Chapter One

Introduction

1.1 Background to the Study

The level of institutional performance is important in determining the growth, development and survival of the public higher education institutions.

Institutional performance is the difference between an institution's actual outputs or outcomes and its expected outputs or aims and objectives[1]. Institutional performance is recognised as one of the most essential aspects in obtaining efficiency and positive outcomes[2]. Institutional performance can however be difficult due to the many requirements such as sustainability, profitability, group satisfaction, and willingness to deal with environmental changes. The indicators of performance of an institution are in different forms. It could be in terms of attaining financial targets, satisfaction of labor force, or institutions effectiveness and efficiency. Institutional performance can be categorized into three types: financial performance, product market performance, and shareholder return. Financial performance measures an institution's efficiency in generating earnings and maintaining profitability. Product market performance evaluates an institution's competitiveness in the market, measured by market share and sales volume. Shareholder return, on the other hand, measures the value delivered to shareholders through operations and strategic decisions. It includes metrics like Economic Value Added (EVA) and Total Shareholder Return (TSR), which consider capital gains and dividends over a given period. In this study, three indicators of institutional performance will be focused on. These are productivity, cost effectiveness, quality of goods and services delivered[3].

Productivity demonstrates an institutions ability to deliver desired results with the least amount of resources. Productivity is also the rate at which an institution or its employees transform inputs to outputs[4].Productivity measurement assists the institution in delivering timely feedback in areas where it is required. The greater an institution's productivity, the greater its competitive advantage. This is due to the effectiveness of the resources employed. This may be in terms of financial accomplishments, community impact, and so on, with results expressed in terms of time, quantity, quality or cost. Studies have shown that productivity has a direct effect on institution's performance and profits. Many of the activities carried out in a higher education institution are intended to influence individual or institutional productivity. Appraisal systems, pay, training, job design, selection, and remuneration are all closely related to productivity[5].Furthermore, heightened worries about productivity and fulfilling customer demands have sparked fresh interest in strategies aimed at pushing staff to be more focused on meeting (or exceeding) clients' demands and increasing productivity.

Cost effectiveness is the efficiency of spending money to achieve desired outcomes.Cost effectiveness also refers to how well a firm or institution can accomplish its aims and objectives. Cost effectiveness is significant because they enable an institution to have assess to more institutional facilities and more income for operational. They enhance the abilities of an institution, allowing it to produce more income and give better value to the society. Cost effectiveness is an important indicator of institutional performance since the specifics of how a cost changes have a direct impact on performance dynamics[6].

The last indicators of performance of higher education institutions in this study are quality of goods and services delivered. Quality is concerned with how well a product

operates or the level of service supplied. The ability to deliver goods and services in accordance with internal quality specifications, created in accordance with the educational management's view of students needs and expectations, is referred to as the quality of the goods and services[7].Performance, dependability, features, and durability are some of the factors used to determine product quality. Courtesy, accessibility, and communication are some of the variables used to determine service quality[8].Superior quality of goods and services is critical to institutional performance. The quality of goods and services earns student loyalty, aids in brand recognition, and helps to manage costs[9].On the other hand, poor quality products/services might result in unfavorable publicity and ruin an institution's reputation.

In the Nigerian public higher education institutions, there is a significant issue concerning productivity, cost effectiveness, and quality of goods/services[10]. Institutional performance is significantly impacted by corruption, lack of well-defined work processes, and unclear vision and strategic objectives. Corruption undermines integrity, accountability, and trust within institutions. The absence of clear work processes leads to confusion and inconsistency in task execution, reducing operational efficiency. Unfavorable working conditions, such as inadequate resources, unsafe environments, and low morale, further hinder productivity and employee satisfaction. A communication gap within the institution can cause misunderstandings, delays in information flow, and lack of coordination among departments or teams. The absence of collaborative skills affects teamwork and reduces the effectiveness of collective decision-making and project execution. Performance suffers when employees fail to meet job expectations, disrupting workflow and weakening the organisational culture, essential for long-term success and cohesion. The repercussions of

poor productivity, cost effectiveness, and poor quality of goods/services delivered are far-reaching. The lack of productivity, cost effectiveness, and quality of goods/services undermines and impedes higher education institution performance as well as educational progress. To address these issues, educational authorities, higher education institution managers, administrators, procurement officers, and inventory managers must work together to prioritise productivity, cost effectiveness, and the quality of goods/services delivered in order to improve institutional performance.

Teaching quality, facilities, procurement practices, inventory management practices, safety and security, and curricular/ extra-curricular activities are all important factors that influence institutional performance of higher education institutions[11].These qualities enable higher education institutions to develop and transform students into useful resources. The severity of these qualities varies across institutions and localities, with some institutions taking a more progressive and responsive approach than others. It is important to promote positive attribute of higher education institutions. This can be accomplished through the use of comprehensive professional activities and instructional practices such as procurement and inventory management. Furthermore, offering adequate resources, support, and technology to employees can improve their performance. Creating a collaborative and friendly work atmosphere can inspire employees to share new ideas, tactics, and best practices.

This research looks into the different aspects that can have a substantial impact on institutional performance, with a particular emphasis on public higher education institutions. The study prioritises two major areas among a plethora of potential factors that determine institutional performance. These are strategic procurement practices and inventory management practices. The study examined strategic procurement practices with a focus on

procurement planning, procurement control, procurement monitoring, and staff competency through a staff verification approach. Inventory shrinkage and inventory control were used as indices to measure inventory management practices. By focusing on these specific characteristics, the study hopes to shed light on their impact on higher education institution success and, ultimately, contribute to a more comprehensive knowledge of the factors that determine employee and institutional performance.

Procurement is one of the fundamental duties of both governmental and commercial entities worldwide[12]. It is the procedure of identifying vendors, selecting and negotiating contracts, establishing payment terms, conducting strategic vetting, and purchasing items. Procurement is a strategic process that involves acquiring essential goods, services, and works for an institution's objectives. It involves planning, identifying needs, selecting suppliers, negotiating contracts, and ensuring timely delivery of quality resources. These resources, such as office supplies, construction work, consulting services, and technology systems, are crucial for supporting operations and achieving performance targets[13]. Public procurement is a structured and regulated process where the government uses public funds to acquire goods, services, and works essential for fulfilling its responsibilities to the public. It involves strategic decisions to ensure optimal acquisitions, ensuring the right quality, quantity, price, and location of items from the right suppliers, contractors, or service providers. Public procurement is guided by the principle of acquiring resources for the right purpose, aligning with public needs and developmental objectives. Efficient procurement methods, such as competitive bidding and direct procurement, are used to ensure transparency, fairness, and value for money. All procurement activities must adhere to legal frameworks, policies, and guidelines, promoting accountability, minimising corruption risks,

and promoting public trust. Each stage of public procurement must follow due process, ensuring procedural integrity, proper documentation, and oversight, serving broader goals of good governance, efficient public service delivery, and socio-economic development[14]. Public procurement is a crucial aspect of government spending, enabling the efficient management of resources and service delivery. It is a key tool for achieving public policy goals like economic development, social inclusion, and good governance. The efficiency, transparency, and accountability of public procurement systems directly impact resource management and service delivery. This has led to global discussions on public sector integrity, financial efficiency, corruption prevention, and institutional performance. Issues such as mismanagement, lack of transparency, bureaucratic inefficiencies, and corruption risks have led to widespread scrutiny and debate. To address these challenges, many countries have implemented reforms and restructuring initiatives, introducing new laws, policies, regulatory frameworks, and digital systems to improve procurement processes, promote competition, ensure value for money, and reinforce public accountability[15, 16]. Because of the relationship between procurement and institutional performance, it is critical to embrace best practices in order to enhance institutional success. Despite the implementation of procurement reforms involving laws and regulations by various public institutions in both developing and developed countries, a fundamental problem remains insufficient regulatory compliance[17].

A well-structured procurement strategy can give institutions a competitive advantage by reducing costs across the entire value chain, facilitating better supplier negotiations and eliminating inefficiencies. A robust procurement system enhances operational efficiency, ensuring high-quality goods and services are delivered on time and consistently. It fosters

innovation, encourages suppliers to offer advanced solutions, and reduces supplier-related risks through thorough evaluation, contract management, and risk assessment procedures. Efficient procurement methods are crucial for sound public financial management. Inadequate strategic procurement practices can be incredibly dangerous for higher education institutions' performance. Inattention to strategic procurement practices has increased risk and challenges, resulting to low quality infrastructural facilitates, out dated training equipment's, improper geographical planning and as result lower institutional performance. Poor procurement practices can result in considerable financial mismanagement, financial losses due to overpayment, missing savings possibilities, usage of incompetent suppliers, fraudulent manufacturers and even fraud. This could lead to the institutions failure to meet its financial responsibilities, a reputational damage, and potentially legal consequences. To improve higher educational institutional performance, it is critical to implement the best and most worldwide strategic procurement practices that address these challenges.

The areas of procurement practices that considered in this study were procurement planning, procurement control, procurement monitoring and staff competency[19]. Procurement planning is a crucial aspect of effective procurement practices, ensuring the success of an organisation's supply management strategy by systematically determining the quantity, supplier, time, and conditions of goods, services, or works needed[20]. It is the role in charge of procuring goods and services from various external sources of supply[21]. Procurement planning is a strategic process that involves specifying items or services to be acquired, designing the sourcing method, and developing a timeline. It is crucial for achieving value for money, enhancing the quality of goods and services, promoting efficient resource use, and supporting informed decision-making. Procurement planning fosters innovation and

adaptability by anticipating challenges and preparing responses in advance. It reduces delays and allows institutions to focus on core objectives. Ultimately, procurement planning strengthens institutional performance by aligning procurement activities with organisational goals, optimising resource management, and improving operational outcomes across departments[22, 23].

Procurement control is another vital dimension of procurement practice. Procurement control is the systematic process of monitoring and regulating purchasing activities to ensure ethical, lawful, and efficient acquisition of goods and services. It involves implementing oversight mechanisms and compliance measures, promoting transparency, accountability, and optimal resource use throughout the procurement cycle[24]. Procurement control ensures that government monies are spent wisely by monitoring contracts and suppliers[25]. Furthermore, procurement control can aid in the prevention of supplier or contractor fraud or abuse. Procurement control also contributes to the completion of government projects on schedule and within budget. Procurement controls enhance institutional performance by improving operational effectiveness and efficiency. They improve the quality of goods and services procured, meet standards, and ensure timely delivery within scheduled timeframes. This supports timely execution of activities and boosts overall performance outcomes[26].

Procurement monitoring is another important aspect. Procurement monitoring is a systematic assessment of a procurement system to evaluate its effectiveness and evolution over time. It aims to identify and correct breaches of procurement regulations through audits, inspections, and compliance checks. It also focuses on detecting and addressing violations of public procurement laws, ensuring adherence to legal and ethical standards throughout the procurement lifecycle. Procurement monitoring ensures transparency, accountability, and

legality in public procurement activities through continuous observation and data analysis, often facilitated by e-procurement platforms. It also evaluates whether procurement procedures and contract management practices conform to established legal frameworks, preventing irregularities and promoting sound governance in public procurement[27]. Procurement monitoring have also been shown to influence institutional performance by increasing its performance level in form of quality of goods and services delivered as well as deliveries being made on time[26].

Staff competency is an essential aspect of procurement practices. Competence is an individual's combination of education, skills, experience, and understanding, enabling them to apply these effectively and safely to perform a specific task, reflecting their knowledge and ability to execute responsibilities proficiently and responsibly within a given context[20]. Factors like mindset and physical capability can significantly impact an individual's competence, affecting their ability to perform tasks and apply skills effectively in practical situations. Abilities assist employees in understanding the abilities expected of them in their job, the important behaviors they should exhibit, and the activities required improving their proficiency levels. Employee competences are critical for institutional effectiveness, which leads to improved employee and institutional performance[28].

The second independent variable in this study is inventory management practices. Inventory management in higher education institutions involves overseeing and controlling educational resources to maximise their value and contribute to the institution's objectives. It aims to secure optimal returns on investments and ensure full benefit for students, staff, and stakeholders. Effective inventory management maintains operational efficiency, reduces waste, and enhances service delivery. The primary objective is to maintain accurate stock

levels, enabling the institution to regulate and optimise quantities, ensuring essential items are available when needed and avoiding overstocking or shortages. This supports smooth academic and administrative operations. Inventory management is critical since every institution seeks to keep a sufficient stock level in order to avoid stock outs. Managing inventories at public tertiary schools by stores officers is one of the primary issues for higher educational institutions in Nigeria. Stores officers ensure that suitable store accounting records are kept for all procurements and provide relevant reports to management for decision making. Meeting these goals in a rising public tertiary institution necessitates inventory management practices. Good inventory management practices bring value in terms of having control over and managing lean inventory[29].Inventory management also aids in the establishment of policies and procedures to enable effective and scientific inventory control[30].Inventory is a crucial component of any institution's existing assets as well as its performance[31].Poor inventory management can pose a major threat to an institution's legitimacy and, in certain cases, have a fatal influence on its solvency. There are various perspectives on the problem of inventory management practices in developing economies such as Nigeria, which is currently struggling to maintain socioeconomic progress in the face of unprecedented fall in Naira currency, fluctuations in crude oil prices and tightened global financial conditions, resulting in reduced government revenues. In the Nigerian context, the main difficulty of inventory management practices has been linked to a failure to attract well-qualified inventory officers such as store officers to oversee and manage inventory. There is a widespread notion that inventory operation is not a strategic role, as well as a scarcity of storage facilities and a culture of store process violations among various cadre members in many institutions.

The indices of inventory management practices to be considered in this study are inventory shrinkage and inventory control. By examining these indices of inventory management practices, the study aims to explore how inventory shrinkage and control influence institutional performance. Understanding the relationship between these inventory management practices can inform policy decisions and interventions to improve institutional performance of public higher education system.

Inventory shrinkage is defined as risk costs caused by factors such as product obsolescence, theft (both student and employee theft), natural disaster, and improper inventory storage, among others[33]. Inventory shrinkage is a deficit where the ending inventory value recorded in an organisation's financial records is less than the value determined through a physical inventory count. It is the discrepancy between documented stock value in the inventory management system and actual stock value confirmed through manual inventory verification. This difference can indicate losses from theft, damage, clerical errors, or mismanagement, negatively impacting financial reporting and operational planning[33]. Shrinkage is typically expressed as a percentage of the overall inventory balance or as the actual naira sum difference. Studies have revealed that inventory shrinkage is detrimental to institutional performance[34]. Inventory control is a managerial responsibility focused on ensuring that sufficient materials and supplies are available to support uninterrupted operations within an institution. This function involves keeping inventory levels both in physical units and monetary value within pre-established limits or safe thresholds to maintain operational efficiency without overstocking. The core principle of inventory control is to strike a balance where the institution avoids both stock-out situations that could disrupt activities and excessive inventory holdings that unnecessarily tie up capital.

It involves the strategic coordination of material handling, consumption, and procurement to ensure optimal resource flow. Since it is closely tied to operational and production processes, the primary objective of inventory control is to ensure that the right inventory is available at the right location, at the right time, and in the right quantity. When executed effectively, inventory control plays a crucial role in enhancing institutional performance by improving productivity, reducing waste, and supporting timely decision-making[35]. According to studies, inventory record accuracy has a beneficial impact on institutional performance, but inventory shrinkage has a negative impact[34].

Moderating variable that can influence strategic procurement and inventory management practices on institutional performance of public higher education institutions in South-South Nigeria could be type of qualification. Qualifications vary in level and type, might be academic, vocational, or skills-based, and are classified into various levels of difficulty[36].Each level correlates to the degree of difficulty of a specific qualification. Qualifications at the same level, on the other hand, might encompass a wide range of subjects and take varying lengths of time to complete, which is commonly stated in terms of credits. Type of qualification in this research means academic and professional qualifications. Academic Qualifications refer to the academic preparation that leads to the candidate receiving a graduate degree in a general career. A professional qualification is a programme or type of qualification that teaches job-specific skills to prepare an individual for a specific vocation[37].The type of qualification may likely influence the application of strategic procurement and inventory management practices differently. Studies have shown that the quality of academic qualifications has a positive direct effect on performance[38].According to

studies; the quality of professional qualification also has a direct and beneficial effect on performance[38, 39].

1.2 Statement of the Problem

The impact of strategic procurement and methods of inventory management on the institutional performance of Higher Education Institutions (HEIs) in South-South Nigeria appears to be a source of great worry, offering a crucial challenge to the educational system. The implications of present challenges in South-South Nigerian HEIs are numerous, far-reaching, and damaging to HEI success. The gravity of this issue stems from the possible consequences for the entire educational system, including but not limited to deterioration in educational quality, student dissatisfaction, disengagement with learning, and stifled academic advancement. Issues such as inadequate funding, theft, improper geographical planning, fraudulent contracts, unqualified suppliers for infrastructural projects, lack of project monitoring, procurement of obsolete equipment, nepotism, unethical market surveys, and corruption persistently plague these institutions. Additionally, there are concerns regarding insufficient infrastructure, academic personnel shortages, frequent strike actions, brain drain, subpar research, weak administration, and insecurity. Poor strategic procurement and inventory management practices can lead to stockouts, decreased productivity and profitability, decreased supply chain consolidation, decreased service delivery, and a loss of valuable expertise within the teaching staff, reduced resource availability, reduced quality and relevance of educational materials and resources, reduced innovative technologies and teaching methods, decreased sustainability efforts within HEIs, disrupting educational programmes and the overall performance of HEIs. While there is research on institutional performance, there is a void in the literature on the impact of strategic procurement and

inventory management practices on HEI performance. The purpose of this study is to investigate the influence of strategic procurement (planning, control, monitoring, and staff competence), inventory management practices (inventory control, inventory shrinkage), and qualifications held by procurement and inventory staff on institutional performance (productivity, cost effectiveness, and quality of goods and services delivered) in South-South Nigerian higher education institutions. The study aims to contribute to current information on organisational performance and provide insights for educational policymakers, school administrators, and other stakeholders in South-South Nigeria.

1.3 Aim and Objectives of the Study

The study aimed at investigating the influence of strategic procurement and inventory management practices on institutional performance of Higher Education Institutions in South-South Nigeria.

