderate to high level of agreement (*mean =4.4459*), with some variability reflected in the standard deviation of 0.08636. Moreover, respondents strongly agree (*mean =4.4189*) that centralized procurement fosters better supplier relationships, although there is some variability in responses (standard deviation of 0.09026). Finally, respondents express a moderate level of agreement (*mean =4.1081*) regarding the improvement in compliance with procurement policies, with relatively low variability indicated by a standard deviation of 0.03634.

Table 4.4. The descriptive results for cost efficiency

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
How much do you agree that the organization has seen a reduction in procurement costs over the past year?	110	3.8784	.03825	.32908
To what extent do you believe that cost savings are due to centralized procurement?	110	3.8649	.05552	.47756

How strongly do you agree that the cost savings from centralized procurement have been significant?	110	3.7838	.05533	.47601
To what degree do you believe that centralized procurement has led to more efficient use of resources?	110	3.1032	.07711	.66334
How much do you agree that the cost efficiency of the procurement process has improved due to centralization?	110	2.1216	.06070	.52218
Valid N (listwise)	110			

The descriptive results for cost efficiency reflect respondents' perceptions regarding various aspects related to cost-saving measures and the efficiency of procurement processes. On average, respondents moderately agree (*mean=3.8784*) that the organization has witnessed a reduction in procurement costs over the past year, with relatively low variability indicated by a small standard deviation of 0.03825. Similarly, respondents express a moderate level of agreement (*mean=3.8649*) regarding the attribution of cost savings to centralized procurement, although there is slightly more variability in responses, as reflected by a standard deviation of 0.05552. Regarding the perceived significance of cost savings resulting from centralized procurement, respondents demonstrate a slightly lower level of agreement (mean score of 3.7838) with relatively low variability (*SD=0.05533*). In terms of the perceived impact of centralized procurement on the efficient use of resources, respondents express a moderate level of agreement (mean score of 3.1032) with some variability in responses, as indicated by a standard deviation of 0.07711. However, respondents exhibit a lower level of agreement (*mean=2.1216*) regarding the improvement in the cost efficiency of the procurement process due to centralization, with slightly higher variability reflected in the standard deviation of 0.06070.

Table 4.5. Correlation analysis of the link between centralized procurement and cost efficiency

		Centralized Procurement	Cost Efficiency
Centralized Procurement	Pearson Correlation	1	.480**
	Sig. (2-tailed)		.000

	N	110	110
Cost Efficiency	Pearson Correlation	.480**	1
	Sig. (2-tailed)	.000	
	N	110	110
**. Correlation is significant at the 0.01 level (2-tailed).			

The correlation analysis revealed a statistically significant positive correlation (*r = 0.480, p < 0.01*) between centralized procurement and cost efficiency. This suggests that higher levels of Centralized Procurement tend to be associated with higher levels of cost efficiency. While the correlation is significant, indicating that the relationship is unlikely to have occurred by chance, it's important to note that the strength of the correlation is moderate. This implies that while centralized procurement plays a role in influencing cost efficiency, other factors may also contribute to variations in cost efficiency within the context of the analysis. Therefore, while centralized procurement appears to have a positive impact on cost efficiency, its effect may be influenced by additional factors not considered in the current analysis.

4.5 The influence of centralized procurement on time-related metrics at ZETDC

The findings of the study on the influence of centralized procurement on time-related metrics at ZETDC are computed as shown on the tables below.

