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Factors Affecting Procurement Performance: The Case of Armauer Hansen Research Institute (AHRI), Ethiopia

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BAHIR DAR UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF LOGISTICS AND SUPPLY CHAIN MANAGEMENT

**Factors Affecting Procurement Performance: The
Case of Armauer Hansen Research Institute (AHRI), Ethiopia**

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**Thesis Submitted to the Bahir Dar University, College of Business and Economics
Department of Logistics and Supply Chain Management, for the Partial Fulfillment of
the Requirements of The Degree of Master of Arts in Logistics and Supply Chain
Management**

June, 2026

Bahir Dar University

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Ethiopia

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Declaration

I hereby declare that this thesis entitled called Factors Affecting Procurement Performance: The Case of Armauer Hansen Research Institute (AHRI), Ethiopia is my work and has not been presented for the award of any degree or diploma in this or any other university. All sources of materials used in the thesis have been accordingly acknowledged. It has been Carried out by me under the guidance and supervision of Dr. Tafere Worku (PhD).

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Statement of Certification

This is to certify that this thesis entitled as Factors Affecting Procurement Performance: The Case of Armauer Hansen Research Institute (AHRI), Ethiopia submitted in partial fulfillment of the requirements for the degree of Master of Arts in Logistics and Supply Chain Management to the College of Business and Economics, Bahir Dar University, done by Rediet Wubante is an authentic work carried by her under our guidance.

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Dr. Tafere Worku (PHD)

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Lists of Acronyms and Abbreviations

AHRI- Armauer Hansen Research Institute

EFDA- Ethiopian food and drug authority

PPR- Procurement Performance

UT- Use of Technology

GR- Government rules and procedures

SM- Supplier Management

ABSTRACT

Procurement performance is essential for ensuring the timely acquisition of quality goods and services while promoting cost efficiency and operational effectiveness, particularly in research institutions where procurement activities involve specialized and time-sensitive laboratory materials and equipment. Despite the importance of procurement, many public research institutions face challenges related to planning, supplier management, government procurement procedures, and the adoption of procurement technologies. This study examined the factors affecting procurement performance at Armauer Hansen Research Institute (AHRI), Ethiopia.

The study specifically investigated the effects of procurement planning, supplier management, government rules and procedures, and the use of technologies on procurement performance. A quantitative research approach was employed using descriptive and explanatory research designs. The target population consisted of 1,180 AHRI employees, from which a sample of 299 respondents was determined using Yamane's formula and selected through proportionate stratified sampling. Primary data were collected using structured questionnaires, and 241 completed questionnaires were returned, representing a response rate of 80.6%. The collected data were analyzed using SPSS Version 25 through descriptive statistics, Pearson correlation analysis, and multiple linear regression analysis.

The findings revealed that procurement planning, supplier management, and the use of technologies have positive and statistically significant effects on procurement performance. Conversely, government rules and procedures were found to have a significant negative effect on procurement performance due to lengthy approval processes and bureaucratic requirements that delay procurement activities. The regression analysis further indicated that the independent variables jointly explain a substantial proportion of the variation in procurement performance at AHRI.

The study concludes that strengthening procurement planning, improving supplier management practices, expanding the use of procurement technologies, and streamlining government procurement procedures would significantly enhance procurement performance at AHRI. Accordingly, the study recommends improving annual procurement planning, strengthening supplier evaluation and collaboration, investing in digital procurement systems, and simplifying procurement procedures to improve efficiency and organizational performance.

Keywords: *Procurement performance, procurement planning, supplier management, government rules and procedures, technology adoption, Armauer Hansen Research Institute*

CHAPTER ONE

1. INTRODUCTION

This chapter states the general introduction parts of the study it presents research problems, the objectives of the study, its significance, scope and limitations, and the organization of the paper.

1.1 Background of study

Procurement is a strategic function that directly influences organizational efficiency, cost management, service delivery, and overall institutional performance in both public and private sectors (Kiage, 2013; Barsemoi et al., 2014; Ngwili & Were, 2014). Globally, procurement accounts for a significant portion of organizational expenditure, often ranging between 50–80% of total budgets in public and research-oriented institutions (Callender & Mathews, 2000). When performed effectively, procurement ensures the timely availability of quality goods, works, and services at competitive prices, thereby enhancing operational continuity and value for money. Conversely, poor procurement performance leads to delayed deliveries, inflated costs, stock-outs, wastage, and compromised quality, all of which undermine organizational objectives (Okore & Muturi, 2016; Mwanjumwa & Simba, 2015).

In developing countries, procurement systems continue to face systemic challenges despite regulatory reforms. Studies conducted across East Africa consistently highlight inadequate procurement planning, weak supplier management, excessive bureaucratic procedures, and limited adoption of modern technology as the primary impediments to efficient procurement (Kiage, 2013; Okore & Muturi, 2016; Mgawe & Kiwango, 2023). For instance, Kiage (2013) found that procurement planning alone accounts for 26.9% of variations in procurement performance in Kenya's Ministry of Energy, while contract management and resource allocation contribute 23.3% and 17.2%, respectively. Similarly, Mgawe and Kiwango (2023) established that accurate needs assessment, realistic budgeting, and appropriate selection of procurement methods significantly improve timeliness, quality, and cost-effectiveness in public organizations in Tanzania.

Procurement planning emerges as one of the most critical success factors. Effective planning involves accurate needs assessment, realistic budgeting, preparation of annual procurement

plans, and selection of suitable procurement methods (Mgawe & Kiwango, 2023; Abera, 2020). Institutions that conduct thorough needs assessments and align procurement plans with available budgets experience fewer emergency purchases, reduced stock-outs, and better cost control (Nicholaus & Kiwango, 2023). In contrast, superficial or late planning results in rushed decisions, overpricing, and failure to achieve value for money (Kiage, 2013; Turga, 2019).

Supplier management is another pivotal determinant of procurement performance. Strong supplier relationships, regular performance evaluation, clear communication, and long-term partnerships lead to shorter lead times, consistent quality, and greater reliability (Kasisi et al., 2015; Kitheka, 2013 cited in the user's draft). Poor supplier management, however, increases risks of delayed deliveries, receipt of substandard materials, and higher transaction costs (Ngwili & Were, 2014; Mwanjumwa & Simba, 2015). In research institutions where specialized reagents and equipment are required within strict timelines, ineffective supplier management can directly jeopardize research schedules and outcomes.

Government rules and procedures, although designed to promote transparency and accountability, often create bottlenecks. Lengthy approval processes, rigid tendering requirements, frequent regulatory changes, and excessive documentation demands significantly delay procurement cycles (Okore & Muturi, 2016; Kasisi et al., 2015; Abera, 2020). Studies in Kenya and Ethiopia reveal that compliance with public procurement laws sometimes conflicts with operational urgency, forcing institutions to resort to costly direct procurement or single sourcing (Ngwili & Were, 2014; Turga, 2019).

The use of technologies (e-procurement systems, electronic tendering, ERP integration, and automated inventory management) has been identified as the most transformative factor in modern procurement practice (Barsemoi et al., 2014; Okore & Muturi, 2016; Mwanjumwa & Simba, 2015). Institutions that adopt integrated ICT solutions benefit from real-time tracking, reduced paperwork, enhanced transparency, faster processing, and lower administrative costs. Barsemoi et al. (2014) found that information technology was the strongest predictor of procurement performance in a private-sector chemical company in Kenya, outperforming staff competence and organizational structure. Similarly, Okore and Muturi (2016) concluded that highly integrated public procurement processes supported by ICT are significantly more efficient than manual systems.

In Ethiopia, public and semi-public institutions, including universities and research centres, continue to grapple with manual, paper-based procurement systems despite the existence of the Ethiopian Federal Government Procurement and Property Administration Proclamation (Proclamation No. 649/2009 and its amendments). Recent studies at Jimma University (Abera, 2020) and the International Organization for Migration–Ethiopia (Turga, 2019) confirm that inadequate planning, limited technology adoption, bureaucratic delays, and weak supplier coordination remain major barriers to procurement efficiency.

Research institutions such as the Armauer Hansen Research Institute (AHRI) are particularly vulnerable to procurement inefficiencies because their work depends heavily on timely access to high-quality laboratory reagents, scientific equipment, and consumables, many of which must be imported. Delays of even a few weeks can disrupt ongoing experiments, expire time-sensitive grants, and compromise research validity. Despite its critical role in leprosy, tuberculosis, and other infectious disease research, there is currently no empirical study that specifically examines how procurement planning, supplier management, government rules and procedures, and the use of technologies collectively affect procurement performance at AHRI.

1.2 Statement of the problem

Procurement performance is a critical determinant of organizational efficiency, cost control, and overall operational success in both public and private institutions (Kiage, 2013; Barsemoi et al., 2014). In research institutions such as the Armauer Hansen Research Institute (AHRI), effective procurement directly influences the timely availability of laboratory reagents, scientific equipment, consumables, and other essential materials required for research projects. Poor procurement performance manifests in delayed deliveries, inflated costs, substandard quality of goods, frequent stock-outs, and prolonged lead times, all of which disrupt research schedules, increase operational expenses, and ultimately compromise research outcomes and institutional credibility (Okore & Muturi, 2016; Mwanjumwa & Simba, 2015).

Despite the strategic importance of procurement, many organizations in developing countries, including Ethiopian research institutions, continue to experience persistent inefficiencies in their procurement processes. Empirical studies have consistently demonstrated that inadequate procurement planning leads to poor needs assessment, unrealistic budgeting, inappropriate selection of procurement methods, and ultimately, failure to achieve value for money (Mgawe & Kiwango, 2023; Kiage, 2013). When user departments do not conduct proper needs assessment or when annual procurement plans are prepared superficially, institutions end up with either overstocking or emergency purchases at premium prices, resulting in resource wastage and delayed project implementation (Abera, 2020; Turga, 2019).

Supplier management remains another critical challenge affecting procurement performance. Weak supplier relationship practices, limited supplier evaluation, poor communication, and lack of long-term partnerships often result in unreliable delivery schedules, quality inconsistencies, and higher transaction costs (Kasisi et al., 2015; Ngwili & Were, 2014). In research institutions where specialized materials are frequently sourced internationally, ineffective supplier management exacerbates lead-time variability and increases the risk of receiving non-compliant or counterfeit goods, directly affecting the quality and reliability of research outputs (Mwanjumwa & Simba, 2015).

Government rules and procedures, while intended to ensure transparency and accountability, are frequently cited as a major bottleneck in procurement performance. Excessive

bureaucratic requirements, lengthy approval processes, rigid tendering procedures, and frequent changes in regulatory frameworks create significant delays and discourage competitive bidding (Okore & Muturi, 2016; Kiage, 2013; Abera, 2020). Studies in both Kenyan and Ethiopian public and semi-public institutions have shown that strict compliance with government procurement regulations often conflicts with the need for urgent research materials, forcing institutions to resort to costly emergency procurement or single sourcing, thereby undermining cost-effectiveness and timeliness (Ngwili & Were, 2014; Turga, 2019).

The use of technologies in procurement (e-procurement systems, ERP integration, electronic tendering, and automated inventory management) has been identified as one of the most significant factors influencing performance improvement in modern organizations (Barsemoi et al., 2014; Okore & Muturi, 2016; Kasisi et al., 2015). However, many institutions in developing countries still rely heavily on manual, paper-based processes, leading to errors, lack of real-time tracking, poor data accuracy, and limited transparency (Mwanjumwa & Simba, 2015; Abera, 2020). The absence of integrated technological solutions results in prolonged processing times, higher administrative costs, and reduced ability to monitor supplier performance effectively.

Although AHRI, as a leading biomedical research institute in Ethiopia, depends heavily on efficient procurement to support its critical research mandates in infectious diseases, there is limited empirical evidence specifically examining how procurement planning, supplier management, government rules and procedures, and the use of technologies collectively affect its procurement performance. Existing studies in Ethiopia and the region have largely focused on public entities, universities, or humanitarian organizations (Turga, 2019; Abera, 2020; Mgawe & Kiwango, 2023), leaving a significant knowledge gap regarding medical research institutions with specialized and often urgent procurement needs. This lack of context-specific research hinders AHRI's ability to develop targeted interventions that could enhance procurement efficiency, reduce costs, ensure timely availability of quality materials, and ultimately improve research productivity. This encourages me to conduct study in Armauer Hansen Research Institute(AHRI) with a point to establish factors affecting procurement performance by using four independent variables.

Therefore, this study fills this gap by empirically investigating the influence of procurement planning, supplier management, government rules and procedures, and the use of

technologies on procurement performance at the Armauer Hansen Research Institute (AHRI). The findings are expected to provide actionable recommendations for strengthening procurement practices not only at AHRI but also in similar research institutions across Ethiopia.

1.3 Research Question

Based on the above research problem, for this study the following basic research questions are designed and assessed accordingly.

- How does procurement planning influence procurement performance at AHRI?
- How does supplier management affect procurement performance at AHRI?
- How does government rules and procedures affect procurement performance at AHRI?
- How does the use of technologies affect procurement performance at AHRI?

1.4 Objective of the study

1.4.1 General objective

The general objective of this study is to explain factors affecting procurement performance of **Armauer** Hansen Research Institute (AHRI).