The objectives were to:

i. examine the level of performance (Productivity, Cost Effectiveness, Quality of Goods and Services Delivered) of Higher Education Institutions in South-South Nigeria.
ii. assess the current strategic procurement practices employed by public higher education institutions in the South-South region of Nigeria.
iii. examine the extent to which existing inventory management techniques are effectively mitigating shrinkage within public higher education institutions in the South-South region of Nigeria.
iv. explore the challenges faced by public higher education institutions in implementing effective strategic procurement and inventory management practices in South-South Nigeria.

v. propose strategic procurement and inventory management frameworks for Resource Optimization and Institutional Performance in Public Higher Education, South-South

vi. establish the joint influence of strategic procurement (planning, control, monitoring and staff competence) and inventory management (inventory control, inventory shrinkage) on the performance of Higher Education Institutions in South-South Nigeria; and

vii. ascertain the relative influence of strategic procurement (planning, control, monitoring and staff competence) and inventory management (inventory control, inventory shrinkage) on the performance of Higher Education Institutions in South-South Nigeria.

viii. determine the influence of procurement and inventory staff qualifications on the performance of higher education institutions in South-South Nigeria.

1.4 Research Questions

The following research questions were answered in the study.

1. What is the level of performance (Productivity, Cost Effectiveness, Quality of Goods and Services Delivered) of Higher Education Institutions in South-South Nigeria?
2. What are the current strategic procurement practices employed by public higher education institutions in the South-South region of Nigeria?
3. How effectively do existing inventory management techniques mitigate inventory shrinkage in public higher education institutions in South-South Nigeria?
4. What are the challenges faced by public higher education institutions in implementing effective strategic procurement and inventory management practices in South-South Nigeria?

5. What strategic procurement and inventory management frameworks can optimise resource allocation and Utilisation to enhance institutional performance in public higher education institutions in South-South?

1.5 Hypotheses

The study consisted of the following null hypotheses:

$H_0$1. There is no significant joint influence of strategic procurement and inventory management practices on performance of Higher Education institutions in South-South Nigeria.

$H_0$2. There is no significant relative influence of strategic procurement and inventory management practices on performance of Higher Education institutions in South-South Nigeria.

$H_0$3. There is no significant influence of procurement and inventory staff qualifications on performance of Higher Education institutions in South-South Nigeria.

1.6 Significance of the Study

This study which aimed to investigate the influence of strategic procurement and inventory management practices on performance of Higher Education Institutions in South-South Nigeria will be of significance to the government and policymakers, higher education managers, institutional administrators, procurement and inventory managers of HEI and researchers.

The study is essential for policymakers and the government as it will identify likely strategic procurement and inventory management frameworks, which will enhance the optimization of resource allocation and utilisation for improved institutional performance in public HEI in the South-South Nigeria.

The study will provide empirical evidence of how procurement and inventory management practices affect institutional performance of HEI in South-South Nigeria, which will be of great help to administrators of HEI. It will allow them to identify how institutional procurement and inventory practices and policies contribute to the success of their institutions as well as identify any gaps that may inhibit performance.

It is also expected that the study will create the awareness for the government and the administrators of HEI of the need to be more proactive in overseeing public procurement and inventory management procedures. This has the tendency of leading to better achievement and improved performance of public HEI, which is considered as critical to improving Higher Education's profitability, productivity and image.

The findings of this study will equip procurement and inventory managers in HEI with the knowledge of how to improve in the discharge of their duties.

This research also has the potential to be of great value to researchers and academics because it will add to the limited available literature and thereby fill existing knowledge gap on procurement and inventory practices and performance of HEI.

1.7 Scope of the Study

The study examined the influence of two independent variables, strategic procurement (procurement planning, procurement control, procurement monitoring and staff competence) and Inventory management (inventory shrinkage and inventory control) on one dependent variable, which is the performance of HEI in South-South Nigeria. The geographical scope is limited to South-South Nigeria. Out of all the public HEI in the South-South Nigeria, the scope of this study covered fourteen (14) HEI. All procurement and inventory management

staff of the fourteen public HEI selected for the study in the South-South Nigeria constituted the respondents for the study.

1.8 Limitation of the Study

The study examined the relationship between procurement and inventory management practices and performance in public Higher Education Institutions (HEIs) in South-South Nigeria, but certain limitations were identified.

The first limitation was the geographic restriction, as the study was limited to 14 public HEIs within the South-South region. This was addressed by selecting institutions that represented a fair spread across the geopolitical zone to reflect regional diversity. For future research, expanding the scope to cover HEIs in other regions of Nigeria or conducting comparative studies between public and private institutions would enhance external validity.

Another limitation was the restricted respondent group, since only procurement and inventory management staff were included, excluding the perspectives of other key stakeholders such as academic staff, administrative staff, suppliers, and policymakers. This was mitigated by ensuring detailed data collection from the selected respondents, who are directly involved in procurement and inventory processes. Future studies are encouraged to broaden the respondent base to include suppliers, academic staff, financial officers, and policymakers in order to provide a multi-stakeholder perspective. Stakeholders concerned here include procurement officers, inventory managers, suppliers, faculty members, university administrators, and government regulators.

A further limitation was the exclusion of other potentially influential variables such as supplier relationship management, technological adoption, and financial management systems, which narrowed the analytical scope and may have omitted critical factors affecting

institutional performance. This was managed by maintaining a clear focus on procurement and inventory management to ensure depth of analysis. Future research should integrate additional variables, including supplier relationship management, digital procurement systems, and policy implementation, to provide a more comprehensive framework.

1.9 Operational Definition of Terms

Some of the terms that were used in the study are operationally defined as follows:

Performance of Higher Education Institutions: This is the ability of a Higher Education Institution to meet its goals and achieve its overall mission in South-South Nigeria.

Productivity: It is the assessment of the efficiency and performance of an institution evaluated in terms of the output in a specific period of time in South-South Nigeria.

Cost Effectiveness: Cost effectiveness is a measure of how well money is being spent to achieve desired results in South-South Nigeria. It is the study of both the costs and outcomes of a public higher education institution in this study.

Quality of Goods and Services Delivered: Quality of goods and services delivered is the quality of a product or the level to which a service is supplied in South-South Nigeria.

Higher Education Institutions: Higher Education Institutions include all post-secondary private and public educational institutions in South-South Nigeria. In this study, only public universities and polytechnics in the South-South Nigeria were used as sample.

Procurement: Procurement encompasses all the tasks and processes required to acquire the goods and services that Higher Education Institutions (HEIs) need to sustain their routine functions in South-South Nigeria. This process includes identifying and sourcing suppliers, negotiating contract terms, purchasing items, receiving and inspecting deliveries when necessary, and maintaining detailed documentation of each stage in the procurement cycle.

Procurement Officer: Procurement officers are professionals responsible for evaluating suppliers, goods, and services, negotiating purchase agreements, and ensuring that all approved procurements are financially efficient and cost-effective in South-South Nigeria. They include operations planning and logistics, weighbridge, corporate performance, payables section.

Strategic Procurement Practices: Strategic procurement encompasses a range of deliberate and forward-looking activities aimed at optimising the acquisition process in South-South Nigeria. In the context of this study, strategic procurement specifically refer to procurement planning, procurement control, and procurement monitoring, as these components are critical for ensuring efficiency, accountability, and alignment with institutional goals.

Procurement Planning: This entails the process of obtaining the appropriate numbers of products from appropriate suppliers on schedule and the lowest possible cost in South-South Nigeria.

Procurement Control: Procurement control entails monitoring procurement relationships, evaluating contract execution, making adjustments or corrective actions as needed, and finally finalising and closing contracts once completed in South-South Nigeria.

Procurement Monitoring: Procurement monitoring is the review of a contracting authority's conformity to public procurement regulations throughout the whole procurement process, including the bidding, contract award, and execution phases in South-South Nigeria.

Staff Competency: Staff competency involves having sufficient knowledge and skills that enables a person to act as a procurement officer in South-South Nigeria.

Inventory Management: Inventory management is the comprehensive process of monitoring and regulating stock, from raw materials through final items in South-South

Nigeria. Inventory management strategies in this study are primarily focused on inventory shrinkage and inventory control as critical components.

Inventory Shrinkage: Inventory shrinkage refers to the disparity between the recorded inventory in account records and its actual physical count, indicating the quantity of inventory that has been lost or unaccounted for in South-South Nigeria.

Inventory Control: Inventory control is the administrative function of ensuring that sufficient materials for ongoing institutional operations are available in both quality and quantity in South-South Nigeria.

Type of Qualification: Type of qualification in this research means academic and professional qualifications in South-South Nigeria.

Endnotes

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Chapter Two

Literature Review

This chapter discussed literature review. The related literature were reviewed under the following sub-headings:

2.1.1 Conceptual Review

2.1.1 Higher Education in Nigeria

2.1.2 Performance of Higher Education Institutions in Nigeria

2.1.3 Concept of Strategic Management

2.1.4 Concept of Procurement Practices

2.1.5 Concept of Inventory Management

2.2 Theoretical Framework

2.2.1Economic Order Quantity Model

2.2.2 Resource Based View Theory

2.2.3 Stakeholder Theory

2.3 Review of Empirical Studies

2.3.1 Strategic Procurement Practices and Institutional Performance

2.3.1.1 Procurement Planning and Institutional Performance

2.3.1.2Procurement Control and Institutional Performance

2.3.1.3 Procurement Monitoring and Institutional Performance

2.3.1.4 Procurement Staff competencies and Institutional Performance

2.3.2 Inventory Management Practices and Institutional Performance

2.3.2.1 Inventory control and Institutional Performance

2.3.2.2 Inventory shrinkage and Institutional Performance

2.2.3 Qualification and Institutional Performance

2.4 Conceptual Model

2.5 Summary of Gaps in Literature Reviewed

Endnotes

2.1 Conceptual Review

2.1.1 Higher Education in Nigeria

Higher education encompasses all postsecondary learning, instruction, and scientific guidance at educational institutions such as universities that have been authorised by state authorities as institutions of higher education[1]. Higher education refers to academic or professional programmes that lead to the award of a degree, and it aligns with levels 5, 6, 7, and 8 of the 2011 International Standard Classification of Education (ISCED) framework. It is distinct from non-degree tertiary education, which is often known as further education or continuing education, and typically does not culminate in a degree. Higher education encompasses all forms of advanced learning recognised by a particular country as part of its higher learning system, not limited to traditional universities or graduate institutions. It also includes shorter-term academic or vocational programmes, such as those offered by polytechnics, junior colleges, and specialised technical schools, which usually span two to three years. Additionally, it covers distance learning and correspondence courses, often delivered through information and communication technologies, and designed to cater to a diverse and broad range of learners.

In the United States, higher education is offered by a variety of institutions, including universities, academies, colleges, seminaries, conservatories, and institutes of technology. It is also provided by certain postsecondary institutions that grant degrees, such as vocational

schools, universities of applied sciences, trade schools, and other career-oriented colleges. These institutions deliver a wide range of academic and professional programmes designed to equip students with the knowledge and skills necessary for advanced careers and specialised fields[2]. Tertiary education in Nigeria is comprised of universities (both public and private), polytechnics, monotechnics, and educational colleges. The government controls the majority of university education[3].

Yaba Higher College, founded in 1932, was Nigeria's first higher education institution. In response to calls for expanded tertiary education, the Asquith and Elliot Commissions recommended the establishment of more institutions, leading to the founding of University College Ibadan in 1948, affiliated with the University of London. Until 1960, it was the only university in Nigeria. In 1959, the Nigerian government set up the Ashby Commission to assess higher education needs for the post-independence era. Before the commission's report was released in 1960, the University of Nigeria, Nsukka, had already been established. The Commission recommended creating more universities, including in the Northern Region and Lagos, expanding University College Ibadan, and establishing a National Universities Commission. Following these recommendations, University of Nigeria, Nsukka (1960), Obafemi Awolowo University (1961), Ahmadu Bello University and University of Lagos (1962), University of Ibadan gained full status (1962), University of Benin was created in 1970. These six are known as Nigeria's first-generation federal universities [4, 5,6].

Furthermore, seven additional universities were established between 1975 and 1977 to align with the then-existing 19 state structure. These included: the University of Calabar (1975), University of Ilorin (1976), University of Jos (1975), University of Sokoto (1977),

University of Port Harcourt (1977), and Bayero University, Kano (1977), collectively referred to as second-generation universities. Following the enactment of Decree 46 in 1977, which empowered the Federal Government to assume control of all universities in Nigeria; these institutions were designated as federal universities. The 1979 Constitution transitioned university education from the exclusive legislative list to the concurrent legislative list, thereby permitting state governments to establish their own state-owned universities, should they choose to do so.

Between 1979 and 1983, several universities were established under this provision. Notable among them areBendel State University (now Ambrose Alli University), Ekpoma, Anambra State University of Technology, Enugu, Imo State University, Owerri, Ogun State University, Ago-Iwoye, Ondo State University, Ado-Ekiti, Rivers State University of Science and Technology, Port Harcourt, Cross River State University, Uyo, Lagos State University, Ijanikin.

Presently, Nigeria has a total of 170 universities. As of 2023, this comprised 79 private universities, 43 federal universities, and 48 state universities. In addition, Nigeria has 159 polytechnics that offer National Diploma (ND) and Higher National Diploma (HND) programs across diverse academic disciplines. These polytechnics are categorized into three types: federal polytechnics, state polytechnics, and private polytechnics[7, 8, 9].

Institutional Structure of a University

The Visitor: A university visitor is a high-ranking official, often a head of state, governor, or chancellor, who holds oversight powers over a university, particularly in Commonwealth countries like Nigeria[10]. In Nigeria, the President is the Visitor to all federal universities, while state governors serve as Visitors to state-owned universities. The Visitor's roles include

oversight and governance, conflict resolution, appointment and approval of key officials, and ceremonial functions, such as attending or presider over important events like convocations or inaugurations. They are often the final arbiter in disputes involving the university's governing council, management, or academic community[11].

The Chancellor: The Chancellor of a university is the ceremonial head of the institution, primarily responsible for presiding over convocation ceremonies, conferring degrees, diplomas, and academic honors, and representing the university at formal events. They serve as a symbol of unity and prestige, enhancing the university's image and reputation. The Chancellor is often a respected national figure or statesman. However, they do not participate in daily management or academic decisions, as these responsibilities are handled by the Vice-Chancellor, the university's chief executive officer.

The Pro-Chancellor: A Pro-Chancellor is a high-ranking official who serves as the Chairman of the University Governing Council, focusing on strategic and governance-focused decision-making and institutional oversight. They lead meetings of the Governing Council, oversee financial management, strategic planning, and infrastructural development, and ensure the university operates in line with its mission, vision, laws, and regulations. They work closely with the Vice-Chancellor and university management to guide policy direction and institutional goals. They often chair committees responsible for appointing the Vice-Chancellor and other principal officers, and provide final council-level approval for high-level academic and administrative matters. They may also act as a liaison between the university and external stakeholders.

The Vice-Chancellor: The Vice-Chancellor (VC) is the chief executive and academic officer of a university, responsible for day-to-day management, academic leadership, and

strategic implementation of policies approved by the Governing Council. Their responsibilities include overseeing daily operations, implementing decisions from the Governing Council and Senate, supervising academic, administrative, and financial activities, ensuring academic standards and excellence, leading curriculum development, research advancement, and quality assurance processes, and leading the University Senate, the highest academic decision-making body. They also develop and execute long-term strategic goals, coordinate efforts to attract funding, partnerships, and external support, and represent the university in national and international forums. In Nigeria, the VC is usually appointed by the Governing Council, subject to the approval of the Visitor, and their tenure is typically five years (non-renewable) in federal universities[12].

The Registrar: The Registrar is the chief administrative officer and custodian of records in a university, responsible for day-to-day administration of non-academic services. They oversee administrative functions under the Vice-Chancellor and coordinate activities such as admissions, student records, and exams. They serve as Secretary to Governing Bodies, preparing agendas and keeping minutes. The Registrar maintains official university documents, including student academic records, staff records, and institutional correspondence. They manage non-teaching staff appointments, promotions, and general welfare in collaboration with relevant committees. They ensure university policies are well documented, communicated, and executed within administrative departments. They coordinate admissions and examinations, supervising processes for student admissions, registration, matriculation, and graduation, and ensuring compliance with academic regulations and standards. In Nigeria, the Registrar is appointed by the Governing Council and is typically tenured (5 years, renewable based on performance) [13].

The Bursar: A University Bursar is a senior administrative officer responsible for managing a university's financial affairs, ensuring stability, transparency, and accountability. The bursar oversees annual budgets, resource allocation, and financial forecasts. The bursar manages revenue, including tuition fees, grants, and endowments, and oversee billing and collection. The bursar oversees expenditure oversight, maintain accurate financial records, and ensure compliance with financial policies. The bursar also manages investments, fixed assets, procurement, and contracts. The bursar prepares periodic financial statements and reports for stakeholders and advises the university governing council on fiscal matters.

The University Librarian: The University Librarian is the head of the university's library system, responsible for managing all library services, resources, and operations. They oversee the selection, acquisition, cataloguing, classification, and circulation of print and electronic materials, ensuring access to current academic resources for students, staff, and researchers. They also implement modern library practices and integrated systems, enhancing user experience through training sessions and user education programs. They also supervise library staff, coordinate departmental functions, and manage the library budget. They collaborate with academic departments to support curriculum and research needs, play an advisory role in research data management, and advise university management on information services and library development. They also develop and enforce policies related to library use, resource access, and intellectual property. In Nigeria, the University Librarian is appointed by the Governing Council on the recommendation of the Vice-Chancellor and typically holds a Ph.D. in Library and Information Science.

The Provost, College of Medical/ Health Sciences: The Provost of the College of Medical or Health Sciences is the chief academic and administrative officer responsible for

overseeing all academic, clinical, research, and administrative activities within the college. They ensure the college aligns with the university's mission, goals, and standards, and promote interdisciplinary teaching and research. The Provost oversees academic programs, ensures quality assurance, curriculum development, and accreditation compliance, and promotes interdisciplinary teaching and research. They also manage the college's budget, staffing, facilities, and resource allocation. The Provost supports medical and health-related research and facilitates access to grants, collaborations, and scholarly publications. They also ensure training aligns with professional councils and coordinate clinical training in affiliated teaching hospitals or health institutions. The Provost oversees student affairs and professional conduct, ensuring their welfare, discipline, and professional development meet national and global standards. They participate in university-wide planning and formulate and implement policies specific to the College of Medical/Health Sciences. The Provost is appointed by the University Governing Council based on recommendations from the Vice-Chancellor and Senate, and their tenure is typically five years, renewable based on performance.