Table4.6. Time-Related Metrics

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
The procurement process meets project deadlines effectively.	110	3.9189	.03195	.211082
Decision-making in procurement has become quicker due to centralization	110	3.8784	.050110	.43645
The lead time for receiving goods and services has shortened due to centralized procurement	110	3.8784	.03825	.32908
Delays in receiving materials or supplies are rare occurrences	110	3.11032	.07711	.66334
Overall, the procurement process contributes positively to project timelines	110	3.6905	.02308	.19857
Valid N (listwise)	110			

The results indicate respondents' perceptions regarding various aspects of the procurement process and its impact on project timelines. On average, respondents moderately agree (*mean=3.9189*) that the procurement process effectively meets project deadlines, with relatively low variability indicated by a small standard deviation of 0.03195. Similarly, respondents express a moderate level of agreement (*mean=3.8784*) regarding the increased speed of decision-making in procurement due to centralization, although there is slightly more variability in responses, as reflected by a standard deviation of 0.050110. Additionally, respondents agree moderately (*mean =3.8784*) that the lead time for receiving goods and services has shortened as a result of centralized procurement, with low variability indicated by a standard deviation of 0.03825. However, respondents indicate a lower level of agreement (*mean =3.11032*) that delays in receiving materials or supplies are rare occurrences, with slightly higher variability reflected in the standard deviation of 0.07711. Overall, respondents generally agree (*mean=3.6905*) that the procurement process contributes positively to project timelines, with relatively low variability indicated by a small standard deviation of 0.02308. These findings suggest that while there is perceived effectiveness in meeting project deadlines and streamlining decision-making and lead times through centralized procurement, challenges related to occasional delays in material acquisition still exist, albeit to a lesser extent.

Table 4.7. Correlation analysis of the link between centralized procurement and time-related metrics

		Centralized Procurement	Time-related Metrics
Centralized Procurement	Pearson Correlation	1	.431**
	Sig. (2-tailed)		.000
	N	110	110
Time-related Metrics	Pearson Correlation	.431**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

The correlation analysis reveals a significant positive correlation between centralized procurement and time-related metrics, with a Pearson correlation coefficient of 0.431. The significance level (Sig. 2-tailed) is 0.000, indicating that the correlation is statistically significant at the 0.01 level. This finding suggests that there is a moderate positive relationship between centralized procurement practices and time-related metrics in the context of the study.

In other words, as centralized procurement increases, there tends to be an improvement in time-related efficiency metrics within the organization.

4.6 Quality implications of centralized procurement at ZETDC

The study sought to establish the quality implications of centralized procurement at ZETDC.

Table 4.8. Quality Implications

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Centralized procurement ensures consistent quality of goods and services	110	4.1889	.04907	.46554
Centralized procurement allows for better quality control	110	4.0889	.03017	.28618
Quality control processes have become more effective with centralized procurement	110	4.0444	.03125	.29646
Centralized procurement allows for better monitoring of supplier performance	110	3.9000	.03180	.30168
Quality of procurement documentation and records has improved due to centralization	110	3.6333	.06969	.66112
Valid N (listwise)	110			

The descriptive statistics reveal the perceptions regarding several aspects of centralized procurement. Participants generally agree that centralized procurement ensures consistent quality of goods and services, with a mean score of 4.1889, indicating strong consensus. Similarly, respondents believe that centralized procurement enhances quality control processes, as reflected in the high mean score of 4.0889. Additionally, there is a perception that quality control processes have become more effective with centralized procurement, with a mean score of 4.0444. However, the agreement regarding better monitoring of supplier performance is slightly lower, with a mean score of 3.9000. Furthermore, opinions regarding the improvement of procurement documentation and records due to centralization are somewhat divided, as indicated by the lower mean score of 3.6333 and a higher standard deviation. Overall, while there is substantial agreement on most aspects, perceptions regarding documentation and records improvement exhibit more variability.

Table 4.9 Correlation analysis of the link between centralized procurement and quality implications

		Centralized Procurement	**Quality Implications**
Centralized Procurement	Pearson Correlation	1	.819**
	Sig. (2-tailed)		.000
	N	110	110
Quality Implications	Pearson Correlation	.819**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

The correlation analysis indicates a strong positive relationship between centralized procurement and quality implications, with a Pearson correlation coefficient of 0.819. This correlation is statistically significant at the 0.01 level, as indicated by the p-value of 0.000. The high correlation coefficient suggests that as centralized procurement increases, so does the perceived quality implications. This finding implies that centralized procurement practices are closely associated with positive outcomes related to quality in the context of the study.