1.4.2 Specific objectives

Specifically, the study aimed to achieve the under mentioned objectives

- To Explain the effect of procurement planning on procurement performance at AHRI.
- To examine how supplier management influences procurement performance at AHRI.
- To determine the effect of government rules and procedures on procurement performance at AHRI.
- To Examine how the use of technologies affects procurement performance at AHRI.

1.5 Hypotheses of the Study

To achieve the objectives of the study, the following hypotheses were formulated.

H₀₁: Procurement planning has no statistically significant effect on procurement performance at Armauer Hansen Research Institute (AHRI).

H₁₁: Procurement planning has a statistically significant positive effect on procurement performance at Armauer Hansen Research Institute (AHRI).

H₀₂: Supplier management has no statistically significant effect on procurement performance at Armauer Hansen Research Institute (AHRI).

H₁₂: Supplier management has a statistically significant positive effect on procurement performance at Armauer Hansen Research Institute (AHRI).

H₀₃: Government rules and procedures have no statistically significant effect on procurement performance at Armauer Hansen Research Institute (AHRI).

H₁₃: Government rules and procedures have a statistically significant negative effect on procurement performance at Armauer Hansen Research Institute (AHRI).

H₀₄: The use of technologies has no statistically significant effect on procurement performance at Armauer Hansen Research Institute (AHRI).

H₁₄: The use of technologies has a statistically significant positive effect on procurement performance at Armauer Hansen Research Institute (AHRI).

1.6 Scope of the Study

Procurement covers several areas of managerial practices; it is difficult and Uncontrollable to conduct the research in all areas that summarizes procurement in terms of time, finance, foreign procurement performance on research institutions in terms of topic.

The subject scope of this study also bordered to the institution's point of reference towards procurement planning, supplier management, government rule and procedures, the use of technologies. The research is limited to AHRI's staff members who are directly or indirectly involved in procurement activities. Geographically, the study is delimited to AHRI's

operations in Addis Ababa. Whereas the findings may not be used to all research institutions in Ethiopia, but outcomes are expected to give valuable insights for advancing foreign procurement efficiency in similar institutions.

1.7 Significance of the Study

The study is expected to generate both theoretical and practical contributions that will be highly relevant to various stakeholders. First, the study will provide the management of the Armauer Hansen Research Institute (AHRI) with empirical evidence on the extent to which procurement planning, supplier management, government rules and procedures, and the technologies affect procurement performance. This evidence enables AHRI to identify priority areas for improvement, streamline its procurement processes, reduce lead times for critical laboratory reagents and equipment, lower operational costs, and ensure uninterrupted biomedical research activities on leprosy, tuberculosis, and other infectious diseases.

Second, the study has a contribution to offer valuable insights to policymakers, by highlighting specific regulatory bottlenecks that hinder time-sensitive scientific procurement, thereby creating a more flexible yet accountable procurement framework for medical research institutions.

Furthermore, other federal research organizations in Ethiopia, will benefit from a context-specific benchmark that will guide them in enhancing their own procurement systems. Academically, the study also contribute to body of literature on procurement performance in Ethiopian research institutions and will serve as a foundation for future researchers intending to conduct comparative or longitudinal studies in similar settings.

1.8 Limitations of the Study

The study was limited to a single case (AHRI) located in Addis Ababa; therefore, the findings provide in-depth contextual understanding but not be fully generalizable to all research institutions, universities, or public entities across Ethiopia that operate under different scales, funding mechanisms, or procurement volumes. In addition, the study relied mainly on self-reported data collected through questionnaires, and despite assurances of anonymity and confidentiality, some respondents did not provide socially desirable responses, particularly when addressing delays caused by government rules and procedures or weaknesses in supplier management practices.

Moreover, the cross-sectional design that was employed to capture data at one point in time and therefore it is not establish long-term causality or measure the effects of future policy reforms or technological investments. Access to certain confidential internal documents, such as tender evaluation reports and supplier performance records, was restricted due to institutional policies, then forced to greater reliance on questionnaire responses and publicly available records. Furthermore, there was limited literature on procurement in medical research institutions. The issue of time and finance was also other limitation of this study.

1.9 Organization of the Study

This research paper is presented in five chapters. Chapter One presents the background of the study, statement of the problem, objectives, research questions, hypotheses, significance of the study, scope, limitations, and organization of the study. Chapter Two relates to review conceptual, theoretical, and empirical literature related to procurement performance, discuss the four independent variables, identify the research gap, and develop the conceptual framework that are guided the entire study. Chapter Three contains the research methodology, including research design, target population, sampling techniques, data collection instruments, validity and reliability measures, ethical considerations, and data analysis procedures. Data analysis, interpretation and discussion of the study included in Chapter Four. Chapter Five summarized the major findings, draw conclusions, provide practical recommendations to AHRI management and suggested areas for further research.

1.10 Definition and terms and concepts

Procurement performance: is the measurement of how effective and efficient the purchasing process is in an organization.

Procurement Planning: process used by an organization to identify its purchasing needs and determine the best strategy to obtain them efficiently.

Cycle time: The time it takes from when a need is identified until the goods or services are delivered and ready for use.

Technology Adoption: is the use of digital systems (like software and online platforms) to make purchasing faster, cheaper, and more efficient.

Cost efficiency: The ability of procurement function to acquire goods and services at the lowest reasonable cost.

Supplier management: The process of selecting, evaluating, monitoring and mandating relationships with others.

Government rule and procedures: Laws, regulations, policies, directive and approval procedures established by government authorities.

Chapter two

Literature Review

2.1 Introduction

This chapter presents systematic and critical review of existing related literature on procurement performance under study presents by different researchers, scholars and authors. The review is based on similar studies that are conducted on organizations procurement performance and factors that affect it. Theoretical frameworks that are guided by the study has also been discussed.

2.2 Theoretical Review

2.2.1. Procurement

Procurement is the process of acquiring goods, services and works through purchasing, lease, rental, hire-purchase or other means of contracting (Muheesi,2022). It is also business management function that ensures identification, sourcing, access and management of the external resources that an organisation needs or may need to fulfil its strategic objectives. It does not deal with a single action or process. Procurement covers the complete range of events from the identification of a need for a good or service through to its disposal or cessation (CIPS Australia, 2007).

2.2.2 Procurement functions

2.2.2.1 Purchasing

Procurement is a broad term that includes all process involves in acquiring good and services, while purchasing is a specific function of procurement which focuses on actual buying of goods and services. Purchasing as it is the activity responsible for getting the right materials to the right place at the right time in the right quantity at the right price (Prasad,2020). Muheesi(2022) defines purchasing as an organizational function involving the acquisition of supplies or inputs needed for organizational activities.

2.2.2.2 Vendor Management

Vendor management is the process of selecting vendors, negotiating contracts, controlling costs, reducing vendor related risks and assuring service delivery, effective vendor management is crucial for comprehensive management, especially in today's interconnected business environment, where institutions rely heavily on third party vendors for goods, services and technology (Sarkar et al.,2025). Contract management is another crucial component of vendor management it defines the responsibilities and expectations of both parties and include provisions for penalties if the vendor fails to meet these expectations. (Maayan, 2023) states that Monitoring the vendor's performance and Risk Management and Compliance Checks are also critical components on vendor management as to ensure that they are meeting the organization's expectations and delivering value as well to mitigate potential risks associated with vendors and ensure their compliance with regulation.

2.2.2.3 Inventory Control

Effective inventory management is critical to ensuring the availability of medical supplies and equipment while minimizing costs. Accurate demand forecasting helps healthcare providers order the right supplies at the right time, reducing the risk of stockouts and excess inventory. Advanced inventory management systems can automate demand forecasting and replenishment, ensuring supplies are ordered and delivered as needed. These systems also provide real-time visibility into inventory levels, enabling healthcare providers to monitor usage patterns and adjust their ordering practices accordingly (Adebayo et al., 2024).

2.2.2.4 Regulatory Compliance

Ensuring to regulatory requirements and standards is another significant challenge in healthcare procurement. The healthcare industry is heavily regulated to protect patient safety and ensure the efficacy of medical products (Adebayo et al., 2024). Medical institutions must comply with the EFDA rules and regulations when importing medical products and reagents for clinical trials and research. It required documentations including authorized letters, product specifications and clinical justifications. EFDA also requires pre- import certifications for unregistered or urgent products to ensure safety and compliance (Ethiopian Food and Drug Authority [EFDA], 2012).

2.2.2.5 Budget Management

Balancing cost-efficiency with quality and safety is a perennial challenge in healthcare procurement. Healthcare providers operate within constrained budgets, and the pressure to reduce costs is ever-present. However, cost-cutting measures must not compromise the quality and safety of medical supplies and equipment (Adebayo et al., 2024).

2.3 Factors affecting procurement performance

2.3.1 Procurement Planning

Procurement planning is one of the primary functions of procurement with a potential to contribute to the success of local government operations and improved service delivery. It is a function that sets in motion the entire acquisition/procurement process of local governments (Basheka, 2010). The planning function encompasses defining an organization's goals, establishing an overall strategy for achieving those goals, and developing a comprehensive hierarchy of plans to integrate and coordinate the activities. Procurement planning is the primary function that sets the stage for subsequent procurement activities. It 'fuels and then ignites' the engine of the procurement process (Chepkesis & Keitany, 2018).

A procurement plan helps Procuring Entities to achieve maximum value for expenditures on services to be delivered and enables the entities to identify and address all relevant issues pertaining to a particular procurement before they publicize their procurement notices to potential suppliers of goods, works and services (Okong'o & Muturi, 2017). In research institutes, planning is particularly challenging because many items have unpredictable consumption patterns, long international lead times, and strict shelf-life constraints.

Planning influence procurement activities in the sense that they provided focused and efficient utilization of the available resources, helped in budgeting and planning and therefore with adequate provision of funds due to procurement plans, performance is assured (Kiage, 2013). The process begins when user departments submit their needs, which will be included into an annual procurement plan that must be approved before the financial year begins. Effective planning enables organisations to anticipate needs, aggregate requirements for bulk purchasing, and avoid emergency procurements that are both costly and procedurally risky (Mgawe & Kiwango, 2023).

Additionally, institutions with well-prepared, timely procurement plans experience significantly lower levels of stock-outs. (Ketemaw, 2020). Procurement plans therefore influence procurement performance in the sense that they provide focused and efficient utilization of available resources, help in budgeting and planning and therefore with adequate provision of funds due to procurement plans, performance is assured (Kiage, 2013). In reverse late or inaccurate planning activities leads to inflate prices and high cost (Turga, 2019; Abera, 2020). Planning is therefore a key independent variable expected to exert a strong positive influence on procurement performance at AHRI.

2.3.2 Supplier Management

Supplier relationship management (SRM) is that the systematic approach to evaluating vendors that offer goods, materials, associate in nursing services to an organization, determining every supplier' contribution to the success, and developing methods to boost their performance. Because of the intense global market rivalry, firms are encouraged to create strategic long-term relationships with their suppliers to achieve more efficient and effective performance and a higher competitive advantage (Tseng, 2014).

In the context of research institutions, effective supplier management is important because many required items are produced from international market from a limited number of suppliers as it involves legal certifications and cold-chain logistics. Effective supplier management minimizes disruptions, resolves issues promptly, and maintains productive supplier relationships contributing to organizational success (Simpa, Solomon, Adenekan, & Obasi, 2024).

Embaye (2022) studies that supplier performance evaluation has a positive and significant impact on EPSS procurement performance, the study recommends that supplier performance evaluation practices such as on-time delivery, price competitiveness, and product quality should be tracked by the procurement officer and the top management of EPSS embedded supplier performance evaluation system within the organization. Furthermore, the study discovered that information sharing had an impact on the Ethiopian Pharmaceutical Supply Service's procurement performance. As a result of this research, the top management of EPSS should guarantee that their websites are updated on a regular basis and that timely communication is maintained in order to improve procurement performance.

2.3.3 Government Rules and Procedures

A procurement policy is simply the rules and regulations that are set in place to govern the process of acquiring goods and services needed by an organization to function efficiently (Moturi, Arasa, & Ombui, 2013)

These regulations were introduced to enhance transparency, accountability, and value for money in the use of public funds. However, numerous studies have documented their unintended consequences prolonged processing times, rigid procurement policies and procedures are affecting the performance of procurement (Turga, 2019).

Excessive bureaucracy is the single largest cause of procurement delays in research institutions like AHRI. (Turga, 2019) state Compliance with the government's procurement laws and policies and international trade faces additional challenges including communication, currency exchange rates and payment, customs regulations, lead-time, transportation, foreign government regulations, trade agreements, and transportation. Therefore, the variable conceptualized as it has a significant negative effect on the procurement performance.

2.3.4 Use of Technologies

Technological integration in procurement enhances efficiency and optimize resource utilization. Automation of tasks such as inventory management and supplier interactions not only saves time and reduces errors but also cuts labor costs, contributing to cost reduction and operational efficiency (Mulenga et al., 2021). Moreover, digital platforms enable enhanced transparency and accountability in procurement processes, ensuring compliance with regulations and fostering stakeholder trust (Brown & Smith, 2019).

Institutions equipped with technologies systems experienced heightened levels of efficiency, cost savings, and enhanced supplier collaboration compared to those relying on manual processes. This technological integration is integral to enhancing procurement efficiency (Musheba & Hapompwe, 2024).

The study conducted by Mbatha 2018, revealed that companies investing in digital platforms and e-procurement systems experienced improvements in efficiency, transparency, and supplier relationships. In Ethiopia, however, adoption of technologies is on progress, with

most public institutions still working on to improve their technological products. Thus, the variable is expected to have a strong positive influence at AHRI Performance.