The Deans of Faculties: Deans of Faculties are senior academic and administrative leaders within a university, responsible for overseeing the functioning of a specific faculty. Their roles include academic leadership, administration and management, student affairs, policy implementation, staff development and evaluation, research and innovation, and external relations. Deans provide strategic direction for the faculty's programs, ensure quality teaching, research, and community engagement, and promote curriculum development and innovation. Deans also manage faculty staff, coordinate departmental activities, and oversee resource allocation and budgeting. Deans also address student academic concerns and disciplinary matters, enforce university policies, facilitate staff recruitment, promotion, and training, and

promote research and innovation. Deans also represent the faculty in external engagements and partnerships.

The Heads of Departments/Units: The Head of Department (HOD) is the academic and administrative leader of a specific department within a university's faculty or directorate. They are responsible for managing departmental affairs, ensuring academic quality, and fostering a conducive environment for teaching, research, and learning. HODs provide direction for curriculum development, coordinate examinations, grading, and assessments, supervise academic and non-academic staff, and organize departmental meetings. They also advise and guide students on academic matters, oversee student registration, course allocation, and project supervision, and enforce academic policies and disciplinary actions when needed. They also manage budgets and resources, promote research and innovation, and coordinate departmental seminars, workshops, and conferences. HODs also serve as liaisons between the department and external bodies, such as professional organisations or accrediting agencies.

Institutional Structure of a Polytechnic

A polytechnic is a tertiary institution that focuses on technical, vocational, and professional education, offering National Diploma (ND) and Higher National Diploma (HND) programs. Its institutional structure is designed to support practical learning, applied research, and workforce development. Key components of a polytechnic's structure include the Governing Council, which provides oversight, approves budgets, and determines institutional policies, and the Rector, who leads administration, academics, and institutional development. Deputy Rectors assist the Rector in executing academic and administrative duties, while the Registrar is responsible for records, admissions, council secretariat, and personnel management. The

Bursar is the chief financial officer, managing the polytechnic's budget, finance, and accounts. The Polytechnic Librarian leads the institution's library services, overseeing acquisition, cataloguing, and dissemination of academic resources. The Academic Board, the highest academic authority in the polytechnic, includes Deans, Heads of Departments (HODs), Professors, and senior academic staff. Schools are grouped into faculties, each headed by a Dean, and each contains Departments focusing on specific academic disciplines. Directorates and Units support services and specialized functions such as academic planning, quality assurance, research and development, entrepreneurial development, ICT Unit, student affairs, works and maintenance, medical services, and security services. The polytechnic's structure is designed to support practical-oriented learning, applied research, and workforce development[14].

Roles of Higher Education: Roles of higher education include the following;

I. **Development of Human Resources Necessary for Economic and Social Development:** Higher education is crucial for a nation's progress by providing advanced knowledge and skills in key sectors like healthcare, engineering, education, business, agriculture, and information technology. It also trains and produces highly qualified professionals, such as doctors, engineers, teachers, scientists, and administrators, who contribute to public and private sectors' development. Furthermore, higher education enhances productivity and innovation by boosting workforce efficiency, stimulating innovation, and supporting the adoption of new technologies, thereby accelerating economic growth and improving societal well-being.

II. **Creation and Diffusion of Knowledge:** Higher education is expected to play a significant role in the development and transmission of knowledge in a knowledge society[15].

The ability to use information and technical abilities, in particular, is critical to economic progress. Thus, higher education must not only teach new technology, but also educate people resources capable of assessing the need for these innovations and implementing them. With the rise of a knowledge society, there is a greater awareness that higher education is no more a luxury item but is essential to a nation's social and economic success. Higher education must be reconceived as a communal intellectual asset. Higher education, as a shared intellectual asset, must be connected to society and actively respond to its needs. To make it possible, higher education must first and foremost focus on the development and dissemination of technology that is closely related to the demands of society. Furthermore, in order to respond to changing needs, instructional material and service delivery methods must be expanded. One example is the implementation of distance education, which can go hand in hand with the advancement of information technology. On the one hand, the information and technology that civilization requires is immensely diverse. At the same time, the rate of technical innovation has increased, and the utility of specific knowledge and technology has shortened. As a result, a system for continually acquiring and selecting among information and technology, renewing it, and expanding chances for lifelong learning is required.

III. **Development of a Healthy Civil Society and Cultivating Social Cohesion:** Higher education is also expected to play a role in social system change and social cohesion[16]. This can be accomplished by producing the common asset of new knowledge, as well as spreading democratic principles and respect for multiculturalism, encouraging political engagement, developing civil society, and promoting democratic governance.

IV. **Means of Self-realization:** Higher education is a tool for a country to develop the human resources required for economic progress. It is also a means for individuals to reach

self-realization[17]. People can increase their income and quality of life by expanding their knowledge or skills and then expanding on their own choices in life, particularly those linked to work life. Furthermore, to react to unique learning demands, lifelong education, which constantly renews individual knowledge and abilities, must be guaranteed throughout the lifespan. As a result, just as basic education should be guaranteed for all, possibilities for higher education should be guaranteed equally, based on individuals' desires and skills.

Current Situation and Issues in Higher Education: In addition to the need to expand higher education possibilities, with the current shift in quality requirements, higher education in developing nations is confronted with the following issues:

I. **Enrolment Expansion and Gaps between Groups:** The number of higher education enrollees increased from 12,000,000 in 1960 to 88,000,000 in 1997[18]. The pace of increase in developing countries is substantially greater than in wealthy ones, with Africa experiencing a 24 fold increase, Latin America experiencing a 16 fold increase, and Asia and the Pacific experiencing an 11-fold increase. However, this did not necessarily narrow the disparities between regions, between men and women, or between ethnic groups. Many regions have witnessed improvements in the male-female disparity, but West African countries stand out for their persistent imbalance.

II. **Limited Financial Resources:** Even as the demand for higher education grows, higher education institutions are constantly constrained by limited funds[19].

III. **Declining Quality:** In many poor nations, increased access to higher education results in lower quality[20]. To ensure excellent education while meeting rising demand, numerous factors must be improved, including teachers, students, facilities, equipment, educational materials and techniques, and financing. The quality of professors is very

important in boosting the quality of higher education; thus, increasing the number of students who complete graduate school is an urgent goal. Furthermore, as higher education rapidly develops, the distance between different higher education institutions deepens. In many countries, the inferior quality of private universities compared to national public institutions has been highlighted, and there is a need to develop a system that will ensure the quality of education and research.

IV. **Diversified Needs:** Higher education is crucial for a nation's progress by providing advanced knowledge and skills in key sectors like healthcare, engineering, education, business, agriculture, and information technology. It also trains and produces highly qualified professionals, such as doctors, engineers, teachers, scientists, and administrators, who contribute to public and private sectors' development. Furthermore, higher education enhances productivity and innovation by boosting workforce efficiency, stimulating innovation, and supporting the adoption of new technologies, thereby accelerating economic growth and improving societal well-being[21].

2.1.2 Performance of Higher Education Institutions in Nigeria

An institution is a purposely coordinated social unit made up of people who regularly work together to achieve common aims. Institutions include educational institutions, healthcare facilities, churches, manufacturing and service enterprises, retail businesses, police departments, military units, volunteer organisations, start-ups, and municipal, provincial, and federal government organisations. Institutional performance is defined as an institution's actual output or achievements as compared with its expected objectives[22]. Institutional performance is also defined as the institution's success or fulfilment at the end of a programme or project as anticipated. Institutional performance demonstrates an institution's

capacity to satisfy the desires of its shareholders while still being competitive in the market. Thus, institutional performance is defined as the institution's capacity to achieve its objectives[23]. Institutional performance is all about evaluating work quality, staff efficiency, product and process improvement, leader-member relationships, creativity, issue solving, and the development of new methods and approaches. The aims and objectives of an institution are used to evaluate its performance. Higher Education Institutions' institutional success can be measured using a variety of metrics, including responsiveness, student satisfaction, graduate production, curriculum development, scholarly publications and citations, and research ranking[24]. Institutional performance in today's workforce can be defined as an organisation's capacity to meet goals in an environment of rapid change. Institutional performance includes three types of company outcomes: (a) financial performance (profits, return on assets, return on investment); (b) product market performance (sales, market share, and); and (c) shareholder return (total shareholder return, economic value contributed).

Profits: Profit represents the surplus generated when an economic organisation's income from its products or services exceeds the total expenses associated with its resources. It is calculated as the total income less total expenses, encompassing both direct (explicit) and indirect (implicit) costs. In some contexts, profit is defined strictly as total income minus only the direct expenses of the firm. Profitability denotes the extent to which a business achieves financial gain. It reflects the outcome of multiple strategies and operational efforts. Profitability illustrates an organisation's capability to earn income that surpasses the expenses involved in generating that income. Therefore, profitability signifies a company's capacity to generate earnings as a result of strategic decisions and managerial practices.

Evaluating a firm's profitability involves the use of profitability ratios, which measure how effectively management utilises resources, as indicated by returns from sales and investments.

Return on Assets: Return on assets (ROA) measures a company's profitability relative to its overall assets[25]. It provides insight into how effectively the management is utilising the company's assets to produce income. Typically, a higher ROA signifies better managerial efficiency and optimal use of assets, while a lower ROA suggests poor asset Utilisation. Companies can enhance their ROA by either improving profit margins or increasing asset turnover; however, achieving both simultaneously is often limited by competitive pressures and the inherent trade-off between turnover and margin. ROA is calculated using the formula: ROA = Net Profit after Tax / Total Assets.

Return on Investment: Return on investment (ROI) or return on costs (ROC) is a ratio of net income (over time) to investment (costs arising from a one-time investment of some resources) [26]. A high Return on Investment (ROI) signifies that the gains derived from the investment surpass the associated expenses. ROI serves as a performance indicator used to evaluate the effectiveness of an investment or to compare the performance of multiple investment options. It is a method of linking returns to the capital allocated from an economic perspective. The ROI metric helps in determining the viability of an investment by calculating the rate of return on funds committed to a business venture over a specific period. Additionally, it can be employed to assess and compare various assets within an investment portfolio. Although investments with the highest ROI are typically given priority, it is also important to consider the distribution of ROI throughout the investment's duration.

Sales: Sales refer to the activities involved in the exchange of goods or the volume of products transacted within a specific time frame. A sale also encompasses the provision of a

service in return for payment. Additionally, the term 'sale' can describe a promotional period during which products are offered at reduced prices. A sale is finalized when the seller, or the supplier of goods or services, engages with a buyer either at the point of transaction or in response to a customer's order request. Product Performance evaluates product sales based on revenue performance, informing the sales staff about which products are selling well. Simultaneously, the poorest performing goods decide which products do not appeal to your customers.

Market Share: Market share reflects a company's prominence and competitive strength within a particular sector by indicating its relative size. It is typically determined over time as the proportion of a company's sales in relation to the total sales within its specific industry. A company's market share can significantly influence various aspects of its operations, such as stock performance, growth potential, and the pricing strategies it can adopt for its goods or services. In essence, market share serves as a key metric of a firm's market competitiveness. An increase in market share generally leads to enhanced profitability[27, 28]. Market Share = Company's Total Sales / Overall Industry Sale.

Total Shareholder Return: Total Shareholder Return (TSR), also known as total return, is a metric used to evaluate how the stocks or shares of various companies have performed over a period of time[29]. It combines both the increase in share value and dividend payouts to compute the overall return to shareholders as an annualized percentage. TSR is calculated based on the capital gain from acquiring a company's stock, under the assumption that all dividends are reinvested upon receipt. This return is typically represented as a percentage using the compound annual growth rate (CAGR). The primary benefit of TSR is that it enables comparisons between different stocks, even when one offers high capital

appreciation with low dividends, while another offers low growth but high dividend yields. However, calculating TSR in practice can be complex, as it requires accurate knowledge of the stock price at each dividend payment date.

Institutional performance is a subjective interpretation of reality, which accounts for the diverse perspectives and critical viewpoints regarding the concept and the tools used to measure it. Given its subjective nature, the idea of institutional performance now encompasses a variety of interpretations. As a result, the notion of institutional performance has grown in popularity in the past few decades, with applications in almost every aspect of human activity. Institutional performance consists of various components and concepts. They include the following:

Productivity: Institutional productivity is an organisation's ability to deliver desired results with the least amount of resources (time, money, and human resources).Productivity is the rate at which an institution or its employees transform inputs such as labor and capital into outputs such as goods or services[30]. Productivity is an economic metric that assesses the amount of output generated per unit of input. Inputs typically include labour and capital, while output is often evaluated in terms of revenue and other elements like corporate equity. Productivity statistics can be analyzed broadly across the entire economy or within specific sectors to examine trends in workforce expansion, compensation levels, and technological progress. Productivity reflects an organisation's capacity to utilize its available resources efficiently to deliver valuable goods or services in response to consumer or client demand. Productivity is what determines an institution's performance, and it may also be used by enterprises to evaluate their own progress. Productivity increases an institution's efficiency

in general. When an institution's efficiency improves, its output capacity is maximised. As a result, every resource is used effectively and efficiently to achieve the best possible results.

Effectiveness: Institutional effectiveness refers to how well a firm or institution can accomplish its aims and objectives[23]. It also includes how successfully an institution can meet the expectations of its constituents. These encompass talent management, leadership development, organisational design and framework, performance measurement and scorecard formulation, execution of change and transformation initiatives, adoption of intelligent processes and advanced technologies for managing the organisation's workforce, and the formulation of a broader Human Resources strategy. Because institutional efficiency translates across a wide range of institutional functions, numerous models have been created to achieve adaptability among institutions with varying roles and aims.

1. The Goal-Attainment Approach measures institutional effectiveness by assessing how well a company achieves its goals[31]. This model is extensive in scope, requiring a quantitative analysis of a company's profit and productivity maximisation, benefit to shareholders, and environmental and social effect. This approach is based on the notion that institutions are rational, purposeful, and goal-driven, and that the end result is more important than the means of achieving institutional performance.

2. The Systems Resource Approach sees the institution as a network of interconnected subsystems that work together to achieve the desired objectives[32]. As a result, if any subsystem performs badly in its job, the overall performance of the system suffers. Through this method, institutional effectiveness is assessed based on the organisation’s environmental resources, the interconnectedness of its internal units, its adaptability to shifts in the marketplace, and its operational efficiency in producing outcomes.

3. The Strategic Constituencies Approach asserts that institutional effectiveness is determined by an organisation's capacity to meet the expectations of its key stakeholders or constituents whose ongoing support is essential for the institution's survival. This framework views the institution as a collection of competing interest groups, each with a stake in controlling limited resources[33]. To sustain its existence, the organisation must address the needs and priorities of these strategic groups. Effectiveness, therefore, is achieved by fulfilling the demands of the most critical constituencies. Additionally, this model considers shifts in the external environment, emphasising that institutions must strategically identify and prioritise the constituencies most vital to their continued operation.

Quality: Institutional quality is defined as a method of connecting the cognitive and sensory behaviour of the firm and its students, allowing the firm to launch continual performance improvements through employee unanimity of commitment and shared expectations with customers. Quality is an essential component of institutional performance, especially in businesses where customer or stakeholder satisfaction is critical[34]. Customer satisfaction, brand reputation, and long-term success are all influenced by high-quality products or services. Institutions that consistently provide high-quality services are thought to be operating effectively. The quality of service has a substantial impact on the institution's performance. Customer happiness is influenced by service quality, which is an input variable[35].

Goal Attainment: Institutional goals are strategic targets set by an organisation's leadership to outline anticipated results and guide employee actions[36]. Establishing such goals offers several benefits: they align workforce efforts, validate the organisation's purpose and activities, establish benchmarks for evaluating performance, discourage the pursuit of non-

essential objectives, and act as motivational drivers for desired behaviour. The institution's goals help employees think in the proper direction and create performance requirements. The extent to which an institution achieves its declared aims and objectives is frequently used to evaluate institutional performance36. Financial targets, market share, client satisfaction, staff involvement, and other vital measures can all be included in these objectives.

Efficiency: Efficiency is defined as the ratio of input to output[37]. Efficiency is also defined as the relationship between inputs and outputs that represents the most optimal result a firm can achieve within its sector. To fully grasp the idea of institutional efficiency, one must first understand the broader concept of efficiency. Efficiency is commonly understood to have three key dimensions: productive, allocative, and dynamic efficiency. Productive efficiency refers to producing goods and services at the minimum possible cost. It encompasses technical efficiency, which relates to the extent to which inputs can be reduced without lowering output or increasing the use of other inputs[38]. Allocative efficiency focuses on maximising the benefits (or returns) the community gains from its scarce resources. Dynamic efficiency involves the distribution of resources over time, including efforts aimed at enhancing economic efficiency and generating additional resources[38]. Broadly speaking, efficiency also applies to how effectively institution functions, which gives rise to the concept of institutional efficiency. Institutional effectiveness, in turn, refers to the extent to which institutions succeed in fulfilling their stated objective. Firm efficiency is defined as an institution's success in creating as much output as possible from a given set of inputs. An institution's efficiency is a mix of its perspective, output, and input. Institutional efficiency is described as an institution's ability to carry out its plans with the fewest number of assets. The simplicity and degree of success with which the institution can achieve its objectives is

an important factor in the firm's institutional effectiveness. Institutional efficiency is essentially about finding ways to be more effective while using fewer resources, including a smaller amount of money and time, to achieve the same goal. Institutional efficiency is measured in terms of time, effort, and outcomes. Institutional efficiency is focused on minimizing waste, reducing costs, and optimising processes[39].