4.7 Impact of centralized procurement on administrative efficiency at ZETDC

The study examined the impact of centralized procurement on administrative efficiency at ZETDC.

Table 4.10: Administrative Efficiency

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
The administrative workload in procurement has been reduced over the past year	110	4.2000	.04240	.40224
Centralized procurement reduces the administrative workload	110	4.0889	.03017	.28618
Procurement procedures have become more streamlined with centralized procurement	110	4.0444	.03125	.29646
Centralized procurement reduces paperwork and documentation	110	3.9000	.03180	.30168

Centralized procurement improves the coordination of procurement activities	110	3.6333	.06969	.66112
Valid N (listwise)	110			

The descriptive statistics show the mean and standard deviation for responses related to the administrative workload and efficiency in procurement processes under centralized procurement. The responses indicate a positive trend in perceptions towards centralized procurement's impact on reducing administrative burden and streamlining procurement procedures. Specifically, respondents agree that the administrative workload in procurement has reduced over the past year, with a mean score of 4.20. Similarly, centralized procurement is perceived to reduce the administrative workload (*mean = 4.09*) and streamline procurement procedures (*mean = 4.04*). Additionally, respondents believe that centralized procurement leads to a reduction in paperwork and documentation (*mean = 3.90*) and improves the coordination of procurement activities (*mean = 3.63*). These findings suggest that centralized procurement initiatives are associated with positive perceptions regarding administrative efficiency and process streamlining within procurement functions.

Table 4.11: Correlation analysis of the link between centralized procurement and Administrative Efficiency

		Centralized Procurement	Administrative Efficiency
Centralized Procurement	Pearson Correlation	1	.609**
	Sig. (2-tailed)		.000
	N	110	110
Administrative Efficiency	Pearson Correlation	.609**	1
	Sig. (2-tailed)	.000	
	N	110	110

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

The correlation analysis between centralized procurement and administrative efficiency reveals a strong positive relationship, as indicated by a Pearson correlation coefficient of 0.609. The significance value (Sig. 2-tailed) of 0.000 indicates that this correlation is statistically significant at the 0.01 level. These findings suggest that there is a robust association between centralized procurement practices and administrative efficiency within the procurement processes. It implies that as centralized procurement initiatives increase, administrative

efficiency also tends to improve within the organization. This correlation underscores the importance of centralized procurement strategies in enhancing administrative processes and overall operational effectiveness.

4.8 Discussion of Results

4.8.1 The effect of centralized procurement on cost efficiency at ZETDC

The study finding revealed a statistically significant positive correlation ($r=0.480$, $p < 0.01$) between centralized procurement and cost efficiency aligns with previous research. This suggests that organizations adopting centralized procurement practices may realize benefits in terms of reduced costs and improved resource utilization. For instance, a study by Gu and Zhuang (2023) highlight the advantages of consolidated purchasing power gained through centralization, leading to better negotiation outcomes and volume discounts. Similarly, Geropoulos et al (2024) observed improved cost efficiency in Malaysian public hospitals due to streamlined procedures and reduced procurement cycle times under a centralized model. The moderate strength of the correlation ($r=0.480$) indicates a meaningful association, while also suggesting that other factors likely contribute to overall cost efficiency. Centralization alone might not guarantee optimal cost savings. The effective implementation of supporting factors, such as standardized specifications (Hafsa et al., 2021), robust contract management (Kabelele & Kitomo, 2022), and a focus on price-performance analysis, likely influence the extent of cost benefits realized.