2.4 Procurement Performance

performance is defined in different literatures that it is the process of acquiring of goods, services and works in the right quantity, in the right quality, at the right time, from the right source, at the right price and with a minimum defect. (Okore & Muturi, 2016; Ketemaw, 2020; Mgawe & Kiwango, 2023; Lartey et al., 2024)

In the context of research institutions specially in AHRI case, procurement performance is even more critical because items procured are not general items but highly specialised, time-sensitive, and often temperature controlled scientific chemicals, reagents, laboratory kits, medicines and different equipment's. Health institutions are complex organizations that operate in a very dynamic environment. (Bekmezci, 2018).

2.4.1 Cost Efficiency

Cost efficiency in procurement strategies is a crucial aspect of health programs worldwide. Efficient procurement ensures that limited resources are utilized optimally to achieve health outcomes (Bertram, Lauer, Stenberg, Ralaidovy, & Edejer, 2021; Israel, 2023)

In many low- and middle-income countries, where health budgets are constrained, cost effective procurement can mean the difference between the success and failure of health interventions. Efficient procurement strategies not only reduce costs but also improve the availability and quality of health commodities, thereby enhancing overall health outcomes (Uzozie et al., 2024).

As cost efficiency is one of indicators of procurement performance it has far-reaching implications for all stakeholders involved. For healthcare providers and medical research institutions, cost savings from more efficient procurement can be redirected toward patient care, infrastructure development, and workforce expansion. In resource-constrained settings, such savings can mean the difference between delivering adequate care and facing service disruptions (Mulligan & Bamberger, 2019).

2.4.2 Cycle time

Cycle time measures the average length of the procurement cycle and the percentage of procurements that were completed within a standard procurement cycle time guideline. The procurement cycle time is measured for contracts and purchase orders using historical data. It measures the number of days required to complete the procurement cycle, beginning with the date a requisition is submitted until the date the contract or the purchase order is issued to the selected vendor (USAID | DELIVER PROJECT, 2013).

Cycle time is one of key indicators of procurement performances of organization even when is on medical and research institution the cycle time of procured items are more sensitive. Edmin 2023, found that timely procurement of medicines was found to be affected by cycle time (PO cycle time and payment processing time). Any change in these variables could have a significant impact on the total lead time, resulting in delays in the receipt of goods.

2.4.3 Supplier Performance

Supplier performance plays a pivotal role in maintaining the efficiency and reliability of procurement operations. A well-performing supplier ensures smooth procurement processes, reduces operational risks, and enhances overall business performance. Effective supplier performance management enables organizations to establish strong supplier relationships, optimize procurement costs, and ensure the timely delivery of goods and services (Hald & Ellegaard, 2016).

Similarly, Karimi et al. (2022) found that supplier performance evaluation mechanisms promote financial prudence and timely delivery in healthcare institutions. Effective communication, collaboration, and supply chain management systems can help mitigate this challenge and improve overall supply chain performance (Asa et al., 2023).

2.4.4 Quality of Goods Delivered

Quality of the goods delivered is another crucial aspect of procurement performance since it ensures that what is procured conforms to the necessary specifications and intended use. Quality needs to be maintained through effective quality assurance and quality control processes that enable the identification of defects during procurement and supply processes.

Adebayo et al. (2024) emphasize that maintaining quality standards in procurement is essential to ensure safety, regulatory compliance, and reliability of medical products.

According to Ngwili and Were (2014), inefficiencies in procurement systems have been found to be linked to low quality of deliveries and high operational risks. Quality of delivered goods and services is thus one of the key performance indicators in procurement because it shows the efficiency of procurement planning and supplier management among others. In this case, the concept refers to how well the purchased goods perform towards achieving the objectives of AHRI.

2.5 Theoretical Framework

2.5.1 Resource-Based View (RBV) Theory

The Resource-Based View (RBV) was developed in 1991 by JB. Barney, a renowned Strategic Management thinker from the University of Utah. It is a well-established theory in strategic management that posits that a firm's competitive advantage is derived from its ability to utilize its internal resources effectively, the theory has been extensively applied across various domains of management research, particularly in understanding the competitive advantage firms achieve through the unique resources they control (Komakech et al., 2025). These resources must be valuable, rare, inimitable, and non-substitutable (VRIN) to provide sustained competitive advantage (Wernerfelt, 1984; Barney, 1991; Touboulic & Walker, 2015; Bals & Rosca, 2022; Giunipero & Eltantawy, 2022).

At Armauer Hansen Research Institute, effective procurement planning, strong supplier relationships, and adoption of new technologies can be viewed as VRIN resources that provide a competitive edge for securing scarce medical equipment and medicines. RBV therefore theoretically supports the expectation that these three variables will positively influence procurement performance.

2.5.2 Institutional Theory

Institutional Theory was developed by DiMaggio and Powell (1983) and later refined by W. Richard Scott (2008), explains how organisations become similar over time through three isomorphic processes: coercive isomorphism (pressure from laws and authorities), mimetic isomorphism (imitation of successful organisations under uncertainty), and normative isomorphism (influence of professional standards and training). This theory requires an

organization to comply with external or social norms, rules, and requirements in order to receive legitimacy and support (Chowdhury, 2015).

Institutional theory has been used as one of the traditional approaches of examining the public procurement practices. Thus it describes the effects of external institutional pressures on organizations and defines institutions as regulatory structures, government agencies, laws, courts, and professions, as well as interest groups and public opinion (Lowell, 2014).

In procurement, coercive isomorphism is the dominant mechanism. The Ethiopian Federal Procurement Proclamation and its directives exert powerful coercive pressure, forcing all public and private entities regardless of their specific operational needs to adopt identical procurement procedures (Abera, 2020; Turga, 2019). It explains why institutions often adopt similar responses and practices in implementing their operations, whereby under public procurement all the procuring entities are guided by regulations and rules with the respective laws and the attendant regulations and guidelines governing the public (Kabelele & Kitomo, 2022)

This often results organisations to maintain formal compliance structures while actual practices deviate to meet operational realities, leading to inefficiency. Institutional Theory thus provides a robust explanation for why government rules and procedures are expected to have a significant negative or moderating effect on procurement performance at AHRI.

2.6 Empirical Review

2.6.1 The Effect of Procurement Planning on Procurement Performance

(Turga, 2019) did research on Factors affecting procurement performance of Organization: The case IOM the study affirms that all independent variables were determining factors for performance of IOM procurement. Further to this, in order to establish the relationship between determining factors of procurement and procurement performance Pearson correlation coefficient is tested and computed. Based on this test there was positive relationship between all independent variables (procurement planning, supply chain integration top management support and information communication technology) and procurement performance. Whereas socio economic & political environment of the country were the least external factors affecting the performance of IOM procurement.

Similarly, The Effects of Procurement Planning on Public Procurement Performance by Udoba & Mwalukasa (2025) confirms there is positive relation between procurement planning and procurement performance. The study used a cross-sectional research design and the mixed method approach, findings emphasize the importance of effective procurement planning practices in enhancing performance and the need for ongoing improvements in this area. The study also found that needs identification, user participation, and cost estimation in the procurement plan significantly contribute to procurement performance. These elements help ensure that procurement activities are aligned with the council's objectives, meet the needs of end-users, and are financially feasible. However, it is important to note that these elements alone do not guarantee procurement performance, and other factors such as adherence to procurement regulations, effective supplier management, and monitoring and evaluation of the procurement process also play significant roles.

According to Nuwagaba et al. (2021) procurement planning has positive effect on procurement performance at UMI. This implies that the more the public sector entities try to improve and create efficient procurement planning in terms of needs assessment, procurement budgeting and information sharing, the more their chances of ensuring improved procurement performance in terms of timely acquisitions, quality acquisitions and customer satisfaction with acquisitions. Japheth Ocharo Kiage (2013) also confirms that planning positively affects procurement performance to a large extent. The study recommends that plans are not static and that preparation of annual procurement plans should be participatory, frequently reviewed so as to improve on the Ministry's procurement performance.

2.6.2 The Effect of Supplier Relationship Management on Procurement Performance

(ketemaw,2020) did research on Assessment of Factors Affecting Public Procurement Performance in Case of Wollega University. The findings conclude that supplier management has a significant positive influence on procurement performance. Therefore, it is better to strength the process of supplier selection, administration and monitoring of supplier services and products and chooses suppliers with who have the capacity to deliver, this leading to improved procurement performance.

According to Kepher, Shalle, & Evans (2015) Role of Supplier Management on Procurement Performance in Manufacturing Sector in Kenya: A Case of East African Breweries, Kenya. The research use Both quantitative and qualitative methods to collect data and the results shows that Buyer supplier integration affected procurement performance at EABL. This also concluded that Procurement performance, is enhanced by involving supplier right from inception of a product thereby training them on the quality standards required which involves collaborating with the said customers through information sharing, mutual investments and shared technology, integrating your systems with those of your suppliers and having a long term relationship with the suppliers. All these would be a means of managing suppliers and as result procurement performance is enhanced. Organizations should consider working hand in hand with key suppliers to enable mutually beneficial outcome that enhance performance.

Ochido, G. & Ochiri, G. (2014) did research on Factors affecting successful implementation of buyer - supplier relations on procurement performance among logistics service providers in Kenya: A case of DHL Exel Kenya. A descriptive research design was adopted. The results provide support for the theory that buyer- supplier relations can help improve the procurement performance. This conclusion is because each of the main partnership dimensions in the theoretical framework had a significant and positive relationship with procurement performance. It has been shown that the positive impact of supplier relations increases commitment level and performance effectiveness.

2.6.3 The Effect of Technologies on Procurement Performance

According to a study by Musheba and Hapompwe (2024) titled "Assessing the Effect of Technological Integration on Procurement Efficiency of Zamtel, Lusaka, Zambia". Technologies have positive impact on procurement efficiency. The study adopted a mixed-methods approach, combining both qualitative and quantitative methods to gain a comprehensive understanding of technology integration in ZAMTEL's procurement processes. These findings highlight technology's positive impact on procurement efficiency and effectiveness at ZAMTEL, while also emphasizing ongoing challenges and opportunities for optimization and integration. The integration of technology into ZAMTEL's procurement processes has shown notable positive outcomes, such as enhanced efficiency, transparency, and accountability. Furthermore, 59% of respondents recognized improvements in overall business performance due to technology integration, particularly in terms of operational processes and strategic decision-making. Despite these positive impacts, the mixed responses

highlight the necessity for targeted strategies to address the barriers hindering the full realization of technology's benefits. These technological integration has markedly improved procurement efficiency at ZAMTEL by automating tasks, optimizing inventory management, and fostering stronger supplier relationships. Finally, these findings emphasize the importance of ongoing evaluation and adaptation of technology integration efforts to achieve widespread consensus among stakeholders and maximize efficiency gains.

According to Mandala, N. O., Ayoyi, I. R., & Too, S. K. (2024). "The Impact of Information Technology Adoption on Efficiency and Transparency in Public Procurement Processes in Kenya". Adoption of technologies plays a vital role in enhancing effective and efficient procurement process in Kenya. These findings also show there is the need for continued investment and integration of IT solutions in procurement strategies to promote good governance, accountability, and optimal resource allocation.

Jantaroa and Badira (2024) did a Research on the performance impact of digital technology adoption in procurement: A case study of the manufacturing industry in the Eastern Economic Corridor, Thailand. The study aims to examine the impact of adoption of digital technology on procurement performance, to collect data quantitative methods has been used and Descriptive statistics including mean and standard deviation has been used to analyze each questionnaire item, to analyze the relationship between variables and to test hypotheses, regression analysis has been calculated. Findings show that digital technology adoption in the procurement process to procurement performance has positive results. This digital technology adoption in procurement process improve the performance of procurement process. Specially by reducing errors, cost, cycle time and by improving data availability.

2.6.4 The Effect of government rules and procedures on Procurement Performance

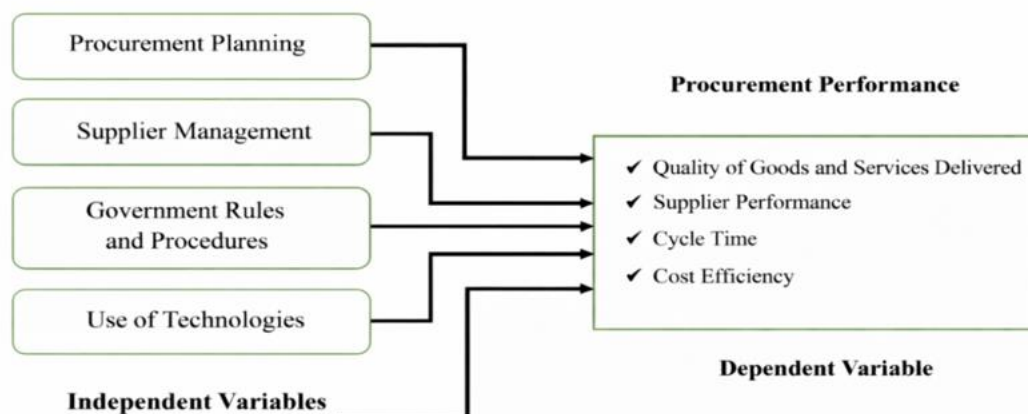
Dzuke and Naudé (2015) did research on Procurement challenges in the Zimbabwean public sector. This study used descriptive and exploratory method as it describes the public procurement process in Zimbabwe. The study confirms that government procurement rules and procedures need be reformed. Particularly through decentralisation, streamlined oversight, and improved capacity building. The research shows that the legal frameworks and regulation are restrictive these rules emphasize compliance over efficiency which results failing to deliver on time and affect the procurement performance negatively.