Innovation: Innovation refers to the process of transforming original ideas into practical products or efficient work practices[40]. It can also be described as the capability to integrate multiple forms of knowledge. Innovation involves the creation and successful implementation of technical, organisational, commercial, or social solutions to problems that are regarded as novel and groundbreaking, accepted by relevant users, and pursued by innovators with the expectation of positive outcomes. Within institutions, innovation remains a critical priority. It plays a vital role in driving economic growth and enhancing the competitiveness of both organisations and nations. As a strategic advantage and a core value capability, innovation is essential for boosting institutional productivity, capitalising on emerging opportunities, and achieving a competitive edge. In this regard, innovation is broadly interpreted to encompass new organisational frameworks, advanced process technologies, novel products or services, and updated strategies or plans for workforce development. Innovation is commonly categorised into four types: market, organisational, process, and product innovation. Organisational (institutional) innovation refers to the generation or integration of new concepts or practices within an institution. These innovations often enhance institutional performance by reducing transaction and administrative costs, improving staff morale, accessing intangible assets, or minimising supplier-related expenses[41, 42]. They involve modifications to organisational structures and

management processes associated with core institutional functions, ultimately contributing to the development of new offerings and procedures.

Employee Satisfaction and Engagement: Job satisfaction refers to an individual's general emotional response either favourable or unfavourable toward their occupation[43]. It represents how one feels about various aspects of their job and serves as an emotional or psychological reaction to the work environment, job duties, relationships with colleagues, and the role itself. A person with high job satisfaction typically holds positive views about their work, whereas someone with low job satisfaction often harbours negative feelings. Job satisfaction is shaped by how well individuals perceive their job meets their personal needs and expectations. It can also be described as the emotional alignment produced when an individual feels their work-related needs are adequately fulfilled. This sentiment is influenced by both internal (intrinsic) and external (extrinsic) factors[44].Intrinsic factors such as engaging tasks, recognition, and responsibility are related to internal motivation and reflect the personal gratification derived from performing meaningful work. These are often described as internal sources of job satisfaction. Extrinsic factors, on the other hand such as salary, workplace policies, physical working conditions, and institutional regulations are external incentives provided by the organisation and represent external sources of satisfaction. Virtually any job-related element can influence how content or discontent an individual feels in their role. Job satisfaction is vital because it leads to a number of positive organisational and individual outcomes. Satisfied employees tend to exhibit high morale. In contrast, dissatisfaction often results in verbal or behavioural expressions of frustration, which can negatively impact team spirit and significantly reduce productivity. An unmotivated and discontented employee poses a serious threat to the overall health and performance of any organisation. On the other hand, job

satisfaction strengthens employee commitment. Satisfied employees are more likely to remain loyal and contribute fully to the success of their employer, while dissatisfied employees are more prone to seek alternative employment. Furthermore, job satisfaction enhances motivation levels, improves work quality, and boosts productivity. Employees who are happy in their roles tend to be more enthusiastic, receptive to new ideas, and innovative in their approach traits that support an institution's competitive edge in the marketplace. Additionally, job satisfaction serves as a powerful tool for attracting skilled professionals. When current employees express positive sentiments about their workplace, it encourages high-caliber talent within their networks to view the institution as a desirable place to work. This word-of-mouth endorsement helps organisations attract qualified and competent candidates. Finally, job satisfaction fosters constructive employee attitudes and is associated with lower rates of absenteeism and staff turnover.

Engagement has been interpreted in numerous ways. Employee engagement refers to an emotional bond with the organisation that shapes an individual's level of involvement and dedication, influencing the likelihood of employees displaying stronger loyalty. It is defined as the extent of commitment, enthusiasm, involvement, and sense of connection an individual has toward their job. Factors such as leadership approach, workplace culture, and personal characteristics all influence engagement[45].The concept of engagement includes a broad range of work-related attitudes, satisfaction levels, and organisational behaviours such as leadership effectiveness and employee voice. An engaged employee is one who is deeply committed to and passionate about their role, acting in ways that contribute positively to the organisation. Employee involvement plays a crucial role in enhancing institutional competitiveness[46].Engagement is also essential for achieving key performance metrics (KPIs),

particularly in areas such as productivity, quality, and workplace safety. Employee involvement can be examined from three dimensions: cognitive, emotional, and behavioural. The cognitive dimension relates to how employees perceive and evaluate the organisation, its leadership, and working environment. The emotional aspect reflects the employee's positive or negative feelings toward the institution and its leaders, and it is often influenced by their cognitive evaluations. The behavioural dimension of engagement motivates employees to apply discretionary effort in their roles, generating added value for the organisation.

Financial Performance: Financial performance refers to an organisation's financial performance over a certain time period, as measured by liquidity, capital sufficiency, financial stability, efficiency, leveraging, and profitability[47]. Financial performance assesses an organisation's financial health by looking at revenue, assets, equity, liabilities, expenses, and profitability. Financial performance is the organisation's ability to manage and control its resources. It is a thorough examination of the organisation's financial statements. Financial performance reflects an organisation's ability to manage its money. Based on the study, businesses plan to improve their capital structure, raise their revenue, improve their cash flow, and cut their expenses. Strong financial performance indicates the institutions ability to generate value and sustain its operations.

Customer Satisfaction: Customer satisfaction refers to the pleasure a customer experiences when comparing a product's perceived performance or outcomes to their expectations[48]. If the performance falls below expectations, the student becomes dissatisfied. If it aligns with expectations, the student feels content. Conversely, if the performance surpasses expectations, the student experiences high satisfaction or even delight. Customer satisfaction is crucial for any organisation, as highly satisfied customers are more likely to

remain loyal over time. They tend to purchase more when new or improved products are introduced, speak favourably about the company and its offerings (positive word-of-mouth), show less interest in rival brands, are less affected by price changes, provide feedback or ideas for product development, and, most notably, are less costly to retain. Customer satisfaction is typically evaluated using indicators such as service convenience, customer support quality, transaction channels (including digital or modern banking solutions), pricing structures, and the quality of products or financial services. Additional metrics include quicker service at physical branches, reliable product performance, adoption of e-banking, effective branch operations, and a well-functioning ATM network. Among the various factors used to gauge customer satisfaction, timely service delivery, fulfillment of expectations, and easy access to bank locations stand out. Satisfaction is also measured through tools like customer surveys, feedback mechanisms, and repeat patronage. Customer satisfaction has long been recognised as a key determinant of the effectiveness of marketing efforts and overall institutional success[48]. Unsurprisingly, organisations have invested heavily in enhancing customer experiences through improved service mechanisms, which has led to higher costs associated with customer care driven by the perceived link between customer satisfaction and organisational performance.

Social and Environmental Responsibility: An institution's performance is also determined by how it interacts with the environment in which it operates, as well as its main groups: customers, suppliers, and the community, among others who may impact its actions. A strong customer relationship can offer value to an institution. Socio-environmental responsibility is to the company's position in respect to the environment in which it operates, including the impact it has on the community in which it is located. Sustainable practices

assist the company in meeting its environmental commitments while also strengthening the image it conveys to its stakeholders. Socio-environmental responsibility is more than just a collection of voluntary actions aimed at achieving social and environmental benefits. It is the adoption of methods that benefit the environment and society in which it is placed, such as community-based projects, trash reduction campaigns, and the reuse of natural resources. Institutions with responsible conduct generate satisfaction to the society that compensates them with good relationships and loyalty[49].

2.1.3 Concept of Strategic Management

Strategic management has evolved to become a crucial tool for enabling institutions to function effectively within an ever-changing and complex environment[50]. Also referred to as institutional management, it involves the formulation, execution, and evaluation of cross-departmental decisions designed to help an organisation achieve its long-term objectives[51]. This process includes defining the institution's mission, vision, and strategic goals; creating guiding policies and plans often implemented through specific projects and programs to accomplish these aims; and allocating resources to ensure successful execution[52]. Strategic management encompasses the development and implementation of key goals and initiatives by institutional leaders on behalf of stakeholders. It requires careful consideration of available resources and a thorough evaluation of both internal conditions and external factors influencing the organisation. This approach provides a comprehensive direction for the organisation by setting clear objectives, crafting strategies and plans to achieve them, and distributing resources accordingly to bring those strategies to life. It represents a collection of managerial decisions and actions that shape the organisation's long-term performance[53]. The strategic management process involves analysing the external environment, formulating

appropriate strategies, implementing chosen approaches, and continuously monitoring and assessing outcomes. It is a structured decision-making process that produces effective strategies to help institutions fulfil their objectives. Focusing on long-term planning, strategic management lays the groundwork for operational effectiveness. It is a systematic approach to a critical and evolving responsibility of general management positioning the institution within its environment in a way that secures sustainable success and mitigates potential disruptions. Strategic management includes the identification and development of strategies and the planning of their execution through strategic analysis, strategic choice, and strategic implementation. It functions as the link between an organisation's internal strengths and weaknesses and the opportunities and threats present in its external environment**.**

Strategic Management Components

There are several components to strategic management. These segments are known as strategically important parts or elements. These components are outlined as follows:

Company Mission: An organisation's objective is its primary, defining purpose that sets it apart from similar enterprises and outlines the extent of its activities in both brand identity and economic scope. The mission statement also clarifies what the organisation chooses not to engage in. It is a comprehensive declaration of the organisation's aspirations, capturing top leadership's vision for the future, what they hope the institution will become or accomplish. This mission serves as the foundational reason for the organisation's existence and conveys the image it wishes to portray. It reflects the organisation's self-identity and highlights the main product or service it intends to provide to meet specific needs. The mission statement communicates the organisation's ambitions, principles, functions, direction for growth, survival strategy, and goals for profitability. In essence, the mission outlines the company's

focus areas in terms of products, target markets, and technologies, aligning with the strategic priorities of decision-makers. It demonstrates the company's intent to sustain itself through continuous development and financial success. However, many organisations have mission statements that are vague, incomplete, or lack essential elements. Some treat the mission statement merely as a promotional message for external audiences rather than integrating it into their strategic management framework. For a mission statement to be effective, it must be clearly articulated, relevant, and capable of guiding decision-making by eliminating inconsistent or irrelevant actions**.**

Profile: An organisation's profile is the outcome of an internal evaluation that determines its operational capabilities based on available or attainable resources. This profile highlights the scope and quality of the company's financial, human, and physical assets. It also assesses the foundational strengths and limitations within the institution's management and structural framework. The profile compares the organisation's past accomplishments and the longstanding principles and priorities of its leadership with its present capacities, aiming to uncover its potential for future growth. A practical example is the organisation's level of commitment across various functional domains within the resource development framework. The company's investment in each functional area can be quantified to provide clearer insight into its relative and competitive advantages and disadvantages.

Vision: The vision of an organisation is related to its mission. This implies that vision is an alternate term for the success of the organisation mission.

Goals: A corporation's aim describes the desired future status of the company. An organisation's goals are determined in alignment with its declared mission. In strategic planning frameworks that differentiate between goals and objectives, goals are understood as

broad, enduring statements that represent the desired outcomes the organisation aims to achieve in support of its mission. A goal should clearly articulate what is to be accomplished and specify the timeframe for achieving those outcomes. Unlike objectives, goals do not detail the specific methods or actions needed to attain the desired results. Most institutions maintain multiple goals that exist within a complex, interconnected hierarchy. An organisation may also set a number of short- to medium-term targets that define its operational priorities. All strategic goals play a significant role in shaping the company's overall direction and effectiveness. Profitability, in particular, often stands out as the central objective for many business-oriented institutions, regardless of how it is measured or expressed. In essence, a goal is a precise declaration that quantifies the organisation's aspirations.

Objectives: The aims of the institution define the desired nature of the enterprise and the direction in which the institution wishes to move. Objectives are the ends or results that an institution seeks to achieve through its existence as well as its actions. Business institutions strive to achieve a variety of goals. To name a few, survival, expansion, profit continuity, low-cost production, high-quality products or services, on-time delivery, fulfilling deadlines, and customer and staff happiness are examples. At any given time, every company has more than one goal. As a result, the term objective denotes management's intention to pursue and complete its purpose. Typically, objectives and goals cover all aspects of an organisation's operations, such as sales growth, profitability, market share, productivity, manager performance, physical and financial resources, risk, public duty, innovation, and development.

Policies: Policies act as directives that guide decision-making and actions. They often outline how resources will be distributed and clarify how responsibilities assigned to the organisation can be fulfilled. Policies empower each operational area such as marketing, finance, production, and human resources to effectively implement the organisation's strategic direction. The policy element is considered a key component of the broader strategic framework. A well-developed policy should involve a comprehensive assessment of the organisation's structure, operational systems, and available resources to support the chosen strategic plan. Organisational policies establish the foundation for successfully carrying out any significant transformations. They should provide clear benchmarks or criteria for the anticipated outcomes of the strategy, making it easier to assess whether the policies have achieved their intended results. Policies serve as formal recommendations that define the boundaries within which actions should take place. Like strategic objectives, policies are arranged in a hierarchical structure across various levels of the organisation.

Strategy: A strategy is a blueprint that unifies an institution's primary objectives, actions, and procedural frameworks into a cohesive and achievable plan. A well-crafted strategy helps protect and channel the institution's resources into a unique and viable direction, leveraging its internal strengths and addressing its weaknesses, while also anticipating environmental shifts and strategic moves by capable competitors. Strategy outlines the broad course the institution chooses to follow in order to realize its objectives and fulfil its mission. It generally describes the approach or methods to be employed in achieving the desired outcomes. Strategic choices are often influenced by the institution's inherent characteristics such as its existing capacities, resource base, organisational structure, culture, and legacy. A strategy also illustrates the ways in which an institution might fall short of reaching its goals.

Consequently, all managerial decisions can be evaluated against the excluded or rejected strategies to assess their appropriateness. The strategic plan should clearly identify which opportunities are deemed most beneficial to pursue. It must be articulated in a way that enables the institution to optimise the use of its available resources while effectively addressing any constraints. There is no single best approach to formulating strategy, nor is there one ideal type of organisation.

2.1.4 Concept of Procurement Practices

Procurement refers to the process of obtaining goods and services that enable an organisation to manage its supply chains in a cost-effective and accountable manner[54]. The interpretation of procurement may vary across industries, depending on the specific functions and operations within each sector. Procurement involves identifying needs, negotiating terms, and acquiring products, services, or projects from external vendors typically through bidding or tendering process[55]. The term may also imply a contractual obligation to "secure" or "ensure" that a particular outcome is achieved. As an organisational procedure, procurement aims to secure the best possible value for goods, services, or projects by considering factors such as quality, quantity, timing, and location. It is a complex function that incorporates coordinated strategies to maximise purchasing efficiency while supplying the organisation with essential materials and services**.**

The History of Procurement: The origins of procurement can be traced back through history, beginning with the ancient Egyptians around 3,000 BC[56]. Although there was no formalised procurement role at the time, the management of materials played a crucial part in the construction of the pyramids. Egyptian scribes were responsible for overseeing supplies for these monumental projects. These clerks performed administrative tasks, such as

recording quantities of materials and labor on papyrus scrolls. These early recordkeepers are among the first known procurement practitioners, as they monitored supply requests from initiation to completion. Procurement did not gain widespread organisational recognition until the 19th century. One of the earliest references to the procurement function appears in Charles Babbage's 1832 publication On the Economy of Machinery and Manufactures, where he highlights the importance of a "materials man" in the mining sector, a person responsible for selecting, purchasing, and supervising essential goods and services. Babbage essentially made a case for a centralized purchasing authority. Procurement's role expanded significantly during the Industrial Revolution. Marshall Kirkman's 1887 book, The Handling of Railway Supplies – Their Purchase and Disposition, detailed the strategic importance of procurement in the railway industry, particularly in sourcing goods from established regions and distributing them to the South and West. In 1886, the Pennsylvania Railroad institutionalised procurement by creating a dedicated "Supplying Department." However, during the World Wars, procurement regressed to mostly clerical responsibilities, as scarcity redirected focus toward placing and expediting orders. Throughout the war years and the Great Depression, the priority was simply securing enough raw materials, services, and supplies to sustain economic activity. Procurement began regaining administrative significance in the mid-1960s, coinciding with the rise of materials management. Competitive bidding became a core procurement practice, with price emerging as the dominant selection criterion for most contracts. During this period, professionally trained personnel contributed to procurement regaining departmental recognition. By the 1980s, supplier competition intensified, prompting organisations to place greater emphasis on vendor reliability and product quality. Supplier relationship management became, and

remains, a key component of the procurement process. In the late 1990s, the focus shifted toward strategic sourcing characterised by long-term contracts and viewing suppliers as collaborative partners. This era marked the dawn of modern procurement. Today, procurement professionals are critical to institutional success. Their responsibilities span a wide range from drafting solicitations to evaluating bids, negotiating terms, and maintaining supplier relationships. Procurement now has a direct impact on an organisation's financial outcomes, ensuring representation at the executive level. The role of Chief Procurement Officer (CPO), which was virtually non-existent in the 1960s, is now integral to driving both strategic and operational performance. Procurement continues to evolve with advancements in technology. Digital procurement platforms like SourceSuite have enhanced the efficiency of strategic sourcing. Through e-procurement and vendor management solutions, institutions save time, allowing for greater focus on organisational goals and supplier collaboration. SourceSuite's cloud-based bid and supplier management system is adaptable to the purchasing needs of a wide range of institutions and currently supports over 900 procurement entities across the country, streamlining their sourcing processes**.** Despite its long history, procurement's function as a strategic part of the institutional structure remains comparatively recent. Many of the persons being honoured this month have been accountable for procurement's remarkable development over the last 30 years. In the coming years, the procurement function is likely to improve and expand its ability to have a direct impact on successful institutions.

Types of Procurement: There are different types of procurement.

Procurement can be classified as direct or indirect, depending on the objective of acquiring products and services[57].