However, it is essential to acknowledge that while centralized procurement may enhance cost efficiency, its effectiveness can be contingent upon various factors such as organizational size, industry-specific requirements, and the regulatory environment (Simwa & Barasa, 2024). Some studies have highlighted potential challenges associated with centralized procurement, including increased bureaucracy, longer decision-making processes, and reduced flexibility in responding to market dynamics (Simwa & Barasa, 2024). Tarigan and Siagian (2021) did not observe significant efficiency benefits in their study of decentralized procurement in the U.S. federal government, positing that potential gains were negated by bureaucratic inefficiencies over prescribed purchasing protocols. Conversely, a centralized model would have supported more flexible decision making. Additional moderating variables identified include purchase complexity, competitive markets, and organizational support (Abrahim & Tarekegn, 2020). Centralized structures work best for standardized commodities versus specialized components requiring local expertise. Sufficient resources and authority must also be delegated to realize

efficiencies at scale (Abutabenjeh et al., 2023).Therefore, organizations need to carefully consider these factors and tailor their procurement strategies accordingly to maximize the benefits of centralization while mitigating potential drawbacks.

4.8.2 The Influence of centralized procurement on time-related metrics at ZETDC

The significant positive correlation ($r = 0.431$, $p < 0.01$) found between centralized procurement and time-related metrics aligns with previous research in procurement management (Bryngemark et al., 2023). This correlation suggests that organizations implementing centralized procurement practices are likely to experience improvements in time-related efficiency metrics such as procurement lead times, delivery schedules, and project timelines. This finding corroborates the notion that centralized procurement enables better coordination, standardization, and control over procurement processes, leading to more efficient time management (Chatha et al., 2023).

Contrary to some studies suggesting potential delays associated with centralized procurement due to increased bureaucracy (Chen et al., 2022), the current findings highlight the benefits of centralization in streamlining procurement operations and reducing time-related inefficiencies. By centralizing procurement functions, organizations can eliminate redundancies, minimize delays in decision-making, and enhance overall process efficiency (Chilunjika et al., 2023). Additionally, centralized procurement allows for better monitoring and management of supplier performance, which can contribute to timely deliveries and project completion (Dimand, 2022). However, it is essential to acknowledge that the effectiveness of centralized procurement in improving time-related metrics may vary depending on organizational context, industry dynamics, and specific project requirements (Debala et al., 2023). Some studies have suggested that while centralized procurement can lead to efficiency gains in time management, it may also pose challenges in terms of adaptability to changing market conditions and responsiveness to project needs (Dimand & Cheng, 2023). Therefore, organizations should carefully evaluate the trade-offs between centralization and agility to optimize time-related efficiency metrics effectively (Geropoulos et al., 2024).

In summary, the findings highlight the positive impact of centralized procurement on time-related metrics within organizations. By leveraging centralized procurement practices, companies can enhance their operational efficiency, streamline procurement processes, and

achieve better time management outcomes. However, it is crucial for organizations to consider contextual factors and strike a balance between centralization and flexibility to maximize the benefits of centralized procurement while addressing potential challenges (Li et al., 2024).

4.8.3 The quality implications of centralized procurement at ZETDC

The strong positive relationship found between centralized procurement and quality implications ($r = 0.819, p < 0.01$) aligns with previous research in procurement management, emphasizing the importance of centralized processes in ensuring quality outcomes (Kong, 2024). This correlation underscores the idea that centralized procurement practices enable organizations to maintain consistent quality standards across their procurement activities, leading to improved product and service quality (Mitchell & Agapiou, 2023). Contrary to some studies suggesting potential quality risks associated with centralized procurement, such as reduced supplier diversity and innovation (Mitchell & Agapiou, 2023), the current findings suggest that centralized procurement can actually enhance quality outcomes. By standardizing procurement processes, implementing rigorous quality control measures, and fostering closer supplier relationships, centralized procurement facilitates better oversight and accountability, thereby mitigating quality-related risks (Stritch et al., 2020).

Moreover, the significant correlation between centralized procurement and quality implications underscores the role of technology and data analytics in supporting quality management efforts (Gu & Zhuang, 2023). Through centralized procurement systems and platforms, organizations can leverage real-time data insights to monitor supplier performance, identify quality issues, and implement corrective actions promptly, contributing to overall quality improvement (Ishak & Thiruchelvam, 2023). Nevertheless, it is essential to recognize that the relationship between centralized procurement and quality implications may be influenced by various factors, including industry-specific requirements, organizational culture, and supplier capabilities (Kahaduwa, 2023). While centralized procurement can enhance quality control and consistency, organizations must also consider the need for flexibility and innovation in their procurement strategies to adapt to changing market dynamics and customer expectations (Mitchell & Agapiou, 2023).