According to Karungani and Ochiri (2017). "Effect of policy and regulatory framework on organizational performance: A case of Nairobi city, Kenya ". The findings of the research show that indeed, policy and regulatory framework within the procurement sector plays a very important role in improving organizational performance. However, a research by Kasisi et al. (2014) revealed that government regulations have a negative impact on procurement performance. The research further showed that compliance with government procurement regulation was accompanied with a high level of bureaucracy which led to adversely affected procurement performance and the overall organizational performance.

2.7 Conceptual Framework of the Study

A conceptual framework is a short description of the phenomenon under investigation, along with a graphical or visual representation of the study's primary variables (Mugenda, 2009). It is a structured, systematic representation of ideas and their interrelationships (Chris et al., 2024). It shows the link between independent factors and dependent variables is the study's conceptual framework.

Figure 1 Conceptual Framework of the study



CHAPTER THREE

3. RESEARCH METHODOLOGY

This chapter sets out the methodology that was used for the study, for the collection, measurement and analysis of data. Specifically, the following subsections were included; research design, research approaches, data sources, data collecting tools, data collecting procedures, data processing & analysis and validity & reliability of the study.

3.1 Description of the Study Area

The study focused on Factors affecting procurement performance: The Case of Armauer Hansen Research Institute (AHRI).

The study conducted in Armauer Hansen Research Institute (AHRI). Located in capital city of Ethiopia Addis Ababa around Zenebwork, Jimma Road at Alert Compound. AHRI is a Biomedical research Institute in Ethiopia which is working in tuberculosis, HIV, malaria, Leishmaniasis, training and research capacity building. The Institute focuses on responding to emerging and re-emerging diseases through health research and innovation. In addition, the Institute also places due emphasis on research on communicable and non-communicable diseases. AHRI has been working since 1970, currently working on different research projects that support national health systems through trainings and research. (<https://ahri.gov.et/>)

3.2 Research Approach

Most researchers argue that the best method to use for a study depends on the purpose of the research, research questions and available data. According to (Kothari,2004), Quantitative research is a research approach that generates numerical data and analyzes it using statistical techniques to identify patterns, relationships and trends. The approach, which was followed by the researcher is quantitative approach since the data, which is gathered through questionnaire is quantitative(numerical).The advantage of Quantitative approach is that it relies on data collection and data analysis which is based on a logical method with the focus on testing theory, influenced by empiricist and positivist ideologies (Bryman, 2016) thus it creates more consideration about the problem.

3.3 Research Design

The study identified factors affecting procurement performance on the bases of fundamental theories, are assumed to be effective just to describe the actual practice and challenges of the study institution. Therefore, the study employed both descriptive research and explanatory research design.

The descriptive design used to describe the characteristics of independent variables (procurement planning, supplier management, government rules and procedures, and use of technologies). It is concerned with describing the characteristics of a particular individual, or of a group. Additionally, the explanatory design facilitated the examination of the relationships and effects of these factors on the dependent variable (procurement performance) through correlation and multiple regression analysis (kothari, 2004,).

3.4 Population and Sampling Design

The target population of the study consisted of all employees of AHRI who were directly or indirectly involved in procurement-related activities. These included staff from procurement, logistics, finance, research departments, administration, and management.

The total population was 1180 employees, distributed as follows:

- Procurement: 45
- Logistics: 120
- Finance: 55
- Research: 600
- Administration: 270
- Management: 90

After determining sample size, stratification proportionate sampling was applied to determine the number of respondents selected from each stratum. This ensured that each department was represented in proportion to its size in the total population, thereby improving representativeness and reducing sampling bias.

- The sample size was determined based Yemane's Formula

$$n = N / (1 + N(e)^2)$$

where :

- n= sample size
- N= population size
- e= margin of error= 0.05

$$n = 1180 / (1 + 1180(0.05)^2)$$

$$= 298.73$$

$$= 298.73$$

The sample size was approximately 299 respondents.

- The sample size for each stratum was calculated using the following formula:

$$n_h = N_h / N \times n$$

Where:

- n_h = sample size for each stratum
- N_h = population size of each stratum
- N = total population (1180)
- n = total sample size (299)

Departments	Population	Sample size
Procurement	45	12
Logistics	120	30
Finance	55	14
Research	600	152
Administration	270	68

Management	90	23
Total	1180	299

Table Stratified distribution of AHRI all staff

This sampling technique ensured that all departments were fairly represented and enhanced the generalizability of the findings within the institution.

3.5 Data Sources and Data Collection Methods

The study utilized primary sources:

Primary data was collected through structured questionnaires administered to the selected respondents. The questionnaires were distributed across different departments and collected after completion.

The questionnaire was developed based on the study objectives and literature review and was prepared in English. It used a five-point Likert scale, ranging from strongly disagree to strongly agree, to measure respondents' perceptions.

3.5.1 Data collection tools

Questionnaires were designed based on statements of problem and literature review to collect firsthand information from targeted population. These questionnaires were distributed and collected from six Strata's based on proportionate sampling. As the employees are professional the questionnaires were also prepared in English for better understanding of professional terms in the field.

3.5.2 Data processing and Analysis

The collected data from questionnaires were entered to computer database for statistical processing. The quantitative data from selected respondents was analysed through Statistical Package for the Social Sciences (SPSS). Tables and numerical summaries were used for descriptive statistics, while inferential statistical technique specifically correlation and regression analysis was used to show and explain the relationship between the factors affecting procurement performance and overall procurement performance.

3.6 Validity and Reliability of the Study

3.6.1 Validity

Validity implies the degree in which the question measures what was intended measure (Kothari, 2004). In this study, content validity was ensured by designing the questionnaire based on the research objectives, conceptual framework, and relevant literature on procurement performance. The questionnaire items were structured in a way that they adequately captured the key variables of the study, namely procurement planning, supplier management, government rules and procedures, use of technology, and procurement performance. In addition, the questionnaire was reviewed and refined by experienced procurement experts and academicians to improve clarity and relevance of the items.

3.6.2 Reliability

Reliability refers to the consistency and stability of ta research instruments in measuring the intended variables (Seraran & bougie,2019). In this study, the reliability of the questionnaire was assessed using Cronbach's alpha coefficient, which is commonly used to measure the internal consistency of Likert-scale items.

According to Burns (2008) Cronbach's alpha should be over 0.70 to produce a reliable scale and any less than this alpha coefficient should be eliminated considered acceptable, indicating that the items used to measure each variable are consistent and reliable. Accordingly, reliability analysis was conducted for all major variables in the study using SPSS, and the results are presented in the following table.

Table 1 Reliability statistics

Construct	N of Items	Cronbach's Alpha
Procurement planning	6	0.871
Supplier Management	6	0.866
Government Rules and Procedures	6	0.833
Use of technologies	6	0.781
Procurement performance	10	0.920

Source: SPSS analyze output

3.7 Ethical Considerations

The study adhered to ethical standards throughout the research process. Participation in the study was voluntary, and respondents were informed about the purpose of the research. Confidentiality and anonymity of respondents were maintained, and the data collected was used solely for academic purposes.

CHAPTER FOUR

4. DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1. Introduction

This chapters presents analysis, interpretation and discussion of the study as set out in the methodology. The data was gathered from questionnaire as the research instrument. The questionnaire was designed with the objective of the study and Likert type of questions were included whereby the respondents indicate the extent to which the variables were practiced in a five-point Likert scale.

4.2. Response rate

AHRI has 1180 employees. Out of those 8 employees used for first survey to check the environment. For the main research survey, questions were distributed via questionnaire paper for 299 employees of AHRI. Out of those, 241 questionnaires were completed as shown on below table and returned and analysed using SPSS version 25.

Table 2Response rate

Questionnaires	Number	Response rate (%)
Total sample size	299	100
Returned/collected	241	80.6
unreturned	58	19.4

Source: SPSS output

4.3. Demographic characteristics

This section assesses general information of respondents. Respondents were asked about their gender, age, level of education attained, department, current position and experience in Armauer Hansen Research Institute (AHRI).

Table 3 General information of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Gender					
Valid	Male	114	47.3	47.3	47.3
	Female	127	52.7	52.7	100.0
	Total	241	100.0	100.0	
Age					
Valid	20 - 29 years	37	15.4	15.4	15.4
	30 - 39 years	116	48.1	48.1	63.5
	40 - 49 years	76	31.5	31.5	95.0
	more than 50 years	12	5.0	5.0	100.0
	Total	241	100.0	100.0	
Education					
Valid	Diploma	9	3.7	3.7	3.7
	Bachelor's	94	39.0	39.0	42.7
	Masters	113	46.9	46.9	89.6
	PHD	25	10.4	10.4	100.0
	Total	241	100.0	100.0	
Department					
Valid	Procurement	10	4.1	4.1	4.1
	Logistics	23	9.5	9.5	13.7
	Finance	12	5.0	5.0	18.7
	Research	125	51.9	51.9	70.5
	Administration	54	22.4	22.4	92.9
	Management	17	7.1	7.1	100.0
	Total	241	100.0	100.0	
Experience					
Valid	1-5 years	111	46.1	46.1	46.1
	6 -10 years	94	39.0	39.0	85.1
	11 - 15 years	36	14.9	14.9	100.0
	Total	241	100.0	100.0	

Source Researchers survey result May 2026

The study analysed responses from 241 employees of AHRI. The demographic characteristics considered included gender, age, educational level, department and work experiences.

Gender Distribution

The results indicate that out of 241 respondents, 127 (52.7%) were female and 114(47.3%) were male. This shows that female employees constituted a slightly higher proportion of the study participants than male employees. The relatively balanced representation of both genders enhances the inclusiveness and reliability of the study findings.

Age Distribution

Regarding age, most respondents, 116 (48.1%), were between 30 and 39 years old. Respondents aged between 40 and 49 years accounted for 76 (31.5%), while 37 (15.4%) were between 20 and 29 years old. Only 12 (5.0%) respondents were above 50 years of age. These findings indicate that the workforce is predominantly composed of employees in their productive and professionally active years, suggesting that respondents possess sufficient maturity and experience to provide reliable information regarding procurement activities.

Educational Level

The educational profile of respondents shows that 113 (46.9%) held a Master's degree, representing the largest group. This was followed by 94 (39.0%) respondents with a Bachelor's degree. In addition, 25 (10.4%) respondents possessed a PhD qualification, while only 9 (3.7%) held a Diploma. The findings reveal that most respondents are highly educated, which increases confidence in the quality and credibility of the information provided during the survey.

Departmental Distribution

The departmental distribution indicates that 125 (51.9%) respondents were from the Research Department, making it the largest group represented in the study. Administration employees accounted for 54 (22.4%) of respondents, followed by Logistics with 23 (9.5%) respondents. Management contributed 17 (7.1%) respondents, Finance accounted for 12 (5.0%), and Procurement contributed 10 (4.1%) respondents. The representatives from different departments ensured that diverse perspectives regarding procurement performance were captured.

Work Experience

In terms of work experience, 111 (46.1%) respondents had worked at AHRI for between 1 and 5 years, while 94 (39.0%) had between 6 and 10 years of experience. Furthermore, 36 (14.9%) respondents worked for between 11 and 15 years. The findings suggest that most respondents possess adequate organizational experience and familiarity with procurement processes, enabling them to provide informed responses concerning the factors affecting procurement performance.

Overall Interpretation

Overall, the demographic results indicate that the respondents were adequately qualified, experienced, and drawn from various departments within AHRI. The dominance of employees holding Bachelor's, Master's, and PhD qualifications, combined with considerable work experience, suggests that the data collected were obtained from knowledgeable individuals capable of providing reliable insights into procurement performance and its determinants within the institution.

4.4. Descriptive Analysis Insights

4.4.1. Descriptive analysis of Procurement planning

Table 4 Descriptive analysis of Procurement planning

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
AHRI performs needs assessments before starting procurement activities.	241	1	5	4.36	0.778
User departments at AHRI actively participate in the preparation of procurement plans.	241	1	5	4.24	0.825
Delays in procurement planning at AHRI results high costs and unexpected decisions.	241	1	5	4.27	0.836
Procurement plans at AHRI are updated regularly to meet changing needs.	241	1	5	4.23	0.783
Planned procurement at AHRI helps to reduce emergency purchases costs and stock-outs of equipment's.	241	1	5	4.29	0.801
Annual procurement plans at AHRI aligned with approved budgets.	241	1	5	4.18	0.835
Valid N (list wise)	241				

Source: SPSS output

Planning at AHRI is on the right track. The numbers show that respondents agree with how things are being done. The study looked at what 241 people thought, and they all pretty much agreed on everything. The scores were high, between 4.18 and 4.36 out of 5, which is great. This means that AHRI has a solid plan in place for buying things. One thing that stood out was how well the organization does at figuring out what it needs before spending money. Almost most of respondents agreed that this is being done well, with a top score of 4.36. This shows that AHRI is careful about making sure it's buying the right things, and it excelling of checking what it needs before committing to a purchase.