Direct Procurement: Direct procurement, also known as direct expenditure or direct cost, refers to the acquisition of raw materials, commodities, and services that directly support the creation of the items or services produced by the purchasing company[57]. Direct procurement is defined as expenditures that generate income or are directly related to the product or service being sold. Direct procurement is the purchasing of materials that are utilised in the company's operations. For a home builder, this includes wood, nails, concrete, and other building materials. A retail store sells things, but a restaurant sells raw food products. Direct procurement is used by firms that offer tangible things to students or other enterprises to generate money. Businesses such as software services are exceptions since the ultimate result is intangible and no raw materials are utilised in production. Procurement strategies are usually focused on extracting the most value from direct materials, minimizing risk, and cultivating long-term partnerships with reliable suppliers. Efficient raw material sourcing is widely recognised as the key to increased profit margins and competitive advantage. Direct procurement affects the student experience and, by extension, the company reputation. It determines the finished product's quality and availability, as well as how students view the company. Rarely do brands outperform the quality of their raw materials and sourcing methods. Direct procurement is essential for retail and manufacturing institutions to create sales and profits. Direct procurement is tied to the attainment of institutional strategic objectives and is related to the fundamental function of the business unit. These purchases are typically conducted in big volumes from a pool of vendors at the highest feasible price, quality, and dependability. These purchases are made on a regular schedule and are necessary for basic business processes, such as a baker buying flour to produce bread. Companies are

unable to manufacture their products and make revenue if direct procurement fails or encounters difficulties.

Indirect Procurement: Indirect procurement (also known as indirect expenditure or indirect cost) is the procurement of services and items that contribute to operating, maintenance, and support costs. Indirect procurement refers to non-revenue-generating expenses or expenditures that are not directly related to the product or service being delivered[57]. Indirect cost includes supplies for maintenance, repair, and operation (MRO), capital equipment, and services.

Based on the type of products procurement is intended for, procurement can be divided into goods and service procurement:

Goods Procurement: Goods procurement is the acquisition of physical commodities. It involves both direct and indirect purchases.

Services Procurement: Service procurement is the acquisition of human-centered services. Individual contractors and on-site security staff are instances of services procurement, which can be done either directly or indirectly[58].

Procurement Cycle: Here are the key steps that form the base foundation of the procurement process. They include the following steps[59].

Step 1: understand need and develop a high-level specification: The initial phase of the procurement cycle involves identifying and clearly articulating the business need or opportunity. This stage includes collaboration with cross-functional stakeholders who offer diverse knowledge and skills to help develop a comprehensive set of requirements. Involving stakeholders early in the process enhances the chances of securing their support during the implementation of changes, particularly when their approval or cooperation is essential.

Step 2: Market commodity option: The next phase involves carrying out a market analysis to assess the available opportunities within the market. Evaluating current expenditures and the organisation's existing status will help in pinpointing potential vendors and industry rivals. This assessment will also support decision-making on whether to produce in-house, procure externally, or subcontract the goods or services.

Step 3: Develop strategy and plan: The strategy and planning phase takes into account the possible influence of external market conditions. In cases where broader competition exists, initiating a competitive bidding process can be highly effective. However, if the organisation relies on a sole supplier, it may be more advantageous to stimulate market competition or consider internalising the supply process.

Step 4: Pre-procurement market test and engagement: This phase involves identifying the needs of both stakeholders and the organisation. It evaluates how modifications to the procurement approach can effectively and adaptively meet those needs. It also takes into account other influencing factors such as seasonal agricultural patterns, competitor actions, suppliers' fiscal year-end, and newly introduced regulations.

Step 5: Develop documentation: It involves spending time creating tender documentation. It includes a full breakdown of the volumes, as well as any terms and conditions. Differentiate between essential product requirements and desired features within the specification. Develop a detailed and accurate specification to ensure cost-effectiveness, quality standards, and consistency in performance. This ensures that the products are suitable for their intended use, reducing the financial consequences of inaccurate or inappropriate specifications.

Step 6: Supplier selection to participate in tender: Evaluating the selection criteria will help decide whether potential vendors are eligible to take part in the bidding process and be issued

a request for quotation (RFQ). To gather additional details about suppliers, consider issuing a Request for Information (RFI). Reviewing these criteria ensures that only suitable suppliers are invited to engage in the procurement process.

Step 7: Issue tender documents: Once the vendors have been chosen, proper paperwork must be sent. Send a request for quotation and an invitation to tender. Include precise specifications and documentation based on business requirements. Specific timeframes for when they should answer should be mentioned.

Step 8: Bid and tender evaluation and validation: Once bids are submitted, they are reviewed and verified based on established evaluation criteria. Ensure that the assessment process is organised, consistent, and transparent. Post-bid negotiations are fairly typical. Take into account the full cost of ownership, including expenses related to removal and disposal.

Step 9: Contract award and implementation: A contract will be awarded once a supplier is chosen. This serves as the foundation for relationship management. Award criteria outline mutually accepted terms and conditions that help minimize risk and potential liabilities. Clearly defined timelines and responsibilities for both parties should be established and formally recorded to guide contract execution.

Step 10: Warehouse, logistics and receipts: Warehouse activities must be carried out seamlessly and effectively. These operations may involve: item labeling and categorisation, storage capacity, facility design and shelving systems, as well as the regularity of deliveries.

Step 11: Contract performance review and continuous improvement: At agreed-upon intervals, contract performance should be checked and assessed. In the contract, provide KPIs. Include discussions about how the relationship is going and how any disputes may be resolved. Plan strategies for ongoing improvement.

Step 12: Supplier relationship and contract management: Examine supplier portfolio to strengthen relationships and meet goals. SRM (Supplier connection Management) assists in the formation of the suitable connection and atmosphere in which to work on creative technologies. Having the correct relationship could mean the difference between being the first to market and maintaining supply continuity.

Step 13: Asset management: An evaluation should be conducted to determine if organisational needs have evolved and whether the existing contract remains suitable and effective. This leads back to the start of the procurement cycle, initiating the process anew.

The Role of Procurement Departments

The procurement department is an essential component of every institution, as it plays an important role in the purchasing process[60]. This department is in charge of selecting, acquiring, and paying for the items and services required to run a firm. To get the most out of any procurement team, all critical roles must be filled with skilled employees who understand both technology and supply chain management principles. The procurement department is an important part of any institution, performing a variety of responsibilities that support the institution's operations and goals. Among these functions are:

Managing the Procurement Process and Supply Base: The procurement unit plays a central role in overseeing and coordinating all activities related to purchasing within the organization. This responsibility goes beyond simply placing orders; it involves ensuring that the entire procurement cycle, ranging from identifying needs, sourcing suppliers, negotiating contracts, and issuing purchase orders to receiving goods and processing payments is executed effectively and in compliance with organizational policies. In addition, the unit manages the supply base by building and maintaining strong relationships with both existing

and potential suppliers. This involves evaluating supplier performance, ensuring adherence to quality standards, negotiating favorable terms, and fostering long-term partnerships that support the organization's strategic objectives. By maintaining alignment between suppliers and organizational goals, the procurement unit helps minimize risks, reduce costs, and ensure the timely availability of essential goods and services. Ultimately, effective management of the procurement process and supply base contributes to operational efficiency, enhances value for money, and supports the organization in achieving a sustainable competitive advantage.

Developing Strong Ties with Internal Stakeholders: The procurement unit does not operate in isolation; rather, its effectiveness depends largely on the quality of its collaboration with various departments across the organization. By working closely with internal stakeholders, the unit is able to better understand the specific needs, priorities, and challenges of different teams, ensuring that procurement decisions are aligned with overall organizational goals. This collaboration goes beyond merely fulfilling purchase requests. The procurement team provides expert guidance on sourcing strategies, cost-saving opportunities, supplier selection, and compliance with procurement policies. In doing so, they help internal stakeholders make informed choices that balance quality, cost, and timeliness. Furthermore, by building strong relationships and fostering open communication, the procurement unit establishes itself as a trusted partner rather than just a service provider. This partnership approach not only enhances efficiency and transparency in the procurement process but also promotes a culture of shared responsibility, where all departments actively contribute to the achievement of organizational objectives.

Effective ways to Support the Institution's Goals: The procurement unit plays a strategic role in advancing the broader objectives of the institution by ensuring that purchasing activities are not only operationally efficient but also aligned with long-term goals. One of the primary ways the team supports the organization is by continuously monitoring supplier trends and market dynamics. This enables them to anticipate changes in pricing, availability, or quality of materials and respond proactively, thereby reducing risks associated with supply chain disruptions. In addition, the unit is tasked with identifying essential materials and resources that are critical to the institution's smooth functioning. By doing so, they ensure that all departments have timely access to the inputs required to deliver services, conduct operations, or achieve academic and administrative objectives. The procurement team also formulates and implements effective sourcing strategies designed to enhance organizational competitiveness, whether by negotiating favorable contract terms, consolidating purchases to reduce costs, or seeking innovative suppliers who can deliver added value. Another vital contribution of the procurement function is its commitment to conducting thorough market research. Through supplier evaluation and benchmarking, the team is able to identify and select reliable vendors who can meet the institution's specific needs in terms of quality, timeliness, and affordability. By aligning procurement practices with institutional goals, the unit not only ensures cost-effectiveness but also contributes to sustainability, operational efficiency, and long-term institutional growth.

Risk Mitigation: To ensure successful outcomes, the procurement department places a strong emphasis on identifying, assessing, and mitigating potential risks that may arise during the procurement process. These risks can stem from various sources, such as supplier failure, fluctuations in market prices, delays in delivery, quality issues, or even geopolitical and

environmental factors that disrupt supply chains. Recognising these risks at an early stage allows the department to implement proactive measures that safeguard the organisation's operations. Mitigation strategies may include diversifying the supplier base to reduce overdependence on a single vendor, negotiating flexible contract terms, establishing clear quality assurance standards, and maintaining contingency plans to address unexpected disruptions. The department also monitors supplier performance regularly, ensuring that risks are detected early and corrective actions are taken promptly. By adopting a forward-looking approach to risk management, the procurement unit not only protects the organisation from financial losses and operational inefficiencies but also enhances its resilience and ability to adapt in a dynamic business environment. This commitment to risk mitigation ultimately contributes to the institution's stability, sustainability, and overall success.

Supplier Relationship Management: The procurement team plays a vital role in managing interactions with vendors, recognizing that strong supplier relationships are essential for the smooth functioning of the organization. Supplier relationship management goes beyond simply placing orders; it involves building and maintaining trust, ensuring alignment between the supplier's capabilities and the organization's requirements, and fostering collaboration for mutual benefit. Through regular communication and performance evaluations, the procurement team ensures that suppliers consistently meet agreed-upon standards in terms of quality, delivery timelines, and cost-effectiveness. This includes negotiating favorable terms, resolving disputes amicably, and encouraging suppliers to adopt innovative practices that add value to the organization. By cultivating long-term partnerships, the procurement unit also reduces risks associated with supply disruptions and gains greater leverage in securing reliable and competitive sources of goods and services. Moreover, effective supplier

relationship management contributes to operational efficiency by streamlining processes, minimizing delays, and ensuring continuity of supply. It also creates opportunities for strategic collaboration, such as joint problem-solving, sustainability initiatives, and exploring new market opportunities. Ultimately, by managing supplier relationships with professionalism and foresight, the procurement team strengthens the organization's supply chain, enhances productivity, and supports the achievement of institutional goals.

Contract Development: Contract development is a critical function of the procurement team, as it ensures that all transactions with supplier institutions are formalized, transparent, and tailored to meet the specific needs of the purchasing organization. The process begins with a careful assessment of the organization's requirements, after which the procurement team drafts contracts that clearly define the scope of work, product or service specifications, delivery timelines, payment terms, quality standards, and compliance obligations. By creating well-structured contracts, the team not only safeguards the interests of the organization but also establishes clear expectations for suppliers, minimizing the likelihood of disputes or misunderstandings. These agreements serve as binding documents that hold both parties accountable, ensuring that suppliers deliver in line with organizational needs and that the institution, in turn, fulfills its financial and operational commitments. Beyond contract creation, the procurement team also plays a key role in implementation and monitoring. They ensure that contractual obligations are adhered to throughout the duration of the agreement, address issues of non-compliance when they arise, and may renegotiate terms where necessary to adapt to changing market conditions or institutional priorities. Effective contract development provides the foundation for strong supplier relationships,

enhances transparency in procurement activities, and ensures that the organization consistently receives value for money while maintaining legal and regulatory compliance.

Category Management: Category management is an important responsibility of the procurement team, aimed at ensuring efficiency, effectiveness, and value for money in purchasing activities. Instead of handling each purchase as an isolated transaction, the team groups goods and services into specific categories such as office supplies, IT equipment, laboratory materials, maintenance services, or travel needs, based on their similarities and organizational use. This structured approach allows the procurement function to gain a clearer understanding of spending patterns, identify opportunities for cost savings, and improve overall purchasing efficiency. By analyzing spend data within each category, the procurement team can develop tailored sourcing strategies that maximize value. For example, they may consolidate purchases across departments to leverage bulk buying power, negotiate long-term contracts with key suppliers, or standardize products and services across the institution to reduce duplication and unnecessary costs. Category management also enables the procurement team to build specialized expertise in different areas, ensuring that purchasing decisions are informed by a deep understanding of supplier markets, quality requirements, and potential risks associated with each category. This leads to more strategic supplier relationships, greater consistency in quality, and improved alignment with organizational objectives. Effective category management ensures that resources are allocated wisely, operational efficiency is enhanced, and institutional spending delivers the highest possible return on investment.

Negotiation: Negotiation is one of the core responsibilities of the procurement unit, serving as a strategic tool to ensure that the organization secures the best possible outcomes in its

dealings with suppliers. Acting on behalf of the institution, the procurement team engages in discussions with vendors to reach agreements that are not only cost-effective but also aligned with the institution's broader goals and operational requirements. These negotiations typically cover a wide range of issues, including pricing, payment terms, delivery schedules, product quality, warranty provisions, and service support. By adopting a professional and well-prepared approach, the procurement team ensures that the organization achieves value for money while maintaining fairness and transparency in its dealings with suppliers. The goal is not simply to reduce costs but to create mutually beneficial arrangements that foster long-term partnerships, encourage supplier loyalty, and reduce the risks of conflict or supply chain disruptions. Effective negotiation requires a balance between firmness and flexibility. The procurement unit carefully evaluates market trends, supplier capabilities, and institutional needs to establish negotiation strategies that secure favorable terms without compromising quality or ethical standards. In this way, the department helps the institution gain access to reliable resources while optimizing expenditure. By executing these negotiation functions, the procurement department ensures that the organization is well-equipped with the resources it needs to succeed. This not only strengthens day-to-day operations but also enhances the institution's competitiveness, sustainability, and ability to achieve its long-term objectives.

Some of the key roles and job descriptions of the procurement department include

1. **Chief Procurement Officer (CPO) - the Director or Unit Head of Procurement:** Provides leadership to the procurement team, manages the procurement cycle, and supervises all purchasing activities to ensure they are effectively controlled and comply with relevant laws, guidelines, and institutional policies[61]. This role also includes overseeing all

departmental personnel. The Chief Procurement Officer (CPO) is responsible for formulating the organisation's procurement strategies and operational guidelines. They establish procurement frameworks to steer procurement functions and ensure alignment with the organisation's strategic objectives. They negotiate cost-effective agreements with suppliers while following the institution's standards and procedures. Additionally, they ensure that all procurement activities are consistent with and strictly observe the approved institutional budget.

2. **Director of Procurement:** This role may vary across institutions depending on the organisation's structure and operational framework. Serving as the principal contact for all procurement-related matters, the head of the procurement unit is accountable for ensuring that procurement activities are effectively executed and that departmental targets are achieved. They are tasked with staying informed about market trends to guarantee optimal value and the application of best practices in purchasing operations, thereby supporting the institution's procurement strategies and goals. The role involves leading vendor negotiations and finalizing agreements on service levels and contractual terms. They also explore various alternatives to secure the most cost-effective goods and services. The procurement director is responsible for conducting market research and identifying quality, value-driven sourcing options for the organisation.

3. **Procurement Manager:** The head of the department is responsible for overseeing all purchasing functions and procedures. They regularly consult with supervisors and departmental leaders to gain insight into the organisation's overall requirements, aiming to establish a streamlined and efficient procurement system[62].They analyze historical records to forecast institutional demands and coordinate with procurement staff to ensure timely supply.

Additionally, they review and evaluate Requests for Proposals (RFPs). Before sending RFPs out to potential suppliers for bids, the Manager evaluates them. To secure the best value, review and negotiate procurement contracts inside the institution.

4. **Procurement Analyst:** Identify the organisation's supply requirements and support the evaluation of prospective vendors and service providers based on specific criteria or institutional needs. Investigate and record the characteristics and advantages of goods and services to inform well-founded purchasing decisions. This approach helps the institution maximize value from its acquisitions. Preparing cost-benefit analyses for procurement assists managers and executives in making informed sourcing choices. For instance, creating total cost of ownership reports enables the institution to assess the full expenses associated with acquiring items before committing to a purchase. Maintaining process documentation and tracking monthly supplier expenditure data supports strategic procurement planning.

5. **Contract Manager:** A contract manager oversees the complete contract procedure inside an institution. Ensure the accuracy and upkeep of the institution's internal contract documentation for all procurement activities. Providing advice and legal counsel to various teams on procurement contract challenges and contract development. Maintaining great working connections with clients to ensure their demands are addressed, as well as ensuring that contract agreements between both parties are followed according to the contract terms and conditions. Creating, preparing, reviewing, and administering all procurement contracts within the institution.

6. **Category Manager:** Data evaluation supports the formation of purchasing categories to enhance management efficiency. Developing long-term growth plans for product groups by leveraging market insights and data helps ensure sustainable strategies are in place and

that industry best practices are adhered to. Formulating exit plans for underperforming products is essential, as not all category classifications will succeed; the category manager must establish clear disengagement approaches for ineffective categories. Building strong, reliable relationships with suppliers enables better pricing and service quality, while also ensuring that partnerships are effectively aligned and managed to deliver maximum value in goods and services. Placing timely and sufficient orders ensures product availability in line with student demand**.**

7. **Buyer:** Supporting materials planning and acquisition by ensuring that the correct items are procured within the allocated budget and delivered on time, while also considering optimal inventory levels (inventory turnover). Managing purchase orders in line with the institution's established procedures, ensuring that orders are entered accurately at standard pricing and that all relevant information is consistently updated. Compiling reports on procurement-related activities, including all purchasing transactions and operations within a specified period, for the procurement manager's review and subsequent presentation to senior management for necessary action. Assisting in managing material costs by seeking competitive quotations from multiple suppliers while operating within the existing procurement structure**.**

8. **Financial Control Business Partner:** In charge of monitoring the procurement department's commercial performance. Providing financial research and modeling to assist with business strategy. They are discovering and quantifying critical success factors. They provide commercial, sales, and operational workers with financial and business support. Data and insight are used to support decision-making.