In summary, the findings highlight the positive association between centralized procurement and quality implications within organizations. By adopting centralized procurement practices and leveraging technology-driven quality management approaches, companies can enhance

their ability to deliver high-quality products and services while maintaining operational efficiency and competitiveness in the market (Harland et al., 2021).

4.8.4 The impact of centralized procurement on administrative efficiency at ZETDC

The strong positive relationship found between centralized procurement and administrative efficiency aligns with previous research indicating that centralized procurement practices can streamline administrative processes and improve overall efficiency (Kabelele & Kitomo, 2022). This correlation underscores the notion that centralizing procurement functions enables organizations to consolidate their administrative tasks, reduce duplication of efforts, and enhance coordination across departments (Gu & Zhuang, 2023). Contrary to studies suggesting potential drawbacks of centralized procurement, such as increased bureaucracy and slower decision-making (Hafsa et al., 2021), the current findings suggest that centralized procurement can indeed lead to greater administrative efficiency. By standardizing procedures, implementing automated systems, and centralizing data management, organizations can minimize manual intervention and optimize resource allocation, thereby improving administrative productivity (Kabelele & Kitomo, 2022). Furthermore, the significant correlation between centralized procurement and administrative efficiency highlights the role of strategic planning and organizational alignment in driving procurement effectiveness (Madsen, 2023). Companies that align their procurement objectives with broader organizational goals and invest in technology-enabled solutions are better positioned to achieve operational excellence and sustain competitive advantage (Mitchell & Agapiou, 2023).

However, it is essential to recognize that the relationship between centralized procurement and administrative efficiency may vary across industries and organizational contexts (Debala et al., 2023). While centralized procurement can streamline processes and enhance efficiency in certain settings, it may not always be the optimal approach for every organization. Factors such as organizational size, complexity, and cultural factors can influence the effectiveness of centralized procurement strategies (Petersen et al., 2022). The findings highlight the positive association between centralized procurement and administrative efficiency, emphasizing the importance of strategic procurement management in driving organizational performance (Stumpf et al., 2023). By leveraging centralized procurement practices and investing in process optimization, companies can achieve greater efficiency and effectiveness in their procurement operations, ultimately contributing to overall business success (Nemec et al., 2023).

4.9 Chapter Summary

The chapter covered the findings of the study on the effect of centralized procurement on operational efficiency in Zimbabwean parastatals, case of ZETDC. The next chapter is going to address the study conclusions and recommendations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study explored the impact of centralized procurement on operational efficiency within Zimbabwean parastatals, focusing specifically on the Zimbabwe Electricity Transmission and Distribution Company (ZETDC). This chapter presents conclusions and recommendations related to the research topic, derived from a thorough analysis of the research findings. In alignment with the objectives of the study, the study offer conclusions and recommendations based on the presented findings and the review of existing literature.

5.2 Summary of the Study

The research investigated the impact of centralized procurement on operational efficiency in Zimbabwean parastatals, specifically focusing on the Zimbabwe Electricity Transmission and Distribution Company (ZETDC). The objectives of the study included assessing the effect of centralized procurement on cost efficiency at ZETDC, determining its influence on time-related metrics, evaluating the quality implications, and assessing its impact on administrative efficiency at ZETDC. Data collection was conducted using structured questionnaires, with a sample size of 115 respondents selected through simple random and stratified sampling methods. The data was analysed using descriptive statistics and inferential analysis.

5.3 Summary of Findings

The study finding indicated a statistically significant positive correlation ($r=0.480$, $p < 0.01$) between centralized procurement and cost efficiency aligns with previous research at ZETDC. This suggests that organizations adopting centralized procurement practices may realize benefits in terms of reduced costs and improved resource utilization.