The study also shows that people in the organization work well together and think about the future. Most respondents agree that the departments that use the things that are bought by procurement unit are involved in making plans for buying them. This means that teams are working together for a well-performing procurement process. The respondents in the organization also understand advantages about planning, they know that it helps to reduce costs by avoiding emergency purchasing and prevents them from running out of important equipment. Staffs also recognize that if planning is delayed, it can cost a lot more and lead to bad decisions. Overall respondents are aware of the benefits of planning, with a high score of 4.29, showing they think it's a good way to reduce emergency costs and keep equipment in stock. They also scored high, at 4.27, when it comes to knowing the risks of not planning well, like higher costs and poor decisions. Generally, the organization seems to have a good balance of working together, thinking about the future, and understanding the importance of planning. They know that planning helps them make good decisions and save money, and they're aware of what can go wrong if they don't plan well.

Since the overall performance is good, here's a small area that could be improved how financial things are integrated. One thing that stood out was that the plans for buying things each year aren't always perfectly in line with the budgets that have been approved. This got a score of 4.18, which is still pretty good, but it had a higher standard deviation of 0.835. This means that while most respondents agree on this, there's a bit more variation in what they think. It suggests that some departments might sometimes find that what they planned to buy and what they can afford don't quite match up. Despite this, the results overall show that AHRI's planning for buying is seen as flexible, up-to-date, and something that everyone gets to participate in. It's also good at reducing risks and wasting money.

4.4.2. Descriptive analysis of Supplier Management

Table 5 Descriptive analysis of Supplier Management

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Suppliers are selected based on clear evaluation criteria	241	1	5	4.32	0.787
Suppliers are evaluated regularly at AHRI.	241	1	5	4.29	0.845
AHRI maintains long-term relationships with reliable suppliers.	241	1	5	4.26	0.787
Clear communication with suppliers helps to reduce delays at AHRI.	241	1	5	4.27	0.788
Poor supplier management at AHRI increases the risk of receiving inadequate materials.	241	1	5	4.17	0.902
Strong information sharing with suppliers improves overall procurement efficiency at AHRI.	241	1	5	4.31	0.874
Valid N (list wise)	241				

Source SPSS out put

The way AHRI manages its suppliers is very good, according to the people who responded to the survey 241 of them. They are very satisfied with how the organization works with its external partners. On a scale of 1 to 5, the average score for all the questions was more than 4.17, which is very high. This shows that the people who responded think that AHRI's supplier management is well-organized and effective. The point that respondents agreed on the most was how AHRI chooses its suppliers. They thought that the selection process was fair and based on clear criteria the average score for this was 4.32. They also thought that sharing information with suppliers was very important for making the procurement process more efficient the average score for this was 4.31. This suggests that AHRI values transparency and works closely with its suppliers to make its operations run smoothly. Overall, the survey shows that AHRI is doing a performing well of managing its suppliers, and that its processes are systematic and effective. The organization's focus on clear selection criteria and information sharing is particularly noteworthy and suggests that it is committed to building strong relationships with its external partners.

The results show that quality control and having stable relationships are important. Most people agree that suppliers are checked regularly and that the organization is effective at keeping long-term relationships with vendors they can trust. Communication also plays a big role, with a high score showing that clear discussion with suppliers is key to avoiding delays. This means that AHRI sees managing suppliers as an ongoing process of checking and working together to keep service levels high, rather than just a one-time deal. They want to

make sure they're always getting the best from their suppliers. It's clear that building strong relationships with suppliers is crucial for AHRI, and they're willing to put in the work to make that happen. By regularly evaluating suppliers and keeping the lines of communication open, they can avoid problems and keep everything running smoothly. This approach helps them provide the best service possible, which is their main goal. Overall, the findings suggest that AHRI takes supplier management seriously and recognizes its importance in achieving their objectives. They're not just looking for short-term gains, but rather long-term partnerships that benefit everyone involved. By focusing on quality control, relationship stability, and communication, AHRI is well on its way to building a strong and reliable supply chain.

In the end, it's clear that respondents generally have a very positive view. However, when it comes to the risks of not managing suppliers well, which can lead to problems with the materials received, opinions are more divided. This area got the lowest average score of 4.17 and the highest standard deviation of 0.902. The higher variation in scores suggests that while most staff agree that poor supplier management is a risk, there's less agreement on how serious this risk is or how often it happens compared to other issues. Overall, the analysis shows that AHRI has a well-organized system for managing suppliers, regular communication, and a focus on long-term efficiency.

4.4.3. Descriptive analysis of Government Rules and Procedures

Table 6 Descriptive analysis of Government Rules and Procedures

Descriptive Statistics					
Government procurement regulations are strictly followed.	241	1	5	4.3651452	0.7634003
Compliance with government regulations may interfere with urgent research needs at AHRI.	241	1	5	4.23	0.797
Long approval processes resulting from government rules cause delays in the procurement at AHRI.	241	1	5	4.15	0.797
Frequent changes in government procurement laws pose a challenge for AHRI's processes.	241	1	5	4.17	0.885
Government procurement regulations at AHRI promote transparency and accountability	241	1	5	4.20	0.917
Excessive documentation procedures from government delays procurement processes at AHRI	241	1	5	4.15	0.841
Valid N (listwise)	241				

Source: SPSS out put data

The descriptive analysis of government rules and procedures at AHRI reveals a complex relationship between high levels of compliance and the operational challenges that result from strict regulatory adherence. Based on the responses from 241 participants, there is a very strong consensus (Mean = 4.365) that government procurement regulations are strictly followed at the organization. This commitment to compliance is further supported by a mean score of 4.20 regarding the belief that these regulations effectively promote transparency and accountability. However, the data also highlights significant friction points; respondents strongly agree (Mean = 4.23) that strict compliance can interfere with urgent research needs, and they perceive long approval processes and excessive documentation as primary causes of procurement delays (both with Mean = 4.15).

The staff at AHRI are worried about how often the government changes its procurement laws. On a scale of 1 to 5, they rated this concern at 4.17, which is high. What's interesting is that when it comes to whether these laws make things more transparent and accountable, staff members have different opinions. Some think they do, while others are not so sure. This is shown by a high standard deviation of 0.917. Overall, AHRI follows the government's rules carefully to make sure everything is fair and transparent. However, the staff thinks that these rules can be a real hassle and get in the way of their research work. They wish they had more freedom to move quickly and make decisions without so much red tape.

4.4.4. Descriptive analysis of Use of Technologies

Table 7 Descriptive analysis of Use of Technologies

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
AHRI uses e-procurement systems to facilitate tendering and bidding processes.	241	1	5	4.17	0.842
E- Tendering at AHRI enhances high transparency and supplier collaboration.	241	1	5	4.21	0.821
Training on updated E- procurement technologies is adequately provided for AHRI procurement staffs.	241	1	5	4.11	0.964
The adoption of ERP systems at AHRI improves real-time tracking of procurement activities.	241	1	5	4.12	0.805
The adoption Electronic procurement systems at AHRI help reduce errors and paperwork.	241	1	5	4.29	0.728

The adoption Electronic procurement systems reduce procurement processing time.	241	1	5	4.27	0.733
Valid N (listwise)	241				

Source

The descriptive analysis of the "Use of Technologies" at AHRI, based on the responses of 241 participants, indicates a very positive reception of digital transformation within the procurement process. The mean scores across all six dimensions range from 4.11 to 4.29, suggesting that respondents strongly believe technological adoption has enhanced operational efficiency. The highest level of agreement was found in the belief that electronic procurement systems help reduce errors and paperwork (Mean = 4.29), closely followed by the perception that these systems effectively reduce procurement processing time (Mean = 4.27). Both items also exhibit the lowest standard deviations in the set (0.728 and 0.733, respectively), indicating a high degree of consensus among staff that digitalization is directly improving speed and accuracy.

The findings show that technology is effective for making things clear and easy to track. Most people respondents that using E-Tendering helps suppliers work together better, with an average score of 4.21. They also believe that e-procurement systems make the bidding process more efficient, scoring 4.17 on average. Plus, having ERP systems in place is seen as a big support for keeping an eye on what's happening with procurement in real-time, with a score of 4.12. This means that technology is not just about automating tasks, but also about providing a clear view of what's going on in the organization and making sure everyone is accountable.

The overall feeling about the situation is very positive, but there's a small area that could be improved the staff's ability to handle things. When it comes to training on new e-procurement technology, the scores were a bit lower, with an average of 4.11 and a higher variation in opinions. This means that while many people feel they've had enough training, some staff members think they need more help to keep up with the latest technology. But in general, the data shows that the organization's investment in technology is seen as a good move by its employees, making procurement more modern, reducing paperwork, and creating a more transparent and efficient system. The fact that some staff members feel they need more training is something to consider, as it could impact how well they can do their jobs. It's good that most respondents feel they've had enough training, but the ones who don't could be

struggling to keep up. This is something that could be investigated to make sure everyone has the help they need. Overall, the organization's use of technology is seen as a success, and it's making a lot of positive changes. It's just a matter of making sure all staff members are comfortable using it, and that's something that can be worked on. By providing training program, everyone should be able to feel confident and comfortable using the new technology, which will make the whole system even more efficient.

4.4.5. Descriptive analysis of Procurement performance

Table 8 Descriptive analysis of Procurement performance

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Procurement processes at AHRI ensures timely delivery of goods and services.	241	1	5	4.18	0.811
The quality of purchased items (e.g., reagents, equipment's) at AHRI meets user département required standards.	241	1	5	4.14	0.877
Procurement processes at AHRI experience minimal delays or errors.	241	2	5	4.12	0.825
Procurement decisions at AHRI consistently deliver good quality at reasonable cost.	241	1	5	4.24	0.760
Procurement performance at AHRI supports uninterrupted research activities.	241	1	5	4.23	0.844
Specialized laboratory items (e.g., reagents, kits) are procured without frequent regulatory or import delays from government institutions like EFDA and customs.	241	1	5	4.08	0.895
Reliable and timely procurement practices at AHRI enables researchers to meet expected experiment timelines.	241	1	5	4.24	0.837
Procurement performance at AHRI is regularly monitored and evaluated.	241	2	5	4.08	0.918
User department satisfaction with procurement process at AHRI is high.	241	1	5	4.25	0.810
Procurement activities at AHRI are completed within the planned budget.	241	1	5	4.03	0.880
Valid N (listwise)	241				

Source: SPSS output data

The descriptive analysis of procurement performance at AHRI, involving 241 respondents, reflects a generally positive assessment across all measured metrics, with mean scores consistently exceeding 4.0 on a 5-point scale. The highest level of agreement was recorded for user department satisfaction (Mean = 4.25), indicating that the procurement function is successfully meeting the internal expectations of its staff. This high satisfaction is closely linked to findings that procurement decisions consistently deliver good quality at reasonable costs (Mean = 4.24) and that reliable, timely practices directly enable researchers to meet

their experimental timelines (Mean = 4.24). These results suggest that the procurement department is viewed as a vital facilitator of the organization's core research mission, successfully balancing cost-efficiency with uninterrupted operational support.

The data indicates that procurement processes are generally effective in ensuring the timely delivery of goods, with an average score of 4.18. And the quality of the stuffs purchases also meets the standards, with an average score of 4.14. However, several areas require improvement. For instance, monitoring procurement performance and acquiring specialized laboratory equipment without delays caused by regulatory procedures (such as those imposed by EFDA and customs authorities) received comparatively lower ratings, with a mean score of 4.08. Furthermore, there is considerable variability in staff perceptions regarding the department's performance monitoring practices. This is reflected in a relatively high standard deviation of 0.918, indicating differing views among employees, with some perceiving the performance as strong, while others remain less confident.

The department's performance is strong, but there's one area that stands out as a challenge staying within budget. Even though the score for this area is still good, at 4.03, it's the lowest of all the performance areas. This suggests that managing budgets is a tough spot for the department. Respondents opinions on budget consistency vary quite a bit, as shown by the standard deviation of 0.880. Overall, the analysis shows that the procurement system is doing well, especially when it comes to making stakeholders happy and supporting the mission. However, it highlights the need to better handle external regulations and connect procurement activities with financial planning more closely. This will help the department perform even better and tackle its budget challenges.