9. **Legal Business Associate:** Providing legal risk and opportunity advice to the procurement department (from strategic to day-to-day) in accordance with the institution's objectives. They provide comprehensive legal counsel. Contract drafting and negotiation, including agreements with producers, broadcasters, talent, marketing and public relations firms, venues, IT, and other providers. Legal project manager for strategic initiatives.

Five Rights of Procurement: Procurement objectives and procurement function analysis are typically established against the five procurement rights. This strategy has proven extremely successful over the years, but as the function of procurement evolves, so does the understanding of the five rights. The five procurement rights are as follows: Right quality, right quantity, right price, right place and right time[64].

Quality: Quality has traditionally referred to the standard of the requested product or service and the specifications that must be fulfilled. While the integrity of goods or services remains crucial, contemporary approaches now embrace a broader concept of quality, including the principles of Total Quality Management (TQM).The quality mindset emphasizes that excellence should be embedded in all aspects of an organisation and its entire supply chain. The modern interpretation of the five rights of procurement aligns with this perspective and highlights a wide range of considerations. Quality goals are no longer restricted to materials or products; they now also encompass: relationship quality, communication effectiveness, process efficiency, leadership quality, and organisational reputation.

Quantity: Quantity has traditionally required that the student acquire the correct amount of a product or service. Ordering too much or too little can lead to increased costs or unmet demands. While this remains valid, modern procurement professionals must now factor in additional aspects of quantity. With growing emphasis on the triple bottom line, People,

Profit, and Planet, multiple dimensions must be taken into account. It's no longer just about getting the product quantity right. As part of the five key principles of procurement, quantity considerations now extend beyond physical goods to include: frequency of orders, workforce size, number of suppliers, range of products, and customer base.

Price: Price is essential to everyone, including procurement. Procurement specialists are educated to seek the lowest possible price. Price includes expenses that must be considered. But not just the costs of the goods or service. There are various costs involved in moving goods or services through the supply chain, including the environmental cost of transportation. Within the framework of the five rights of procurement, the concept of price now extends beyond just the payment for materials or products. It also encompasses a broader range of expenses, including costs incurred by the procurement department, acquisition and operational costs, storage and transportation expenses, environmental impact, and the social cost.

Place: The concept of place in traditional supply chain practices has evolved significantly in modern management and transportation planning. The last mile, the final leg of the journey, emphasizes the importance of precise positioning in contemporary supply chains. Today, location encompasses strategic points across the supply chain, including the source location for raw materials, additional sourcing points, geographical placement of procurement functions, the customer's physical or service delivery location, and other strategic locations where core supply network activities occur. This shifts in focus emphasizes the need for precise positioning and strategic planning in the modern supply chain.

Time: Time is a crucial and non-renewable resource that is increasingly recognised in procurement and supply chain management. It is often associated with delivery schedules

and lead times for goods and resources, but this view is no longer sufficient in today's complex business environment. Efficient use of time can lead to cost savings, while poor time management can result in financial losses. Research is a particularly valuable area where time is valuable, as it leads to informed and strategic decisions. Modern procurement professionals must broaden their perspective on time, considering factors such as the time required to place an order, the time spent negotiating with suppliers, the cumulative time spent throughout the ordering process, and time management practices, particularly in analysing procurement data, supplier performance, and market trends. Time in procurement has become a multidimensional factor that influences operational efficiency and strategic decision-making. Recognising and optimising all aspects of time is essential for achieving success in modern supply chain and procurement functions.

The Concept of Procurement Practices: Procurement practices are described as actions comprising procurement planning, procurement controls, procurement monitoring, and staff training, which constituted the framework of this study[65].

Procurement Planning: A well-structured institution relies on thorough project planning and clear role assignment to ensure productive operations. Planning involves defining the project's purpose, scope, customer requirements, and procurement activities. Time estimation is crucial, based on anticipated schedules and delivery timelines. Responsibility assignment ensures accountability and smooth workflow throughout the project lifecycle. Beyond these core activities, planning may involve forecasting, which enhances cost prediction and supports accurate financial reporting. Forecasting helps anticipate resource needs, financial implications, and market trends, enabling better decision-making and efficient resource allocation. The primary objective of procurement planning is

to prevent delays in public or institutional projects and mitigate budgetary challenges that could hinder their successful execution[65]. It is the function responsible for acquiring goods and services from diverse external sources of supply[66]. The procurement planning process involves three key steps: defining the products or services needed, outlining the procurement procedure, and establishing a schedule of timeframes. The first step involves understanding project needs, specifications, and desired outcomes. The second step outlines the procurement process, including identifying potential suppliers, determining procurement methods, and ensuring compliance with regulatory frameworks. The final step is establishing a schedule to ensure goods and services are obtained in line with the project's timelines and operational demands. Engaging in this structured planning process offers numerous advantages, including increased timely goods, smoother function execution, and reduced disruptions that could hinder productivity or service delivery.

Procurement Control: Procurement control is the process of ensuring that goods and services are bought in an ethical, legal, and efficient manner[67]. Procurement control ensures that government monies are spent wisely by monitoring contracts and suppliers[68]. To be considered ethical, a procurement process must meet three core criteria: financial propriety, human rights, and environmental impact. Financial propriety ensures transparency, fairness, and accountability, preventing corruption, fraud, or misuse of public funds. Human rights require upholding labor standards, fair treatment of workers, and avoiding exploitative practices like child labor or forced labor. Environmental impact emphasizes considering ecological consequences of procurement decisions, promoting sustainable sourcing, carbon footprint reduction, and responsible disposal. Robust procurement control mechanisms are necessary to ensure compliance with federal contracting regulations, including price

determination methods, small business involvement criteria, and subcontracting guidelines. These criteria ensure fairness, fairness, and equitable economic participation in procurement. Furthermore, procurement control can aid in the prevention of supplier or contractor fraud or abuse. Procurement control also contributes to the completion of government projects on schedule and within budget. Procurement officials utilize a variety of measures to achieve these aims, including audits of supplier records, examinations of contract papers, and site visits to ensure compliance with applicable legislation. Procurement control is intended to ensure that government expenditure is effective and efficient. This is accomplished by ensuring that the appropriate goods and services are obtained at the greatest feasible price. Procurement regulation can also serve to protect taxpayer cash while also encouraging competition among vendors.

Procurement Monitoring: Procurement monitoring is a systematic observation of the procurement system, aiming to evaluate its operation and evolution over time. It identifies and addresses potential infringements of procurement rules through control activities like auditing, inspections, and compliance checks. These processes help protect transparency, fairness, and accountability in the procurement lifecycle. Procurement monitoring investigates a contracting authority's compliance with public procurement regulations across all stages of the procurement process, including initiation, contract conclusion, and performance. E-procurement systems are often used to support monitoring, providing real-time insights into procurement activities and facilitating early detection of irregularities. This process helps to safeguard transparency, fairness, and accountability in the procurement lifecycle[69]. Procurement tracking can assist in ensuring that procurement activities are handled responsibly and efficiently. Tracking systems can also aid in the early

detection of possible problems, allowing them to be addressed before they become major difficulties. Procurement monitoring activities include data collecting, analysis, and distribution about many aspects of public procurement (transparency, openness, competition, and efficiency).Monitoring data can be used to develop policies, assess value for money, and draw conclusions about compliance with basic public procurement standards and attainment of established goals and benchmarks.

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Staff Competency: Competence is the combination of an individual's training, skills, experience, and knowledge, along with their ability to apply these attributes effectively and safely in a specific task. It includes theoretical understanding, practical capability, judgment, and awareness to meet professional standards and minimize risk. True competence reflects proficiency and confidence in using acquired expertise to achieve desired outcomes under varying conditions[65]. Formal qualifications, skills, experience, and knowledge are just a few of the critical factors that influence an individual's competence. A positive attitude boosts

motivation, adaptability, and problem-solving capacity, while physical ability ensures the individual can meet the physical demands of specific tasks or work environments. Abilities assist employees in understanding the abilities expected of them in their job, the important behaviors they should exhibit, and the activities required improving their proficiency levels.

Global Procurement

Global sourcing is another term for global procurement. It is the procurement strategy in which an institution strives to determine the most cost-effective place for producing commodities. Global procurement is the practice of purchasing goods and services from suppliers all over the world. This enables businesses to cut costs while increasing their competitiveness[70].

Electronic Procurement

E-procurement, often referred to as digital procurement or supplier networking, entails the buying and selling of goods, services, and contractual tasks between organisations through online platforms, primarily utilising internet-based systems and advanced information and communication technologies. Tools such as Electronic Data Interchange (EDI) and Enterprise Resource Planning (ERP) support efficient transactions and streamline data flow across various organizational departments. E-procurement systems support and streamline public procurement processes, enhancing transparency, efficiency, and accountability[71]. They enable complex procurement procedures like online tendering and electronic auctions, allowing government agencies and other procuring entities to administer bidding and contract award processes securely through web-based platforms.

2.1.5 Concept of Inventory Management

Inventory is the accumulated stock of items a company maintains for sale, including raw materials, goods in production, finished goods, and spares. It includes components involved in the production and distribution process, such as raw materials, goods in production, finished goods, and spares. These categories help ensure the company's ability to offer products for sale and maintain operational continuity[72]. Inventory is a stock of items maintained by a company or institution to anticipate future demand. It is a strategic reserve that supports production and sales activities, ensuring the organisation is prepared to meet current and projected market needs. Inventory helps bridge the gap between supply and demand, allowing businesses to operate smoothly despite supply chain disruptions or customer demand fluctuations. It includes raw materials, assembly parts, work-in-process items, and finished goods ready for distribution or sale. These items are typically stored in designated locations like warehouses, where they are managed and monitored to support efficient supply chain operations.

Inventory management concepts have existed since the dawn of time. Over the last century, inventory practice has modernized and changed, with new tools and technology being utilised to support the process. Inventory management is regarded as a critical role in the inventory management system[73]. Inventory management is the process of planning, acquiring, storing, and distributing materials in the correct quantities, locations, and timeframes to support productive activities in mechanical or industrial projects. Its primary goal is to maintain optimal stock levels, balancing storage and handling costs while maximizing operational efficiency and customer satisfaction. Efficient inventory management contributes to institutional effectiveness by enabling organisations to respond promptly to demand, avoid

production delays, and enhance service delivery. An effective inventory management system helps in monitoring inventory levels, determining reorder points, establishing replenishment schedules, and setting order quantities. Factors influencing inventory management practices include institutional dynamics, human resource capabilities, and financial constraints. The rapid integration of technology has also significantly influenced inventory data tracking, analysis, and action through automation and digital tools. Inventory management is both an art and a science, requiring analytical precision and strategic judgment to effectively manage stock levels across a defined group of commodities[74]. Inventory management is a crucial function in organisations to determine the appropriate quantity of material stock to mitigate uncertainties like demand forecast fluctuations, customer preferences, and supplier delivery delays. It ensures efficient response to changes in supply and demand without disrupting operations or compromising service quality. The main goal is to maintain the optimal level of inventory investment, supporting operational and strategic goals. This involves balancing product availability with inventory costs, aligning resource allocation with institutional priorities. Inventory management aims to achieve the lowest total cost, including ordering, holding, and potential shortage or stockout costs, maximizing cost-efficiency and service effectiveness.

Objectives of Inventory Management

Inventory management aims to ensure maximum production while minimising investment in inventory. This balance is crucial for avoiding unnecessary stock tie-up and disruptions in production and service delivery. An efficient inventory management system ensures continuous production by maintaining sufficient stock levels of raw materials, work-in-progress, and finished goods. It also allows for the forecasting of potential price fluctuations

and strategic purchasing decisions, such as bulk buying before price increases. Inventory management also controls investment and maintains optimal stock levels, ensuring that capital is kept at an optimum level. It supports sales operations and customer delivery commitments by ensuring the availability of finished goods when needed. A well-organised inventory system enhances operational efficiency and boosts production levels, while achieving cost savings in purchasing by facilitating bulk purchases, reducing last-minute or emergency orders, and minimising transportation and handling costs.

Motives for Holding Inventory:

The motives for holding inventories are three (3) types they include transactional, precautionary and speculation motive.

i) **Transaction Motive:** An organisation must maintain a sufficient supply of raw materials to ensure uninterrupted business operations. Without sufficient inventory, manufacturing activities can't function smoothly. If inventory is short, production processes can be disrupted, leading to costly delays. In such cases, the organisation may incur fixed costs like employee salaries, machinery depreciation, facility rent, and overhead expenses. These ongoing obligations can result in significant financial losses for the company, as they lack revenue-generating activities. Therefore, maintaining adequate inventory levels is crucial for maintaining business operations.

ii) **Precautionary Motive:** Unexpected disruptions like accidents, machinery breakdowns, employee layoffs, or industrial strikes can disrupt production activities without prior notice. To maintain operationality and mitigate the impact of these events, it is crucial to maintain adequate inventories. These buffer inventories allow the organisation to continue

production and sales processes despite challenges, acting as a safeguard against temporary setbacks in labor, equipment, or external supply.

iii) Speculation Motive: Technological advancements and market changes can cause unpredictable price fluctuations in raw materials and supplies, causing instability in demand and supply dynamics. These fluctuations impact an organisation's production processes and sales operations. To adapt, businesses strategically maintain inventories, providing a cushion for efficient procurement during market volatility. This ensures production schedules are not disrupted and customer demands are consistently met, preventing disruptions in production and sales operations.

Inventory Management Practices

Inventory Management Practices refer to the methods, processes, and strategies an organization uses to oversee and control the ordering, storage, and use of materials or products[75]. Inventory management is a crucial process that optimises system operations by enabling extended production runs, improving efficiency and cost-effectiveness. It ensures a sufficient stock of goods is readily available for sale, aligning production capacity with market demand. This balance also extends to the financial domain, where long-term purchasing commitments support procurement efficiency while managing working capital and cash flow to avoid liquidity constraints. Effective inventory management practices involve implementing various tools, models, and technologies to monitor, control, and streamline inventory processes. These strategies include the Economic Order Quantity (EOQ) method, setting and monitoring stock levels, conducting ABC analysis, establishing Strategic Supplier Partnerships, using Electronic Data Interchange (EDI), adopting the Just-in-Time (JIT) approach, using EPOS systems, bar code technology, Lean inventory systems, Material

Requirements Planning (MRP), Enterprise Resource Planning (ERP) systems, and Vendor-Managed Inventory (VMI), where suppliers manage stock levels on behalf of the institution. These strategies help institutions monitor, control, and streamline their inventory processes, ensuring efficient and cost-effective operations.

Variables of Inventory Management Practices: Variables of inventory management practices include inventory shrinkage and inventory control.

Inventory Shrinkage: The term ‘shrinkage' refers to something growing smaller or gradually contracting over time, with no critical or significant consequences. Inventory shrinkage refers to the amount of inventory that exists in account records but not in actual records. It is the difference between the inventory's physical count and its book value. In inventory management, shrinkage is defined as risk costs caused by factors such as product obsolescence, theft (both student and employee theft), natural disaster, and improper inventory storage, among others. It was defined as a shortage when the final calculated inventory value in aorganisation’s accounting records falls below the final physical inventory valuation. Inventory shrinkage is also defined as the difference between the recorded value of stock in the inventory stock system, which records products received at the store, and the actual value of inventory at the store, as established by a physical inventory count[76]. Shrinkage is typically expressed as a percentage of the overall inventory balance or as the actual naira sum difference.

Inventory Control: Controlling is the process of modifying some feature of a system to produce a desired change in system performance. Inventory control is a process in which the materials and parts carried in stock are regulated within specified limits or set in line with the policies and procedures implemented or approved by manufacturing institutions. Inventory

control is the act of managing inventory in order to meet customer demand at the lowest possible cost and with the least amount of investment[77]. Inventory control is the managerial function of ensuring that materials adequate for uninterrupted institutional operations are available in both quality and quantity. It is involved with maintaining inventory physical quantities and monetary values at predefined levels or within safe limitations. The inventory control philosophy is that the institution neither suffers a stock-out crisis nor ties down large capital in the form of heavy stock carrying. It is the coordination of material managing, utilisation, and purchase. Because it is directly related to manufacturing, its goal is to have the correct inventory in the right place at the right time with the right quantity. The goal of any institution is to maximise the value of every dollar invested in the company.

Challenges Faced by Public Higher Institutions in Implementing Effective Strategic Procurement and Inventory Management Practices

The main challenges faced by public higher institutions in implementing effective strategic procurement and inventory management practices include: a lack of a sound and effective legislative framework, inadequate corporate governance, procurement costs, technical changes, reduced quality, and damaged items.

Inadequate Corporate Governance: Corporate governance plays a crucial role in shaping the culture, stability, and overall performance of any institution. It provides the framework for decision-making, accountability, and fairness within the organization. When corporate governance is inadequate, employees' efforts and contributions often fail to align with expected outcomes, leading to frustration and disengagement. Individuals may begin to feel that their hard work is not adequately recognized or rewarded, which diminishes motivation and weakens commitment to the institution's goals. A lack of strong leadership

and transparent governance practices often manifests in excessive employee turnover, a challenge observed across various economic sectors. High turnover disrupts institutional stability, drains resources allocated to recruitment and training, and hinders sustainable development. Furthermore, employees may experience uncertainty regarding timely salary payments, promotion opportunities, or equitable treatment in the workplace. This uncertainty erodes trust in the leadership and undermines morale, as staff members no longer see their prospects or efforts translating into meaningful rewards. When equity, fairness, and justice are lacking, dissatisfaction grows, ultimately pushing employees to seek opportunities elsewhere. Such departures not only result in the loss of talent but also weaken institutional knowledge, productivity, and efficiency. In essence, inadequate corporate governance undermines both individual and organizational performance, creating a cycle of low productivity, poor retention, and stalled development. Strengthening governance structures, therefore, is essential for fostering employee satisfaction, ensuring organizational stability, and driving long-term growth.