The study outcome revealed a significant positive correlation ($r = 0.431$, $p < 0.01$) between centralized procurement and time-related metrics at ZETDC. This correlation suggests that organizations implementing centralized procurement practices are likely to experience improvements in time-related efficiency metrics such as procurement lead times, delivery schedules, and project timelines.

The research showed a strong positive relationship found between centralized procurement and quality implications ($r = 0.819$, $p < 0.01$) at ZETDC. This correlation highlights the idea that

centralized procurement practices enable organizations to maintain consistent quality standards across their procurement activities, leading to improved product and service quality.

The study indicated that a strong positive relationship existed between centralized procurement and administrative efficiency at ZETDC ($r = 0.609$, $p < 0.00$), thus centralized procurement practices can streamline administrative processes and improve overall efficiency.

5.4 Conclusions

The study concluded that centralized procurement significantly enhances cost efficiency, time-related metrics, quality implications, and administrative efficiency within organizations. It confirms a positive correlation between centralized procurement and cost efficiency, suggesting that such practices can lead to better negotiation outcomes and significant cost savings, albeit influenced by other operational factors. Similarly, centralized procurement has been shown to improve time-related efficiency, reducing lead times and streamlining procurement processes, despite potential challenges with bureaucracy. The study also highlights a strong positive relationship between centralized procurement and quality outcomes, demonstrating that centralization can support consistent quality standards and robust quality control measures. Furthermore, the findings illustrate that centralized procurement contributes to administrative efficiency by consolidating tasks and reducing duplication, which enhances organizational coordination and resource management. However, the effectiveness of centralized procurement can vary depending on organizational characteristics and external conditions, suggesting that a tailored approach is necessary to optimize its benefits and mitigate possible drawbacks.

5.5 Recommendations of the Study

Based on the findings of the study, the following recommendations are proposed to optimize the benefits of centralized procurement in organizations:

1. **Implement Supporting Systems**: Organizations should invest in robust IT systems and data management tools to support centralized procurement processes. These technologies facilitate better monitoring, control, and analysis of procurement activities, enhancing both efficiency and effectiveness.

2. **Standardize Procedures**: It is crucial to standardize procurement procedures across the organization to reduce variability and improve compliance. Standardization helps in achieving consistent quality and efficiency, particularly in cost and administrative operations.
3. **Develop Strategic Supplier Partnerships**: To enhance quality outcomes and ensure timely deliveries, organizations should focus on building strategic partnerships with key suppliers. This involves longer-term contracts, joint development efforts, and collaboration strategies that align with organizational goals.
4. **Tailor Procurement Strategies**: Recognizing that centralized procurement may not be universally effective, organizations should tailor their procurement strategies to fit their specific needs, industry requirements, and organizational culture. This includes deciding which procurement functions to centralize and which to keep decentralized based on efficiency and flexibility needs.
5. **Enhance Training and Development**: Continuous training and professional development for procurement staff are vital. Training programs should focus on negotiation skills, contract management, and the latest procurement technologies to keep the workforce adept and effective.
6. **Monitor and Adapt to Market Changes**: Organizations should establish mechanisms to continuously monitor market conditions and adapt procurement strategies accordingly. This adaptive approach helps in maintaining competitiveness and responsiveness to external changes.

These recommendations aim to help organizations maximize the benefits of centralized procurement while addressing potential challenges to ensure sustainable efficiency and quality improvements.

5.6 Areas of further studies

To build upon the findings of the study and address the complexities of centralized procurement, further research could explore several areas:

1. **Impact of Organizational Size and Structure**: Future studies could examine how the size and structural complexities of an organization affect the efficacy of centralized procurement. This could help tailor procurement strategies to different types of organizations.