4.5 Correlation

Table 9 Interpretation of Correlation

Correlations						
		Procurement planning	Supplier Management	Government Rules and Procedures	Use of technologies	Procurement performance
Procurement planning	Pearson Correlation	1	.738**	.726**	.558**	.560**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000
	N	241	241	241	241	241
Supplier Management	Pearson Correlation	.738**	1	.780**	.546**	.576**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000
	N	241	241	241	241	241
Government Rules and Procedures	Pearson Correlation	.726**	.780**	1	.676**	.535**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000
	N	241	241	241	241	241
Use of technologies	Pearson Correlation	.558**	.546**	.676**	1	.611**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	241	241	241	241	241
Procurement performance	Pearson Correlation	.560**	.576**	.535**	.611**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	241	241	241	241	241

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

Source: SPSS output data

The study's findings are presented in a Pearson correlation matrix, which shows how the five main variables are connected. All the correlations are positive and significant, meaning that when one factor gets better, the others tend to improve too. What's interesting is that all the variables have a moderate to strong positive relationship with procurement performance. The use of technology has the strongest correlation, which suggests that it's a key driver of procurement success. This is followed by supplier management, procurement planning, and government rules and procedures. The matrix also reveals some very strong relationships between the independent variables. For example, supplier management and government rules and procedures are closely linked, which means that managing suppliers effectively is closely tied to following government regulations. Procurement planning is also heavily influenced by

regulatory frameworks and the need to work with suppliers. Additionally, the use of technology is correlated with government rules and procedures, which implies that digital systems are used to ensure compliance and manage administrative tasks. While the correlations between technology and planning or supplier management are not as strong, they are still significant and positive. Overall, the matrix shows that all five dimensions are interconnected and that improvements in one area can lead to better outcomes in others. This means that organizations can benefit from focusing on multiple areas, such as planning, technology, and regulatory compliance, to achieve better procurement performance. By doing so, they can create a positive feedback loop where improvements in one area reinforce and drive improvements in others. The correlations between the variables provide valuable insights into how different factors interact and influence each other. For instance, the strong correlation between supplier management and government rules and procedures suggests that organizations should prioritize building strong relationships with suppliers and ensuring compliance with regulatory requirements. Similarly, the correlation between technology and government rules and procedures implies that investing in digital systems can help organizations streamline administrative tasks and improve compliance. Overall, the study's findings highlight the importance of taking a holistic approach to procurement management, where different factors are considered and optimized together. By doing so, organizations can unlock better procurement performance and achieve their goals more effectively. The correlations between the variables provide a roadmap for organizations to identify areas where they can improve and optimize their procurement processes, leading to better outcomes and increased success. In conclusion, the Pearson correlation matrix provides a comprehensive understanding of the relationships between the five key variables of the study. The findings suggest that organizations should focus on multiple areas, such as planning, technology, and regulatory compliance, to achieve better procurement performance. By understanding how different factors interact and influence each other, organizations can create a positive feedback loop where improvements in one area drive improvements in others, leading to increased success and better outcomes.

4.6. Regression Analysis

4.6.1 Multicollinearity

Table 10 Multi collinearity Analysis

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Procurement planning	0.392	2.553
	Supplier Management	0.329	3.039
	Government Rules and Procedures	0.281	3.560
	Use of technologies	0.533	1.877
a. Dependent Variable: Procurement Performance			

Source: SPSS analysis output

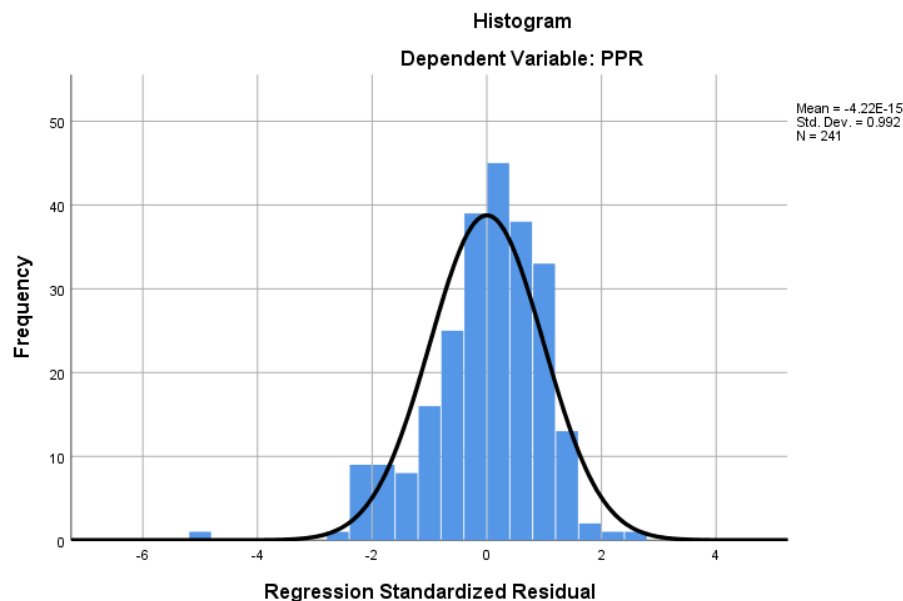
The multi collinearity check for the regression model, as presented in the provided table, evaluates the degree of inter-correlation among the independent variables: procurement planning, supplier management, government rules and procedures, and use of technologies. To determine if multi collinearity poses a risk to the stability of the model, two primary diagnostics are used: Tolerance and the Variance Inflation Factor (VIF). Statistically, multicollinearity is considered problematic if the Tolerance value is less than 0.10 or if the VIF exceeds 10 (or a stricter threshold of 5).

The data shows that the model has good collinearity statistics for all variables. The VIF values are between 1.877 and 3.560, which is well below the threshold of 5. The Tolerance values are between 0.281 and 0.533, which is above the 0.10 cutoff. This means that there is some relationship between the predictors, but it's not too much. So, the study can trust the regression coefficients to understand how each variable affects the dependent variable, Procurement Performance. In simpler terms, the model is working well. The relationships between the variables are normal and won't affect the results. The study can use the regression coefficients to see how each variable individually impacts Procurement Performance. For example, looking at the "Use of technologies" variable, which has a VIF value of 1.877, and the "Government Rules and Procedures" variable, which has a VIF value of 3.560. Both values are within the acceptable range, which means the study can rely on the results. Overall, the model is gives good information about the variables and how they affect Procurement Performance. The study can use this information to make informed decisions and improvements. It's also worth noting that the Tolerance values are all above 0.10, which

is a good sign. This means that each variable is providing unique information and not just repeating what another variable is already showing. So, to sum it up, the model is performing effectively and trust the results. The study can use the regression coefficients to understand how each variable affects Procurement Performance and make informed decisions.

4.6.2 Normality

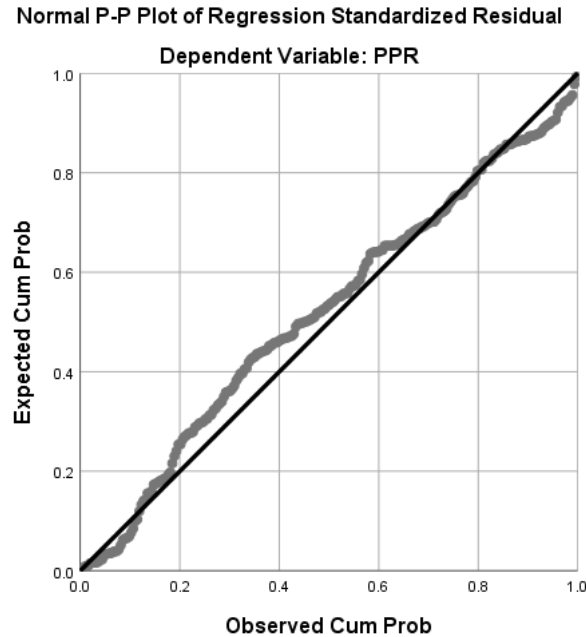
Figure 2 Histogram



Source: SPSS output

The histogram of the standardized residuals from the regression model looks like it follows a normal distribution. The data points, shown as bars, are spread out in a way that matches the normal distribution curve. The bars are symmetrical around the center and get smaller as it move towards the edges, which is expected to see in a normal distribution. The numbers also support this, with a mean of almost zero and a standard deviation of 0.992, which is close to what would show in a standard normal distribution with 241 data points. There is one data point that is a bit of an outlier on the far left, but overall, the residuals are clustered around the mean, which suggests that the data is suitable for parametric testing and that the assumption of normality is reasonable for this regression analysis. This is important because it means the study can trust the results of the regression model. The fact that the data is normally distributed also makes it easier to interpret the results and make predictions based on the model.

Figure 3 P-P plot graph



Source

The data for PPR seems to be normally distributed. When we look at the P-P plot, we can see that the points are close to the diagonal line. This line is like a guide that shows us if the data is normal or not. If the points are close to this line, it means the data is likely to be normal. In this case, the points are very close to the line, with only a few small deviations. This suggests that the data follows a normal pattern, which is what we want to see. The fact that the points are near the diagonal line from the bottom left to the top right corner means that the differences between what we observed and what we would expect if the data was perfectly normal are very small. Overall, the normality check looks good, which is important for our analysis.

Consequently, it can be concluded that the residuals follow an approximately normal distribution, which validates the use of linear regression for this data.

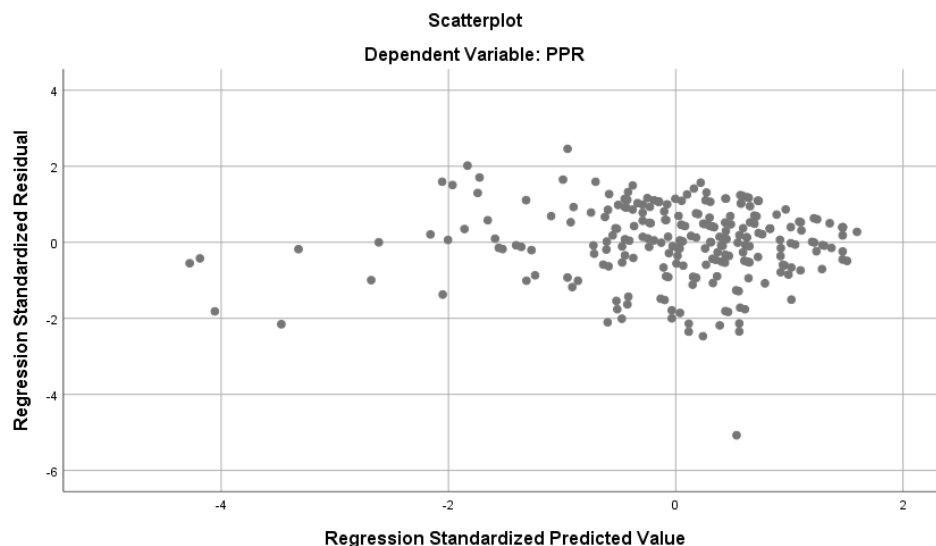
4.6.3 Linearity

To check if the relationship between the variables is linear and if the variance of the residuals is constant, a scatterplot of the standardized residuals against the standardized predicted values was looked at. Ideally, the residuals should be scattered around zero in a random pattern, with no trend or curvature, and they should have a consistent spread across the predicted values.

Homoscedasticity refers to the requirement that variance of remain constant across the predicted values (Field, 2018). Violation of the assumption indicated by funnel shape. As shown on the scatterplot figure on figure 4, residuals contained with on the range -2 to +2, no systematic change in residuals, suggesting that the assumption of homoscedasticity is satisfied.

When examining the residuals, they should be scattered all over the place around zero, without any kind of curve or pattern. This is what we mean by linearity. According to Hair et al. in 2019, if the residuals are randomly scattered around zero, then the linear assumption is satisfied. In the case, if look at the scatterplot, it show that the data points are indeed distributed randomly around zero. This tells that the assumption of linearity is met.

Figure 4 Scatterplot of Standardized Residuals vs. Predicted Value



4.6.4. Autocorrelation Test

Table 11 Autocorrelation Test

Model	Durbin-Watson
1	1.471

Source: SPSS analysis output

The test to see if the errors in the model are independent was done using a special number called the Durbin-Watson statistic. This number helps to figure out if the mistakes that are made in predictions are related to each other or not. The number can be anywhere from 0 to 4,

and if it's 2, that means our mistakes are not related. For this model, the number was 1.471. Usually, if the number is between 1.5 and 2.5, it shows that the mistakes are not related in a way that matters. Since the number is a bit below 1.5, it looks like there might be a small amount of relationship between the mistakes. But because it's so close to the acceptable range, it can still trust our model and think that the mistakes are independent enough. This means that the errors made in the predictions don't overlap too much over time or across different observations, so it can rely on the analysis. In simpler terms, when the study makes predictions, it wants to make sure that the mistakes made are not connected to each other. If they are, it can affect how accurate the predictions are. The Durbin-Watson test helps check for this. The result showed a tiny bit of connection between the mistakes, but not enough to make a big difference. So, the study can still use our model to make good predictions.

4.6.5 Model Summary

The model summary table gives some important numbers about how well the regression model works. The multiple correlation coefficient, which is 0.688, shows that there's a strong positive linear relationship between the things that affect procurement performance, like using technology, managing suppliers, planning procurement, and following government rules, and the actual performance. This means that as these factors increase, procurement performance also tends to increase. The coefficient of determination, or R Square, is 0.473, which means that about 47.3% of the changes in procurement performance can be explained by these four factors. This is almost half, so it's a significant amount. Even when the study adjusts for the number of factors study analyzing, the Adjusted R Square is still high at 0.464, which suggests that the model is a good fit for the data. The study also look at the standard error of the estimate, which is 0.47271, and it's relatively low. This is good because it means that the predictions are likely to be close to the actual values. The Durbin-Watson statistics are 1.471, which indicates that there's a bit of positive autocorrelation, but not so much that it affects the reliability of the model results. So, overall, the model seems to be working well and gives useful insights into what affects procurement performance. For example, if the study wants to improve procurement performance, it could focus on improving the use of technology, managing the suppliers more effectively, planning the procurement better, and making sure following government rules. By doing these things, AHRI could potentially see significant improvements in the procurement performance, which could have a big impact on the overall operations. It's also worth noting that while the model is a good fit for the data,

there's still about 52.7% of the variance in procurement performance that isn't explained by these four factors. This means that there are likely other factors at play that the study not accounting for, and further research could be needed to fully understand what driving procurement performance is.