Lack of Sound and Effective Framework of Regulation: A well-structured regulatory framework is essential for guiding procurement activities and ensuring transparency, efficiency, and fairness. However, when such a framework is either weak, overly complicated, or poorly enforced, it becomes a major obstacle to effective procurement. In many institutions, procurement processes are hindered by non-supportive policies that create unnecessary roadblocks, delaying the timely acquisition of goods and services. Instead of facilitating smooth operations, these policies often introduce layers of bureaucracy that slow down decision-making and increase administrative burdens. Complicated legal and policy requirements can further jeopardize procurement effectiveness. Lengthy approval

processes, conflicting regulations, or unclear guidelines often leave procurement officers uncertain about the proper procedures to follow. This not only delays the delivery of essential materials but may also discourage suppliers from engaging with the institution due to the cumbersome nature of compliance. In extreme cases, such inefficiencies open the door to mismanagement, favoritism, or even corruption, undermining the principles of accountability and transparency that procurement systems are meant to uphold. The absence of a sound and effective regulatory framework also reduces flexibility, preventing the procurement unit from adapting to market changes, negotiating favorable terms, or responding swiftly to urgent institutional needs. Ultimately, this hampers organizational performance, raises operational costs, and diminishes competitiveness. To overcome these challenges, institutions must review and streamline procurement policies, eliminate unnecessary bottlenecks, and establish clear, consistent, and supportive regulations that balance compliance with efficiency.

Development in Technology: Technology has become a central driver of efficiency, transparency, and innovation in modern procurement processes. In today's society, the majority of procurement activities, ranging from supplier selection and tendering to contract management and payment systems are increasingly conducted online through digital platforms. This shift has enabled organizations in advanced economies to streamline operations, reduce paperwork, enhance accountability, and improve decision-making through real-time data analysis. However, institutions in many third-world countries continue to lag behind in adopting such technological advancements. One of the key challenges lies in the high startup costs associated with implementing new technologies. Establishing digital procurement systems requires significant investment in infrastructure, software, training, and technical support, resources that are often scarce in developing economies. Finance

constraints, therefore, remain a major impediment to initiating and sustaining capital projects that could modernize procurement practices. Without adequate funding, institutions struggle to adopt innovations that are already standard in more developed contexts. In addition, weak strategic partnerships with technology providers and inadequate infrastructure such as unreliable internet connectivity, limited access to modern ICT tools, and unstable power supply, further hinder progress. Compounding these issues is organizational resistance to change. In many institutions, staff members are reluctant to shift from traditional, paper-based systems to digital platforms, often due to lack of training, fear of redundancy, or mistrust of new technologies. This resistance slows the pace of adoption and prevents the benefits of technology from being fully realized. As a result, third-world institutions face poor technology interchange, limited efficiency, and reduced competitiveness in the global landscape. Unless deliberate investments are made in infrastructure, capacity building, and change management, the technological gap between developed and developing countries in procurement processes will continue to widen, undermining opportunities for growth, transparency, and institutional effectiveness.

Procurement Cost: The cost of procurement extends far beyond the initial price of goods or services and includes a wide range of expenses incurred throughout the purchasing process. Stock orders, for instance, are often influenced by cost differences that emerge during order handling and processing. These variations are not limited to the purchase price itself but also encompass additional costs that accumulate across different stages of procurement. One key component of procurement cost arises within departments that initiate and process orders. Administrative expenses tied to documentation, approvals, and coordination represent hidden costs that increase the overall expenditure. Similarly,

transmitting supplier orders, whether electronically or through traditional methods incurs costs related to communication systems, labor, and time spent managing transactions. Transportation costs are another significant factor, as moving goods from suppliers to the organization involves freight charges, customs duties (in the case of international orders), and potential risks such as delays or damages during transit. Upon arrival, further costs are generated through the management of orders at the point of receivership. This includes expenses for inspection, quality assurance, storage, and distribution within the organization. When aggregated, these elements highlight that procurement costs are multifaceted, extending well beyond the supplier's invoice. Understanding and managing these costs effectively is essential for improving efficiency, reducing waste, and ensuring value for money. By carefully analyzing cost drivers at each stage of the process, institutions can design strategies, such as bulk purchasing, digital order processing, and improved logistics that minimize expenditure and enhance overall procurement performance.

Reduced Quality: Quality is one of the most critical dimensions of procurement, as it directly affects organizational performance, customer satisfaction, and long-term sustainability. When procurement systems, goods, and processes are not properly managed or optimized, the institution is more likely to face challenges related to reduced quality. This manifests in the form of poor quality costs (PQC) and the cost of poor quality (COPQ), which represent the financial and operational burdens created by defects, inefficiencies, and substandard products or services. In an ideal system where procurement procedures are transparent, suppliers are carefully vetted, and processes are consistently monitored, instances of reduced quality would be significantly minimized, if not eliminated. Such systems ensure that materials and services meet required specifications, are delivered on time,

and support the overall effectiveness of institutional operations. On the other hand, weak or poorly enforced procurement systems often result in the acceptance of inferior goods, unreliable suppliers, or inadequate service delivery, all of which contribute to higher operational costs and wasted resources. The presence of PQC and COPQ also undermines institutional credibility and performance. For instance, defective materials may require frequent replacements, cause project delays, or compromise safety standards. This not only increases costs but also disrupts workflows and reduces efficiency. Conversely, when organizations invest in strengthening procurement systems through supplier evaluation, quality control checks, and continuous process improvement, they mitigate the risks of reduced quality, ensuring that operations remain smooth and cost-effective. Reduced quality in procurement is both a financial and strategic concern. Eliminating PQC and COPQ through robust systems and effective oversight allows institutions to maximize value, protect resources, and build a strong foundation for long-term growth.

Damaged Goods: Decisions based on emotions, timely buying, supplier preferences, and placing orders over the phone are the most common general causes of procurement errors, particularly in institutions that are rapidly growing. Policymakers ensure that orders for everything are placed simultaneously at the start of each particular institution. Ground hitting and running usually equates to paying little attention to the warning stages in the procurement process, which could lead to inventory cost overruns prior to compensation of purchases on revenue streams. A more comprehensive procurement system needs more deliberate decision-making on urgent orders.

2.2 Theoretical Framework

2.2.1 Economic Order Quantity Model

Economic order quantity (EOQ) is the optimum stock level that a business should buy to reduce inventory expenditures, such as storage, holding, and ordering costs[78].This model has demonstrated that certain costs rise while others go down. It is abundantly evident that as stock holdings decline, ordering costs decrease, and as holding costs rise, total stock that is correlated with cost curves decreases to a minimum level. The cost of the materials is now as low as possible. Economic order quantity, then, is the quantity at which stock minimizes both the order cost and the overall cost of retaining materials[79]. The cost differential between stock holding costs and reorder costs is minimized by the economic order quantity theory. In order to determine economic order quantity, several assumptions are made. These presumptions include that the time cycle is predictable and constant, that inventory holding costs are predictable and constant, that lead's price per unit is predictable and constant, that ordering costs are predictable and constant, that replenishment is made instantly, that demand growth is predictable and constant, that stock-outs are prohibited, and that the entire batch is delivered at once[80]. The economic order quantity (EOQ) model is an effective scientific inventory-management framework that aids companies in evaluating the level of stock that should be retained to reduce costs related to maintaining inventories and satisfying customer demand[79]. One of the most popular deterministic inventory models is the Economic Order Quantity (EOQ). To calculate the ideal inventory level, the operations management field developed the EOQ mathematical model[81].The model was developed by F. W. Harris in 1913 and is also known as Wilson EOQ model, who critically analysed the model[82].This fundamental EOQ model was derived using the oversimplified premises of constant demand rate, rapid replenishment, absence of shortages, homogeneity, non-perishability, and faultless

quality. The EOQ model no longer provides a minimum-cost solution when any one or all of these assumptions are relaxed. According to the EOQ model, it is necessary to identify the point of order and the best quantity to order for each item that is stocked in the stores[83]. Despite the fact that uncertainties are normal and common in all business, the model assumes that all other variables remain constant. Examples of uncertainty include shifting student demand, damage from transit, and delivery delays. Demand uncertainty will therefore necessitate EOQ to be modified in order to prepare for an unpredictable business environment. When demand and lead time are comparatively steady as well as when there is a lot of unpredictability and uncertainty, economic order quantity approaches have been shown to be an efficient inventory management tool. Using the EOQ model has revealed that some costs are rising as other costs are falling. As an example, ordering costs are falling as inventory holdings increase, but holding costs are rising and the total inventory-related cost curve is at its minimum point. The fact that buffer supplies must be kept on hand to account for changes in lead times and demand is another drawback of EOQ, making it challenging to implement in actual operations. The EOQ model is further constrained by the premise of a one-product firm and does not take seasonal or economic variations into account. Additionally, the formula does not permit the combination of multiple items in the same order. The EOQ model is a useful tool for strategic procurement and inventory management because it optimises costs, informs sourcing decisions, guides supplier relationships, optimises inventory levels, manages risks, and facilitates performance monitoring. Integrating EOQ principles into strategic planning helps increase supply chain efficiency and effectiveness.

2.2.2 Resource Based View Theory

A significant research theory to comprehend the source of a firm's persistent competitive advantage is resource-based view theory[84, 85].According to the resource-based view theory, an institution's internal environment has two key sources of competitive advantage that are crucial for formulating firm strategy. By applying these resources effectively and efficiently, an institution can attain long-term competitive advantage. These resources include both real ones like money and physical assets as well as intangible ones like connections and human capital. Two key tenets of the resource-based view theory require that resources be varied in nature[86].The heterogeneous character of resources makes the assumption that businesses only get a competitive edge when they use resources that are very different from those of their rivals. The second tenet of the resource-based perspective theory is those firms resources are immovable and non-transferable, meaning they cannot, at least temporarily, be transferred from one company to another[87].Supporters of the RBV theory contend that rather than focusing on the external competitive environment, businesses should search inside for sources of competitive advantage. Knowledge of inventory management is beneficial for designing supply strategies for present needs as well as supply management techniques that support business objectives. Purchasing skills are challenging to replicate because purchasing professionals engage with other activities within a complicated social network. The RBV strategy is effective in managing inventories within a company through optimal usage and allocation, making it more competitive and enhancing performance[88].In order to find areas of needless expenses, RBV also employs techniques like value analysis, which is a crucial part of an inventory management strategy that minimizes costs to the bottom line. Value analysis studies the function of materials, components, or systems to find areas of wasteful spending. However, the RBV has received harsh criticism from a number of reviewers. One of the main

issues with the resource-based view theory brought up by detractors is that it is operationally incorrect in the sense that it can only be applied in a static setting, which is not the case for situations that arise in real life[76].Dynamic criticism of resource-based view theory has been voiced most frequently, and it continues to be the most well-known of all opposing viewpoints. Obtaining a sustainable competitive advantage with the help of some particular resources may not be possible in a dynamic environment, limiting the applicability of this theory to static environments. In reality, the environment in which firms operate is dynamic and is characterised by radical changes and high velocity. The Resource-Based View theory offers a useful framework for analysing how internal resources and competencies influence institutional performance. Institutions can improve their competitiveness and performance outcomes by identifying critical resources, strategically allocating resources, developing dynamic capabilities, effectively measuring performance, and leveraging collaborative advantage.

2.2.3 Stakeholder Theory

The stakeholder theory aims to explain how a firm interacts with its external environment, how it behaves there, and how a collection of stakeholders with related interests or rights might come together[89].The theory focuses on managerial decision-making and the ways in which different parties attempt to sway institutional decision-making in order to make decisions that are in line with their requirements and priorities. Institutions should make an effort to comprehend and balance the interests of all participants. The idea of stakeholder management was created with these presumptions in mind and as outlined in order for institutions to recognise, assess, and examine the characteristics of partners being influenced by institutional behaviour. Three levels of management are used: identifying stakeholders,

developing methods for identifying and interpreting their requirements and interests, and building connections. The entire process is organized around each institution's specific goals[65]. Customers, employees, local communities, suppliers, and distributors make up the major stakeholder groups. This theory is pertinent to the study because it emphasizes the importance of managing the connections developed with suppliers and how those relationships affect the effectiveness of the enterprises being studied[65].

2.2 Review of Empirical Studies

2.3.1 Strategic Procurement Practices and Institutional Performance

2.3.1.1 Procurement Planning and Institutional Performance

In a study entitled procurement planning as a strategic tool for public procurement effectiveness: experience from selected public procuring entities in Dodoma city, Tanzania. The purpose of this study was to investigate the impact of procurement planning on the effectiveness of public procurement using data from chosen public procuring institutions in Dodoma, Tanzania. A cross-sectional design was used, and data were collected from 146 respondents who were purposefully chosen from several public procuring entities in Dodoma, Tanzania, using a survey structured questionnaire and analysed using a binary logistic regression model. According to the findings, procurement planning as a strategic function has a considerable impact on the effectiveness of public procurement[90]. The binary logistic regression model included the implementation of prepared procurement plans ($p = 0.039$), the involvement of users as stakeholders and important institutional actors in public procurement ($p = 0.033$), compliance with procurement laws and regulations when planning ($p = 0.016$), and budget adequacy ($p = 0.042$) as predictors of procurement planning. It was determined that procurement planning can help public procuring bodies attain public procurement effectiveness. The implications and policy recommendations of this study's findings would

be valuable to procurement practitioners, particularly those in public procuring institutions. This study adds to the current body of knowledge on procurement planning as an essential activity in public procurement in Tanzania[90].

In a study entitled procurement practices and public sector performance: a study of public tertiary institutions in Anambra State, Nigeria. The goal of this study was to investigate the effect of procurement procedures on the performance of Anambra State's public tertiary institutions. The study focused on the impact of procurement planning on the performance of Anambra public tertiary institutions in order to separate the impact of staff competency from the impact of supplier partnership on the performance of public tertiary institutions. In the study, which included 244 management people and procurement officers from Anambra's public tertiary institutions, the descriptive survey research design was used. To collect data for the inquiry, structured questionnaires were used. Multiple linear regression analysis was used to assess the link between the dependent and independent variables and to provide objectivity in determining the extent and type of the correlation. According to the findings of the study, procurement strategy, staff competency, and supplier partnerships all had a significant impact on the success of Anambra State's public tertiary schools[65].

In a study "the Influence of Procurement Practices on Performance of the Public Sector in Kenya. A Case of Narok County". The descriptive survey research design was used in this study, and the population was Narok County employees and management. The study used stratified sampling with a sample size of 196 respondents. Furthermore, structured questionnaires were employed as the major instrument for gathering primary data from respondents in the study. The data was examined using multiple linear regression analysis to

quantify the link between the dependent and independent variables and to give objectivity in analysing the degree and nature of the relationship between the dependent and independent variables. According to the study, ICT Adoption, Green Purchasing Policy, and Procurement Planning influenced 77.1% of the overall variability in the County's Performance. The report proposed that these procurement techniques be implemented in all procurement procedures across the whole public sector in order to improve performance and service delivery[91].

A study investigated the effect of procurement practices on procurement performance of public sugar manufacturing firms in Western Kenya. The study's main goal was to determine the impact of procurement practices on the procurement performance of public sugar production enterprises in Western Kenya. A descriptive survey research design was used in the study. Questionnaires were used to collect primary data from personnel in the procurement department. The research population consisted of two Kenyan public sugar producing businesses that operate in Western Kenya. According to the study findings, procurement planning had a positive but small impact on procurement performance, whereas personnel competency had a strong positive and substantial impact on procurement performance of the sugar producing enterprises in Western Kenya investigated. The report specifically suggests that businesses improve their planning and ensure that procurement strategies are followed, that people working in the procurement department be competent, and that there be training opportunities for the workforce[92].

A survey study of public secondary schools in Imenti North District, Kenya investigated the influence of procurement on the success of educational institutions in underdeveloped countries like Kenya. at The study's objectives were to investigate the procurement skills of personnel in charge of procurement in educational institutions, to

determine whether procurement plans are followed during the procurement process, to determine whether procuring units have relationships with suppliers, and to determine the effects of group buying on individual procuring units. The research used simple random sampling and self-administered questionnaire for this study. With a descriptive research design also applied the descriptive statistics which involved use of frequencies, percentages and cross tabulations, while descriptive method of data analysis was used. The sample consisted of 30 public secondary schools in Imenti North District; Meru County which was selected using stratified random sampling and this gave 60 respondents. The study employed both qualitative and quantitative research techniques. Data was collected using both open ended and closed ended questionnaires. The research design for the study used descriptive research and further employed descriptive statistics which involved use of frequencies, percentages and cross tabulation. According to the researcher, procurement in public secondary schools is viewed as a secondary duty by people working in other professions such as bursars, accountants, and teachers. To maximise the value of every shilling spent in public secondary schools, procurement must play a strategic role in decision making and plan creation. The benefits of buyer-supplier relationships, group buying, and other leading procurement concepts can only be realized when procurement professionals are in charge of the procurement procedures in public secondary schools[93].

In a study entitled Strategic Purchasing and Performance of Public Procurement in Rwanda. The study's goal was to investigate the relationship between strategic purchasing and public procurement performance in the context of the Rwanda Basic Education Board (REB). The specific objectives were to investigate the relationship between cost management and public procurement performance at REB, to investigate the relationship between supplier

relationships and public procurement performance at REB, to investigate the relationship between records management and public procurement performance at REB, and to investigate the relationship between procurement plan management and public procurement performance. In the period 2016-2018, a cross-sectional data sample of 112 staff of REB and its supplier/contractors was obtained. A closed-ended questionnaire was used to collect data. The findings for the first objective revealed a good association between cost management and public procurement performance at REB. The results for the second goal revealed a positive association between supplier relationship and public procurement success at REB. The findings for the third objective suggested a favorable association between records management and public procurement performance at REB, while the findings for the fourth objective revealed a positive relationship between procurement plan management and public procurement performance. In addition, among the variables, procurement plan management was found to be a superior predictor of connection[94].

A study was carried out on factors affecting procurement performance of public universities in Nairobi County. The study employed a descriptive survey research design. The population consisted of 166 procurement employees chosen from three of Nairobi's four main public institutions. Questionnaires were used as data gathering instruments. Data was analysed using both descriptive statistics like frequency tables and charts as well as inferential statistics like regression. The study discovered that departments prepared procurement plans for the activities outlined in the work plans, that procurement staff in the ministry lacked supply chain management skills, and that the ministry's management provided adequate professional support, training, and educational facilities and opportunities to the procurement department. The study advised that procurements be carried out by the

procurement department in accordance with the planned monetary values/estimated costs, the planned time of delivery/delivery schedules, and the planned time of delivery/delivery schedules[95].