2. **Sector-Specific Studies**: Investigating the impact of centralized procurement in various sectors such as healthcare, education, and manufacturing might provide insights into sector-specific challenges and benefits, helping to develop more tailored procurement strategies.
3. **Long-Term Impact Analysis**: It would be beneficial to conduct longitudinal studies to assess the long-term impacts of centralized procurement on organizational performance, including the sustainability of cost savings and quality improvements over time.
4. **Comparative Studies between Centralized and Decentralized Models**: More comparative research could help delineate the conditions under which centralized procurement is more effective compared to decentralized models, considering various factors like market dynamics and internal organizational processes.

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Appendix 1 : Questionnaire

My name is Blessing Maposa, and I am an undergraduate student at Bindura University of Science Education, pursuing a degree in Supply Chain Management. As part of the degree requirements, I am conducting a research project titled "***Effect of Centralized Procurement on Operational Efficiency in Zimbabwean Parastatals: Case of Zimbabwe Electricity Transmission and Distribution Company (ZETDC)***." I kindly request your assistance in completing the questionnaire for this research. Your responses will be kept confidential and used solely for academic purposes. Your cooperation is greatly appreciated.

INSTRUCTIONS:

- Please answer all the questions honestly.
- Please kindly indicate your answers by ticking where appropriate in the boxes and writing in the spaces provided.
- Your name or identity is not required.

SECTION A: GENERAL INFORMATION

1.1. Gender

Male ☐ Female ☐

1.2. Age of respondent

< 29 ☐ 29- 39 ☐ 40 – 50 ☐ above 50 ☐

1.3 Period of working experience

< 5years ☐ 5-10years ☐ >10years ☐

1.5 Level of Education attained

Undergraduate Level ☐ Master's Level ☐ Doctorate ☐

Others ☐

SECTION B: CENTRALIZED PROCUREMENT AT ZETDC

Indicate the extent to which you agree or disagree about the centralized procurement at ZETDC

no *extent=1; little extent =2; uncertain =3; great extent =4; very great extent= 5*

		1	**2**	**3**	**4**	**5**
1	How strongly do you agree that centralized procurement allows for better supplier relationships?					
2	To what extent do you agree that centralized procurement leads to improved compliance with procurement policies?					
3	To what extent do you agree that centralized procurement leads to bulk purchasing benefits?					
4	How much do you agree that centralized procurement reduces duplication of effort?					
5	To what degree do you believe that centralized procurement improves standardization of products and services?					

SECTION C: EFFECT OF CENTRALIZED PROCUREMENT ON COST EFFICIENCY AT ZETDC

Indicate the extent to which you agree or disagree about the effect of centralized procurement on cost efficiency at ZETDC

no *extent=1; little extent =2; uncertain =3; great extent =4; very great extent= 5*

		1	2	3	4	5
1	How much do you agree that the organization has seen a reduction in procurement costs over the past year?					
2	To what extent do you believe that cost savings are due to centralized procurement?					
3	How strongly do you agree that the cost savings from centralized procurement have been significant?					
4	To what degree do you believe that centralized procurement has led to more efficient use of resources?					
5	How much do you agree that the cost efficiency of the procurement process has improved due to centralization?					

SECTION D: THE INFLUENCE OF CENTRALIZED PROCUREMENT ON TIME-RELATED METRICS AT ZETDC

Indicate the extent to which you agree or disagree about the influence of centralized procurement on time-related metrics at ZETDC

no *extent=1; little extent =2; uncertain =3; great extent =4; very great extent= 5*

		1	2	3	4	5
1	The procurement process meets project deadlines effectively.					
2	Decision-making in procurement has become quicker due to centralization					
3	The lead time for receiving goods and services has shortened due to centralized procurement					
4	Delays in receiving materials or supplies are rare occurrences					
5	Overall, the procurement process contributes positively to project timelines					

SECTION E: QUALITY IMPLICATIONS OF CENTRALIZED PROCUREMENT AT ZETDC

Indicate the extent to which you agree or disagree about the quality implications of centralized procurement at ZETDC

no *extent=1; little extent =2; uncertain =3; great extent =4; very great extent= 5*