Table 12 Model summary

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.688 ^a	0.473	0.464	0.47271	1.471
a. Predictors: (Constant), UT, SM, PP, GR					
b. Dependent Variable: PPR					

Source

4.6.6 ANOVA

The results of the Analysis of Variance, or ANOVA, gave a clear idea of whether the regression model is statistically significant. Looking at the numbers, the study shows an F-statistic of 53.027, which has a significant level, or p-value, of .000. This is much lower than the usual threshold of 0.05, so we can be confident that our model is significant. This means that the four predictors Use of Technologies, Supplier Management, Procurement Planning, and Government Rules together do a great job of predicting the dependent variable, Procurement Performance. To break it down further, the study shows that the Regression Sum of Squares is 47.397, while the Total Sum of Squares is 100.133. This indicates that model can capture a big chunk of the variation in the outcome, which is really what the study looking for. All of this confirms that the regression model is a good fit for the data, and that the relationships seeing between independent variables and procurement performance are highly statistically significant. In simpler terms, the model is performs effectively of predicting procurement performance based on the factors the study looking at. This gives the confidence that findings are real and not just due to chance. The fact that the p-value is so low, at .000, means that the probability of seeing these results by chance is extremely low, which is exactly what the study want to see in a statistically significant model. Overall, these results are very encouraging and suggest that the model is a useful tool for understanding the factors that influence procurement performance.

Table 13 ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	47.397	4	11.849	53.027	.000 ^b
	Residual	52.736	236	0.223		
	Total	100.133	240			
a. Dependent Variable: PPR						
b. Predictors: (Constant), UT, SM, PP, GR						

Source : SPSS output result

4.6.7 Coefficient

Table 14 Coefficients Dependent variable

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.558	0.251		2.219	0.027
	PP	0.198	0.077	0.194	2.570	0.011
	SM	0.301	0.083	0.300	3.647	0.000
	GR	-0.134	0.093	-0.128	-1.432	0.154
	UT	0.485	0.074	0.425	6.570	0.000
a. Dependent Variable: Procurement Performance						

Source: SPSS output

The study examines how different factors influence procurement performance. The findings indicate that three out of the four factors considered have a statistically significant effect.

Among these, the use of technology emerges as the most influential factor, demonstrating the largest impact on performance. Specifically, a one-unit increase in technology utilization is associated with an approximate 0.5-unit improvement in procurement performance, holding other variables constant.

Supplier management is also identified as a critical determinant of performance. The results show a significant positive relationship, indicating that effective supplier management practices contribute to improved procurement outcomes. Similarly, procurement planning has a positive and statistically significant effect on performance, although its influence is comparatively weaker than that of technology use and supplier management.

In contrast, government rules and procedures do not exhibit a statistically significant effect on procurement performance in this analysis. This finding does not imply that such regulations are unimportant; rather, it suggests that their impact is not as evident or direct as that of the other factors considered.

The results indicate that strict government regulations do not have a statistically significant positive effect on procurement performance and may even exhibit a slight negative influence. This is evidenced by the negative coefficient ($\beta = -0.134$) and a p-value of 0.154, which exceeds the conventional significance threshold of 0.05.

These findings suggest that, within this context, government rules and procedures do not independently contribute to improvements in performance. Rather, their impact appears to be limited or indirect.

Overall, the results suggest that enhancing technology adoption, strengthening supplier management practices, and improving procurement planning can substantially improve procurement performance. These findings provide important insights for organizations seeking to achieve better procurement outcomes.

4.7. Hypothesis Testing

To figure out how different factors affect procurement performance, the study used a special kind of analysis called regression. It examined at four main factors that could influence procurement and set a threshold to determine if the results were significant if the probability was less than 0.05 and considered it significant. This helps to understand which factors really made a difference in procurement performance.

H1a: The data clearly shows that procurement planning has a major impact on procurement performance at AHRI. In fact, the results reveal a p-value of 0.011, which is well below the 0.05 threshold. This means that for every unit increase in planning, performance jumps up by 0.198 units. This shows having a systematic approach to assessing and planning needs is essential for achieving success at AHRI. By taking the time to carefully plan and assess their needs, the organization can set itself up for significant gains in performance. This finding highlights the importance of thorough planning in driving procurement success, and it's a valuable lesson for organizations looking to improve their own performance.

H1b: The impact of supplier management on procurement performance at AHRI was also found to be remarkably positive. In fact, with a p-value of 0.000, it's clear that supplier management plays a crucial role in predicting performance. This suggests that AHRI's emphasis on establishing clear evaluation criteria and nurturing long-term relationships with vendors has a direct and significant impact on operational efficiency. By prioritizing these aspects, the organization can potentially unlock even greater improvements in its procurement processes, leading to enhanced overall performance.

H1c: The idea that government rules and procedures have a significant negative impact on performance at AHRI was quite supported by the analysis. In fact, the results showed that these rules might have a negative effect. With a p-value of 0.154, which is higher than the 0.05 significance level, and a negative unstandardized coefficient of -0.134, it seems that following government regulations closely doesn't necessarily lead to better performance. Instead, these rules might just be a bureaucratic hurdle that slows down the process. This is interesting because AHRI is all about compliance and transparency, but it looks like these rules don't drive improvements in performance on their own.

H1d: The use of technologies has a significant positive effect on procurement performance at AHRI, was highly supported and emerged as the strongest driver in the model. With a p-value of 0.000 and the highest standardized beta coefficient ($\beta = 0.425$), technology adoption such as e-procurement and ERP systems is identified as the most effective tool for improving procurement results.

Overall, the findings suggest that while compliance is mandatory, AHRI should prioritize technology, supplier management, and planning to achieve the most significant gains in procurement performance.

CHAPTER FIVE

5. SUMMARY OF FINDING, CONCLUSIONS AND RECOMMENDATION

5.1. Summary of Finding

The results of this study show that the way AHRI handles procurement is seen as very effective. All areas, including planning, managing suppliers, following government rules, and using technology, got high ratings, with average scores always above 4.0. The study looked at how these different factors are related; findings show that they all have a strong positive connection to how well except government rules and procedures. The use of technology had the biggest impact. The analysis also created a model to predict procurement performance, and it worked well, explaining 47.3% of the differences in performance. The study checked the model to make sure it was reliable, and the tests showed that it is. This means we can trust the results.

The study found that using technology was the most important factor, followed by managing suppliers and planning for purchases. All these things had a big impact on how well the organization performed. This means that investing in digital systems, building strong relationships with vendors, and planning carefully are crucial for being efficient. On the other hand, following government rules and procedures didn't seem to have a direct impact on performance. Even though the organization follows these rules, they are seen as more of a necessary step than a way to improve operations. This is interesting because it suggests that while rules are important, they aren't the key to making an organization great. The study showed that technology, supplier management, and procurement planning are all vital for success. These things can help an organization run smoothly and achieve its goals. By focusing on these areas, organizations can improve their performance and be more efficient. It's not just about following the rules, but about making smart investments and building strong relationships. This can help organizations stay ahead of the curve and achieve greatness. In short, the key to organizational success is using technology effectively, managing suppliers well, and planning carefully. By doing these things, organizations can set themselves up for success and achieve their goals.

Consequently, the study concludes that AHRI can achieve the highest performance gains by prioritizing technological innovation and strategic partner management.

5.2. Conclusion

In Conclusion, this study shows a clear picture of what affects AHRI's procurement. It also indicates how the organization can improve. The Collected data illustrates that AHRI already has a good system in place for buying things, and it's fair and open. Respondents who work there value in planning carefully and using new technology. AHRI is very good at following the government's rules and regulations, but the analysis shows that just doing what it's supposed to do doesn't automatically make it more efficient. Instead, there are three key things that make AHRI's procurement successful: using new technology, managing suppliers well, and planning.

The key insight from this study is how significantly technology has transformed the way we purchase goods. Using special computer systems like ERP and e-procurement has become the most important factor in making purchase smoothly. It's not just about doing paperwork anymore; it's about making the whole process faster and less prone to mistakes. The study also found out that buying things is not just something one person or team does, it's something that involves a lot of people working together. Strong collaboration with suppliers and internal teams significantly improves overall performance. It demonstrates that success depends on effective communication and the ability to work well with others.

AHRI also needs to look at a few areas where it can improve. One thing that stands out is that respondents have slightly different ideas about how well the budget is being used and whether the technological training is good enough. This shows that there's still a bit of a gap between planning and implementing. To fix this, AHRI needs to make sure its financial predictions are closely tied with purchase plans, and that staff are constantly learning new skills to keep up with the latest digital tools. Balancing strict government regulations with the need for flexibility in the study remains a challenge. However, technology can support this by increasing transparency without slowing down processes. By focusing on these areas, the organization can further enhance its operations and achieve its objectives more effectively.

This study further presents that the way AHRI purchases items is important for its overall goal of doing great medical research. To maintain strong performance, AHRI should focus on three key areas: using the right technology, working closely with partners, and planning. Through this approach, AHRI can avoid unexpected costs and make sure it has the equipment

it needs. If AHRI follows these recommendations, it will not only meet the rules it has to follow, but it will also create a procurement system that is efficient, flexible, and excellent, which will help it do the best research possible without any interruptions.

5.3. Recommendation

- AHRI should keep updating its procurement systems, focusing on e-procurement and ERP. These tools were found to be key to sustain success as an organization. While the current use of technology is perceived positively, there's a need for more advanced technological training. This means increasing workshops to support staff capability in using digital tools.
- AHRI should make its digital workflow between finance and procurement more integrated. This way, needs assessments can be matched with actual budgets in real-time, reducing the risk of unexpected costs and running out of important lab equipment. By doing this, AHRI can make its procurement process more efficient and effective. It's clear that using e-procurement and ERP systems can make a big difference. The study showed that these systems are crucial for organizational performance. So, it's a good idea for AHRI to invest in these areas.
- Moreover, integrating the digital workflow between finance and procurement can help reduce errors and make the process more streamlined. This can be achieved by implementing a system where needs assessments are automatically matched with available budgets. This way, AHRI can avoid last-minute purchases and ensure that it has the necessary equipment.
- To strengthen its supplier management, AHRI should consider implementing several improvements. Emphasis should be placed on monitoring vendor performance. This involves using data-driven approaches to continuously track supplier performance. Such measures will help prevent the procurement of substandard materials and ensure the consistent delivery of quality products at competitive prices.
- Dealing with government rules and agencies like EFDA and customs can be tough. To make it easier, AHRI should think about having a special team that just handles regulations and paperwork. This team could help speed up the process and make sure everything is done correctly. By doing this, AHRI can reduce the risks and challenges that come with working with vendors and following government rules.

- This team would focus on reducing bureaucratic barriers and addressing delays identified by study as major challenges in acquiring specialized equipment. By tackling these issues directly and focusing on three key areas technology, supplier collaboration, and planning AHRI can become more flexible and make sure its purchasing department supports its main goal of doing scientific research without any hiccups. The idea is to make things easier and faster, so researchers can get what they need without wasting time on paperwork and waiting for approvals. This way, AHRI can be more agile and responsive to the needs of its researchers and ultimately achieve its mission of advancing scientific knowledge.
- Overall, by prioritizing the modernization of its procurement infrastructure and addressing the identified gaps, AHRI can improve its performance and become more efficient. This will not only benefit the organization but also its stakeholders. With the right tools and training, AHRI can achieve its goals and make a positive impact.

5.4. Suggestion for Future Researchers

There are many ways that future researchers can build on what the study has found. One thing to look at is that the study found four main things that affect how well procurement works, but we still don't know what causes more than half of the differences we saw. So, future studies should look at other things like how much leaders' support procurement, the culture of the organization, how professional the staff is, and how ethical the practices are. These things might be important for making procurement successful. Also, since we only looked at AHRI, it would be good for future researchers to compare how procurement works in different types of organizations, like public and private research institutes, or in different fields like health, education, and construction. This would help us see if what we found is true everywhere or just in certain areas.

To better understand the relationship between Government Rules and Procedures and Procurement performance, future studies should consider using a mixed-methods or qualitative approach. This could involve having in-depth conversations with procurement officers, either one-on-one or in focus groups, to get a clearer picture of why following the rules doesn't necessarily lead to better results. It's possible that these rules might even hinder organizations that rely heavily on research. Additionally, conducting a longitudinal study, which tracks changes over time, could provide valuable insights into how procurement

performance changes after new e-procurement systems are put in place or when there are significant changes in national procurement policies. This would give us a more detailed understanding of how technological and regulatory changes affect an organization's efficiency in the long term. By exploring these areas, we can gain a deeper understanding of the complex interactions between rules, technology, and performance, and identify potential areas for improvement.