		1	**2**	**3**	**4**	**5**
1	Centralized procurement allows for better monitoring of supplier performance					
2	Quality of procurement documentation and records has improved due to centralization					
3	Centralized procurement ensures consistent quality of goods and services					
4	Centralized procurement allows for better quality control					
5	Quality control processes have become more effective with centralized procurement					

SECTION E: IMPACT OF CENTRALIZED PROCUREMENT ON ADMINISTRATIVE EFFICIENCY AT ZETDC

Indicate the extent to which you agree or disagree about the impact of centralized procurement on administrative efficiency at ZETDC

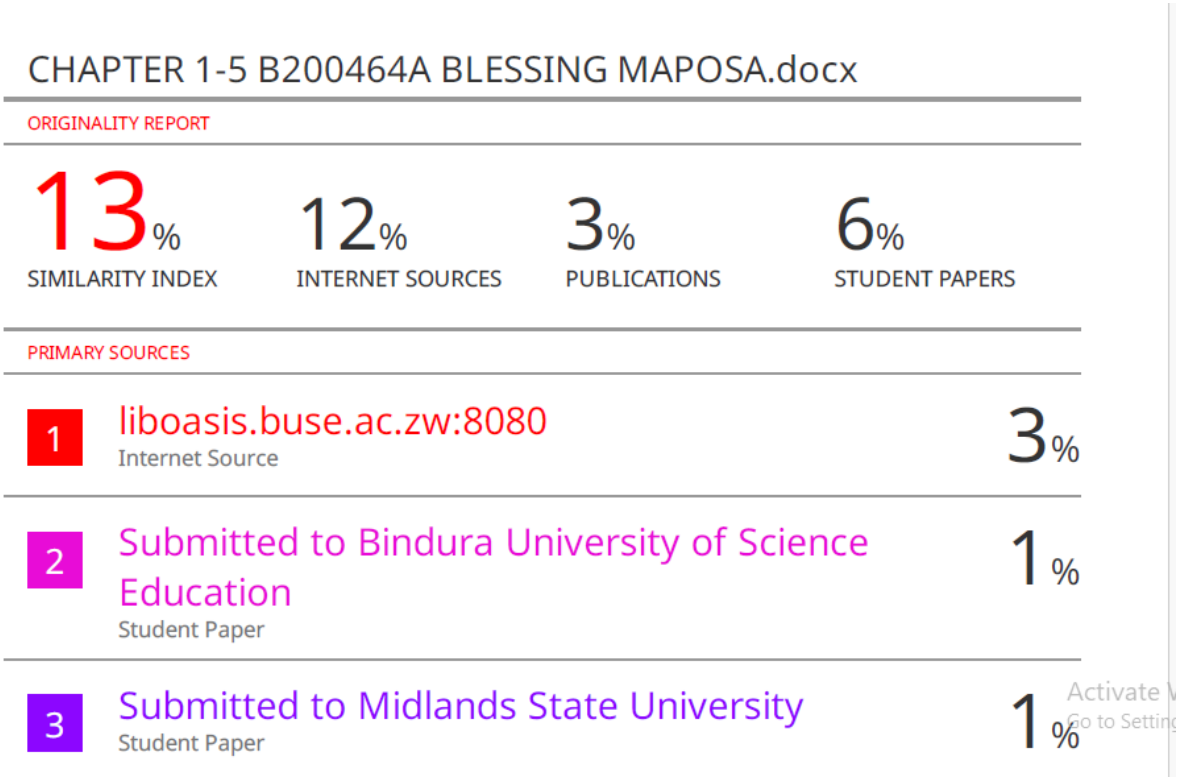
no *extent=1; little extent =2; uncertain =3; great extent =4; very great extent= 5*

		1	**2**	**3**	**4**	**5**
1	Procurement procedures have become more streamlined with centralized procurement					
2	Centralized procurement reduces paperwork and documentation					
3	Centralized procurement improves the coordination of procurement activities					
4	The administrative workload in procurement has been reduced over the past year					
5	Centralized procurement reduces the administrative workload					

The End

Thank you so much for cooperation

Appendix 2 : Turntin Report



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