Reference

- Abera, A. (2020). *Assessment of factors affecting procurement processing: The case of Jimma University* [Master's thesis, Jimma University]. Jimma University Repository.
- Adebayo, V. I., Paul, P. O., & Eyo-Udo, N. L. (2024). *The role of data analysis and reporting in modern procurement: Enhancing decision-making and supplier management*. **GSC Advanced Research and Reviews**, 20(1), 88–97. <https://doi.org/10.30574/gscarr.2024.20.1.0246>
- Adebayo, V. I., Paul, P. O., Eyo-Udo, N. L., & Ogugua, J. O. (2024). **Procurement in healthcare: Ensuring efficiency and compliance in medical supplies and equipment management**. *Magna Scientia Advanced Research and Reviews*, 11(2), 60–69.
- Adjepong, K. B., & Anane, A. (2022). Factors affecting procurement performance in selected municipal assemblies in the Kumasi Metropolis, Ghana. *World Journal of Advanced Research and Reviews*, 15(3), 261–268. <https://doi.org/10.30574/wjarr.2022.15.3.0911>
- Ahmad, N., Alias, F. A., & Abdul Razak, N. A. (2023). *Understanding population and sample in research: Key concepts for valid conclusions*. In **SIG: e-Learning@CS** (p. 19). Universiti Teknologi MARA Cawangan Pulau Pinang. <https://appspenang.uitm.edu.my/sigcs/> (e-ISBN: 978-629-98755-0-5)
- Ali, S. H. (2016). *Factors affecting procurement performance in the case of Awassa Textile Share Company* [Master's thesis, Jimma University]. Global Journals.
- Asa, A. R., Naruses, N., Nautwima, J. P., & Tsoy, D. (2023). Supplier relationship management and organizational performance: A focus on public procurement. *International Journal of Management Science and Business Administration*, 9(6), 19–28. <https://doi.org/10.18775/ijmsba.1849-5664-5419.2014.96.1003>
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of*

Management, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>

Barsemoi, H., Mwangagi, P., & Ochieng, I. (2014). Factors influencing procurement performance in private sector in Kenya: A case of Henkel Chemicals East Africa Limited. *International Journal of Social Sciences and Entrepreneurship*, 1(11), 1–14.

Bekmezci, V. M. (2018). *Health sciences research in the globalizing world*. ResearchGate. <https://www.researchgate.net/>

Changalima, I. A. (2023). Supplier management practices and public procurement performance in Tanzania: The moderating effect of contract management difficulty (Doctoral dissertation, The University of Dodoma, Tanzania). The University of Dodoma Institutional Repository. <http://repository.udom.ac.tz/handle/20.500.12661/3761>

Chepkesis, K. M., & Keitany, P. (2018). *Effect of procurement planning on suppliers' performance in public institutions: A case of Moi University*. ResearchGate. <https://www.researchgate.net/>

Chowdhury, D. (2015). *Institutional theory*. In **Knowledge and competitiveness in elite institutions in Bangladesh: Implications for governance**. Bangladesh University Grants Commission.

CIPS Australia. (2007). *The definitions of procurement and supply chain management* (Updated and reprinted). CIPS Australia Pty Ltd

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. <https://doi.org/10.2307/2095101>

Dzuke, A. & Naude, M.J.A., 2015, 'Procurement challenges in the Zimbabwean public sector: A preliminary study', *Journal of Transport and Supply Chain Management* 9(1), Art. #166, 9 pages.

Ethiopian Food and Drug Authority. (2012). *Guideline on medical products special import permit* (Document No. EFDA/GDL/051, Version No. 002).

Kabelele, D. P., & Kitomo, D. (2022). *The effects of public procurement practices on procurement prices: A case of selected procuring entities*. College of Business Education; National Institute of Transport.

Karungani and Ochiri (2017) examined the effect of the policy and regulatory framework on organizational performance in Nairobi County, Kenya.

Kasisi, R., Juma, D., & Ochieng, I. (2015). Factors affecting the performance of the procurement function in government organisations: A case study of National Oil Corporation of Kenya. *International Journal of Supply Chain Management*, 2(1), 45–58.

Ketemaw, A. (2020). *Assessment of factors affecting public procurement performance in case of Wollega University* [Master's thesis, Wollega University]. Wollega University Repository.

Kiage, J. O. (2013). *Factors affecting procurement performance: A case of Ministry of Energy* [Master's thesis, Jomo Kenyatta University of Agriculture and Technology]. JKUAT Repository.

Komakech, R. A., Ombati, T. O., Kikwatha, R. W., & Wainaina, M. G. (2025). *Resource-based view theory and its applications in supply chain management: A systematic literature review*. **Management Science Letters**, 15(4), 261–272. <https://doi.org/10.5267/j.msl.2024.6.004>

Lartey, N. E., Gidi, C. E., & Akoto, O. O. (2024). Effects of procurement practices on organizational performance within the private sector: The case of Volta River Estate Limited, Ghana. *Wisconsin Journal of Arts and Sciences*, 6(2), 47–60.

Mandala, N. O., Ayoyi, I. R., & Too, S. K. (2024). *The Impact of Information Technology Adoption on Efficiency and Transparency in Public Procurement Processes in Kenya*. *European Scientific Journal*, ESJ, 20 (13), 167. <https://doi.org/10.19044/esj.2024.v20n13p167>

Mgawe, P., & Kiwango, P. (2023). Assessment of effectiveness of procurement planning on procurement performance of public organizations in Tanzania: A study of Babati

District Council. *Journal of Procurement and Supply Chain Management*, 5(1), 12–28.

Molokwane, T., Arasa, R., & Ombui, K. (2013). Effects of public procurement policies on organizational performance: A case of Water Services Regulatory Board. *International Journal of Social Sciences and Entrepreneurship*, 1(5), 89–103. <http://www.ijssse.org>

Moturi, N. J., Arasa, R., & Ombui, K. (2013). *Effects of public procurement policies on organizational performance: A case of Water Services Regulatory Board*. In **Jomo Kenyatta University of Agriculture and Technology, School of Human Resource Development (Ed.)**, *Proceedings of the First SHRD Annual Research Conference held on 12–13 September 2013 at JKUAT Main Campus* (pp. xx–xx). JKUAT.

Musheba, L. L., & Hapompwe, C. C. (2024). *Assessing the effect of technological integration on procurement efficiency of Zamtel, Lusaka, Zambia*. **Journal of Economics, Finance and Management Studies**, 7(7), 4244–4255. <https://doi.org/10.47191/jefms/v7-i7-41>

Mwanjumwa, G., & Simba, F. (2015). Factors influencing procurement performance in humanitarian relief organization: A case of International Committee of the Red Cross in Kenya. *International Journal of Scientific and Research Publications*, 5(9), 1–12.

Nduhura, A., Nuwagaba, I., Molokwane, T., & Lukamba, M. T. (2021). Procurement planning and procurement performance for operations and projects in public sector entities – A case of Uganda Management Institute. *International Journal of Supply Chain Management*, 10(6), 11–21. <https://doi.org/10.47259/IJSCM.2021.6.2>

Ngwili, N., & Were, S. (2014). Factors affecting efficiency of the procurement function at the public institutions in Kenya: A case of Supplies Branch in Nairobi. *International Journal of Social Sciences and Entrepreneurship*, 1(10), 351–365.

Ochido, G. & Ochiri, G. (2014). Factors affecting successful implementation of buyer - supplier relations on procurement performance among logistics service providers in Kenya: A case of DHL Exel Kenya. *International Academic Journal of Procurement and Supply Chain Management*, 1 (3), 12-27

Okong'o, J. N., & Muturi, W. (2017). Factors affecting procurement performance in public institutions in Kenya: A survey of public institutions in Kisii County. *IOSR Journal of Business and Management*, 19(4), 121–133. <https://doi.org/10.9790/487X-190402121133>

Okong'o, J. N., & Muturi, W. (2017). *Factors affecting procurement performance in public institutions in Kenya: A survey of public institutions in Kisii County*. *IOSR Journal of Business and Management*, 19(4, Ver. II), 121–133. <https://doi.org/10.9790/487X-190402121133>

Okore, O., & Muturi, W. (2016). Factors affecting efficiency of procurement in public institutions: A case of public entities in Homabay County. *International Journal of Social Sciences and Project Planning Management*, 1(1), 1–18.

Okoth, S. A. (2019). *Factors influencing the performance of public procurement for independent public offices and commissions in Kenya* [Master's thesis, University of Nairobi]. UoN Repository.

Rejeb, A., Süle, E., & Keogh, J. G. (2018). Exploring new technologies in procurement. *Transport & Logistics: The International Journal*, 18(45), 76–86. <https://ssrn.com/abstract=3319424>

Richu, J. M., & Odari, S. (2018). Factors affecting procurement performance in mobile telecommunications original equipment manufacturers: A case study of Ericsson Kenya Limited. *International Journal of Recent Research in Social Sciences and Humanities*, 5(4), 233–239.

Schiele, H. (2019). *Purchasing and supply management*. In **Operations, logistics and supply chain management** (pp. 45–73). Springer. https://doi.org/10.1007/978-3-319-92447-2_4

Scott, W. R. (2008). *Institutions and organizations: Ideas and interests* (3rd ed.). Sage Publications.

Turga, T. (2019). *Factors affecting procurement performance of organization: The case*

of International Organization for Migration, Ethiopia Office [Master's thesis, Addis Ababa University]. AAU Electronic Thesis and Dissertation Repository.

USAID | DELIVER PROJECT, Task Order 4. (2013). *Procurement performance indicators guide: Using procurement performance indicators to strengthen the procurement process for public health commodities*.

Uzozie, O. T., Onukwulu, E. C., Olaleye, I. A., Makata, C. O., Paul, P. O., & Esan, O. J. (2024). *Cost-effectiveness in procurement strategies for health programs: Insights from global initiatives*. **IRE Journals**, 8(1), 713–719.

Wanyonyi, S. C., & Muturi, W. (2015). Factors affecting performance of procurement function among public technical training institutions in Kisumu County, Kenya. *International Journal of Economics, Commerce and Management*, 3(5), 325–337. <http://ijecm.co.uk/>

Bahir Dar University
Master of arts in logistics and supply chain management

Dear Sir or Madam:

Subject: I am conducting my thesis entitled Factors Affecting Procurement Performance: The Case of Armauer Hansen Research Institute (AHRI), Ethiopia. The objective of this questionnaire is to identify the factors that affect the procurement performance in Armauer Hansen Research Institute (AHRI). Please find a questionnaire attached here with and I kindly request you to give your valuable time to fill the questionnaire. Please note that this questionnaire is designed to collect data for academic research purposes only. Your responses will remain confidential. The collected data will be statistically analyzed, and conclusions will be drawn that will assist procurement activities.

Thank you,

Please return your response to following address:

Rediet Wubante Mengie

Mobile: +251922136727

mail: redietwubante22@gmail.com

Advisor: Dr. Tafere Worku

Dear Respondent,

This questionnaire is designed to collect data for academic research purposes only. Your responses will remain confidential and anonymous. Please respond honestly based on your experience.

Section One: Basic Demographic Data

Gender

☐ Male ☐ Female

Age

☐ Less than 20 ☐ 20–29 ☐ 30–39 ☐ 40–49 ☐ 50 and above

Educational Level

☐ College Diploma ☐ Bachelor's ☐ Master's ☐ PhD

Other, specify_____

Department

☐ Procurement ☐ Logistics ☐ Finance ☐ Research ☐ Administration ☐

Management

Years of Experience at AHRI

☐ 1 to 5 years ☐ 6 to 10 years ☐ 11 to 15 years ☐ Above 16 years

Section Two: Questionnaires on Factors affecting procurement performance

Please read each statement and show the extent of your Agreement or (Dis) agreement on the statements by putting a tick mark (✓) in the boxes against each rating scale of choice. The rating represents your level of agreement as follows: 1=strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=strongly agree.

No	Statement	Decision				
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
I. Procurement planning						
1	AHRI performs needs assessments before starting procurement activities.					
2	User departments at AHRI actively participate in the preparation of procurement plans.					
3	Delays in procurement planning at AHRI results high costs and unexpected decisions.					
4	Procurement plans at AHRI are updated regularly to meet changing needs.					
5	Planned procurement at AHRI helps to reduce emergency purchases costs and stock-outs of equipments.					
6	Annual procurement plans at AHRI aligned with approved budgets.					
II. Supplier Management						
7	Suppliers are selected based on clear evaluation criteria					
8	Ssuppliers are evaluated regularly at AHRI.					
9	AHRI maintains long-term relationships with reliable suppliers.					
10	Clear communication with suppliers helps to reduce delays at AHRI.					
11	Poor supplier management at AHRI increases the risk of receiving inadequate materials.					
12	Strong information sharing with suppliers improves overall procurement efficiency at AHRI.					
III. Government Rules and Procedures						
13	Government procurement regulations are strictly followed.					
14	Compliance with government regulations may interfere with urgent research needs at AHRI.					
15	Long approval processes resulting from government rules cause delays in the procurement at AHRI.					
16	Frequent changes in government procurement laws pose a challenge for AHRI’s processes.					

17	Government procurement regulations at AHRI promote transparency and accountability					
18	Excessive documentation procedures from government delays procurement processes at AHRI					
Iv. Use of technologies						
19	AHRI uses e-procurement systems to facilitate tendering and bidding processes.					
20	E- tendering at AHRI enhances high transparency and supplier collaboration.					
21	Training on updated E- procurement technologies is adequately provided for AHRI procurement staffs.					
22	The adoption of ERP systems at AHRI improves real-time tracking of procurement activities.					
23	The adoption electronic procurement systems at AHRI help reduce errors and paperwork.					
24	The adoption electronic procurement systems reduce procurement processing time.					
V. Procurement performance						
25	Procurement processes at AHRI ensure timely delivery of goods and services.					
26	The quality of purchased items (e.g., reagents, equipments) at AHRI meets user department required standards.					
27	Procurement processes at AHRI experience minimal delays or errors.					
28	Procurement decisions at AHRI consistently deliver good quality at reasonable cost.					
29	Procurement performance at AHRI supports uninterrupted research activities.					
30	Specialized laboratory items (e.g., reagents, kits) are procured without frequent regulatory or import delays from government institutions like EFDA and customs.					