2.3.1.2 Procurement Control and Institutional Performance

In a study on the role of procurement practices on the performance of corporate institutions in Kenya: A Case Study of Kenya National Police Service. The study's major goal was to determine the impact of procurement practices on the performance of the Kenya National Police Service in Makueni County. The study's specific objectives were to determine the role of procurement planning on the performance of the Kenya National Police Service, the role of procurement controls on the performance of the Kenya National Police Service, the role of procurement monitoring on the performance of the Kenya National Police Service, and the role of staff training in procurement practices on the performance of the Kenya National Police Service. The study adopted Descriptive Research Design. The target population was the 120 procurement personnel in Kenya National Police Service in Makueni County. Stratified sampling and simple random sampling techniques was employed in the selection of 48 respondents. The study revealed that procurement planning, controls, monitoring and staff training in procurement practices have a great role in the performance of Kenya National Police Service[96].

2.3.1.3 **Procurement Monitoring and Institutional Performance**

In a study on the role of procurement practices on the performance of corporate institutions in Kenya: A Case Study of Kenya National Police Service. The main objective of the study was to establish the role of procurement practices on performance of Kenya National Police Service in Makueni County. Specific objectives of the study was to establish

the role of procurement planning on the performance of Kenya National Police Service; to determine the role of procurement controls on the performance of Kenya National Police Service; to establish the role of procurement monitoring on the performance of Kenya National Police Service and lastly to examine the role of staff training in procurement practices on the performance of Kenya National Police Service. Descriptive Research Design was used in the study. The target audience consisted of 120 procurement personnel from the Kenya National Police Service in Makueni County. The 48 respondents were chosen using stratified sampling and basic random sampling procedures. According to the findings of the study, procurement planning, controls, monitoring, and employee training in procurement practices all have a significant impact in the functioning of the Kenya National Police Service[96].

2.3.1.4 **Procurement Staff Competencies and Institutional Performance**

In a study entitled procurement practices and public sector performance: a study of public tertiary institutions in Anambra State, Nigeria. The goal of this study was to investigate the effect of procurement procedures on the performance of Anambra State's public tertiary institutions. The study focused on the impact of procurement planning on the performance of Anambra public tertiary institutions in order to separate the impact of staff competency from the impact of supplier partnership on the performance of public tertiary institutions. In the study, which included 244 management people and procurement officers from Anambra's public tertiary institutions, the descriptive survey research design was used. To collect data for the inquiry, structured questionnaires were used. Multiple linear regression analysis was used to assess the link between the dependent and independent variables and to provide objectivity in determining the extent and type of the correlation.

According to the findings of the study, procurement strategy, staff competency, and supplier partnerships all had a significant impact on the success of Anambra State's public tertiary schools[65].

A study investigated the effect of procurement practices on procurement performance of public sugar manufacturing firms in Western Kenya. The study's main goal was to determine the impact of procurement practices on the procurement performance of public sugar production enterprises in Western Kenya. A descriptive survey research design was used in the study. Questionnaires were used to collect primary data from personnel in the procurement department. The research population consisted of two Kenyan public sugar producing businesses that operate in Western Kenya. According to the study findings, procurement planning had a positive but small impact on procurement performance, whereas personnel competency had a strong positive and substantial impact on procurement performance of the sugar producing enterprises in Western Kenya investigated. The report specifically suggests that businesses improve their planning and ensure that procurement strategies are followed, that people working in the procurement department be competent, and that there be training opportunities for the workforce[92].

2.3.2 Inventory Management Practices and Performance of Higher Education Institutions

2.3.2.1 Inventory Control and Institutional Performance

In a study on the effect of inventory management practices on operational performance of flour milling companies in Nigeria. The researcher investigated the impact of inventory management practices on the operational performance of Nigerian flour milling enterprises. The survey research design was cross-sectional. The target population consisted of 2,237

employees from various flour milling enterprises. The sample size of 776 was determined using a stratified random sampling procedure. Data was gathered using a Standardised questionnaire. In SPSS, hypotheses were tested using inferential statistics. Inventory shrinkage has a considerable negative effect on student satisfaction, according to the data. Inventory control and the cost effectiveness of chosen flour milling enterprises have a substantial link. The study revealed that inventory management practices had a considerable impact on the operational performance of Nigerian flour milling enterprises[76].

In a study on Inventory Control System and Profitability of Companies: A Study of Selected Listed Firms in Nigeria. The study's goal was to see how inventory management affected the profitability of two (2) industrial goods firms listed on the Nigerian Stock Exchange. Opening inventory, closing inventory, and average inventory were used to calculate the independent variable (Inventory Management). The dependent variable (Firm Profitability) was assessed using Profit after Tax data collected for the study over a 5-year period (2015-2019) and analysed using descriptive statistics, correlation analysis, and the ordinary least square method. The study's findings revealed that inventory management had a substantial impact on Profit after Tax. As a result, the study suggests that in order for businesses to improve their Net Profits as a measure of profitability, they should use inventory management practices[97].

In a study on the evaluation of pharmaceuticals inventory management in selected health facilities of West Arsi Zone, Oromia, Ethiopia. The study assessed inventory management in selected health facilities in the West Arsi zone of Oromia regional state from 2016 to 2018. In fourteen health institutions, a cross-sectional descriptive study was done, supplemented by a qualitative study. Data from goods issuing vouchers were collected for the years 2016-2018

to undertake ABC-VEN matrix analysis. FSN analysis was performed using the frequency of issue, and XYZ analysis was performed using the value of each closing stock. According to the ABC-VEN matrix analysis, 26.6% of goods were Category I, with Class A and V items accounting for the greatest share, accounting for 84.7% of annual drug expenditure (ADE). The remaining 49.2% and 24.2% of the medications accounted for only 13.2% and 2.1% of the ADE, respectively, being category II and III. According to the FSN-XYZ matrix analysis results, category I has the biggest budget (average 86.5% of values) with 41.5% item share. The XN group-non-moving and high-cost drugs-had the highest value (20%) in this category, necessitating managerial intervention. In category III, the ZN group items were 25% of the medications but only had 2.2% of the value-this may raise wastage, inventory holding costs, and storage space shortages. The matrix analysis for inventory control is a powerful technique for identifying goods that require close monitoring. The linked ABC-VEN matrix analysis, which combines their distinct benefits-inventory cost and functional importance-aids in the achievement of meaningful inventory management. However, in order to keep the stock at an appropriate level with minimal shortage and surplus, XYZ-FSN matrix analysis must be used. The XYZ-FSN matrix assists health care facilities in determining the degree of inventory with high value in dead stock and taking actions such as transferring to others, disposing, or saving[98].

2.3.2.2 **Inventory Shrinkage and Institutional Performance**

In a study on the effect of inventory management practices on operational performance of flour milling companies in Nigeria. The researcher investigated the impact of inventory management practices on the operational performance of Nigerian flour milling enterprises. The survey research design was cross-sectional. The target population consisted

of 2,237 employees from various flour milling enterprises. The sample size of 776 was determined using a stratified random sampling procedure. Data was gathered using a Standardised questionnaire. In SPSS, hypotheses were tested using inferential statistics. Inventory shrinkage has a considerable negative effect on student satisfaction, according to the data. Inventory control and the cost effectiveness of chosen flour milling enterprises have a substantial link. The study revealed that inventory management practices had a considerable impact on the operational performance of Nigerian flour milling enterprises[76].

A study on effective inventory management practice and firms performance: evidence from Nigerian consumable goods firms. The purpose of the study was to determine the association between effective inventory management practices and firm performance of selected consumable goods firms on the Nigeria stock exchange from 2009 to 2019. Return on capital employed, firm growth, and return on investment were used to surrogate firm performance, while stock procurement cost, stock usage, and stock value were used to measure good stock management practice. The analysis relied on panel data derived from Nigeria stock market publications, fact books, annual reports, and accounts of listed beer enterprises from 2009 to 2019. The data was analysed using the correlation coefficient and the ordinary least square (OLS) regression approach with the help of the STATA 13 statistical programme. At the 5% significant level, the data demonstrated a substantial positive link between return on capital employed, firm growth, and effective inventory management practice; a positive and non-significant relationship between return on investment and effective inventory management practice. This study proposed, among other things, that management in student products institutions focus on adequate effective

inventory management practice procedures and evaluating efficiency deviations to detect deficiencies in the inventory management process[99].

In a study on inventory management and operational performance of manufacturing firms in South-East Nigeria. The study's goal was to determine the relationship between inventory management and operational performance of publicly traded manufacturing enterprises in Nigeria's south east, one of the country's most industrialized regions. A questionnaire was used to investigate the operational performance of manufacturing enterprises and their relationship with inventory management components such as inventory cost, just in time approach, materials requirement planning, and strategic supplier alliance. Three hundred and seventy-one copies of a questionnaire distributed to 538 sampled respondents from four quoted manufacturing enterprises in Nigeria's south east region were properly filled out and judged to be relevant to the study. The descriptive statistics utilised in the study were based on SPSS and Excel. To test the hypothesis, regression analysis was performed. The study's hypotheses were tested using regression analysis. According to the study's findings, there is a positive substantial association between inventory cost, just in time approach, materials need planning, strategic supplier alliance, and operational performance of listed manufacturing enterprises in Nigeria's south east region. Because of the significant impact these practices have on operational performance, the study recommends that manufacturing firms in south east Nigeria adopt inventory practices such as strategic supplier partnership, just in time approach, materials requirement planning, and inventory cost control[100].

2.3.3 **Qualification and Institutional Performance**

In a study on the impact of implementing talent management practices on sustainable institutional performance, the researchers investigated the effect of talent management practices on sustainable institutional performance in real estate companies located in the United Arab Emirates. A structured questionnaire was distributed to collect data from a study sample of 306 managers working in real estate companies. The proposed hypotheses were verified by structural equation modeling (SEM). The results of this study show that talent attraction and talent retention had no impact on sustainable institutional performance, whereas learning and development and career management were found to have significantly positive impacts. The study suggests that learning and development and employee career management should be leveraged by management by concentrating on coaching and training programmes and job rotation so that the firm can achieve sustainable institutional performance[101].

A study was conducted to analyse the impact of hard skills, soft skills, institutional learning, and innovation capability on the performance of lecturers in Islamic universities in Indonesia. The researchers used a random sampling technique and a structured questionnaire to gather data from 261 individuals at one Islamic university. The study used the Structural Equation Modeling (SEM) approach and SmartPLS version 3.0 software for data analysis. The results showed that all four independent variables had a positive and statistically significant direct impact on lecturers' performance. Soft skills were found to be the most influential factor, having the strongest effect on performance outcomes. The study highlights the importance of technical competencies, interpersonal and adaptive abilities, institutional

development processes, and innovation capacity in fostering academic excellence within Islamic universities[102].

A study was conducted to examine the impact of hard skills, soft skills, and institutional culture on lecturers' innovation competencies in private universities across the Jabodetabek region. The researchers collected data through electronic-based simple random sampling and analyzed it using Structural Equation Modeling (SEM) software. The results showed that both hard and soft skills significantly influence lecturers' innovation competencies. The study also revealed that institutional culture plays a mediating role, strengthening the indirect relationship between skillsets and lecturers' innovation ability. A supportive and dynamic institutional culture enhances the capacity of hard and soft skills to foster innovative performance among academic staff. The study underscores the interconnected roles of individual competencies and organisational environment in promoting innovation within higher education settings[103].

2.4 Conceptual Model

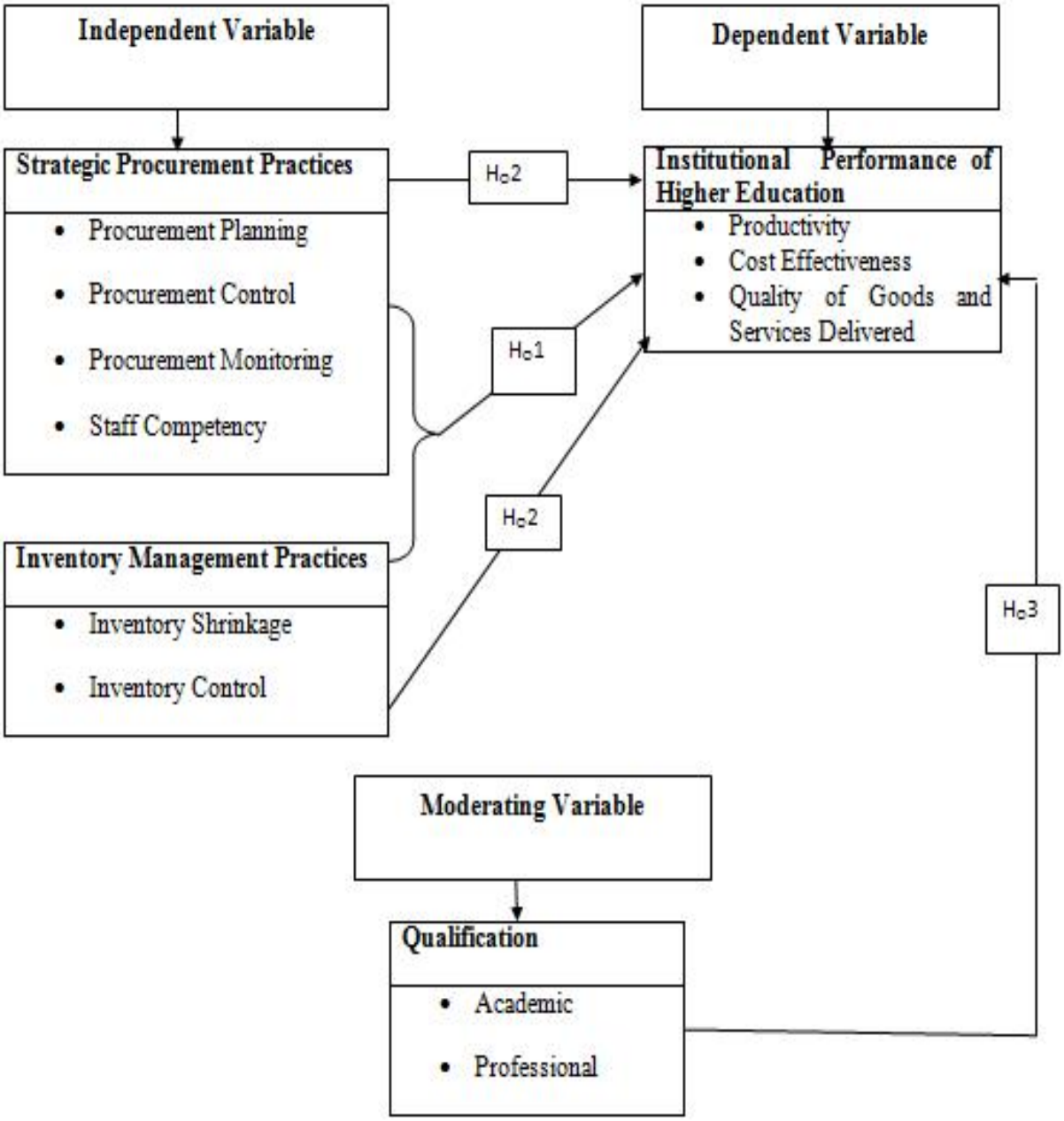

Fig. 2.1: Conceptual Model Showing the Influence of Strategic Procurement Practices on Institutional Performance of Public Higher Education in South-South Nigeria.

Source: Researcher, 2024.

2.5 Summary of Gaps in Literature Reviewed

There is a scarcity of empirical studies that specifically investigate the relationship between strategic procurement, inventory management practices, and institutional performance in public higher education institutions within the South-South region. Existing research tends to be limited, and more empirical evidence is needed to draw robust conclusions.

Many studies lack a nuanced understanding of the contextual factors unique to South-South Nigeria. The region's distinct economic, social, and regulatory environment may shape the effectiveness of procurement and inventory management practices, necessitating research that considers and addresses these contextual nuances.

Few studies explicitly consider the integration of sustainability and social responsibility aspects within procurement and inventory management practices in the higher education context. Investigating how environmentally friendly and socially responsible practices influence institutional performance can provide a more comprehensive understanding.

Limited comparative analyses between different public higher education institutions within the South-South region are available. Such comparative studies could shed light on variations in procurement and inventory management practices and their impact on institutional performance across institutions.

There is a need for research that not only identifies gaps but also provides practical recommendations and implementation strategies. Bridging the gap between theoretical insights and actionable steps can support public higher education institutions in South-South

Nigeria in effectively implementing strategic procurement and inventory management practices for improved institutional performance.

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Chapter Three

Methodology

This chapter presents methods and procedures for the study. It is organized into several sections, beginning with the research design, followed by the population of the study, and the sample alongside the sampling techniques employed. The chapter further provides a description of the research instrument, as well as an explanation of how its validity and reliability were established. In addition, the methods of data collection and data analysis are discussed in detail. The chapter concludes with an endnote.

3.1 Research Design

This study used a descriptive survey research design, a systematic investigation of a specific population or group. Data was collected from a selected subset of individuals, chosen as a representative sample of the broader population. This method allows researchers to draw inferences about the entire group based on observed characteristics, opinions, or behaviors. This design captures current status, conditions, or trends within a population without manipulating variables, providing a comprehensive and factual account of the subject under study[1]. Therefore, information was collected from sampled respondents to describe the population of interest.

3.2 Population of the Study

The population for this study comprised all procurement officers and inventory managers of public higher education institutions in South-South Nigeria. As at the time of this study, the total number of public higher education institutions was thirty-one (31), covering the Six (6) South-South states of Nigeria namely Akwa-Ibom, Bayelsa, Cross River, Delta, Edo, Rivers.

There are five hundred and twenty-three (523) procurement officers and one hundred and eighty five (185) inventory managers in the schools. The statistics is presented in table 3.1

Table 3.1 **Shows the Distribution of Procurement Officers and Inventory Managers From the Public Higher Education Institutions**.

S/N	Name of Tertiary Institutions	State	Procurement Officers	Inventory Managers
1	University of Uyo,	Akwa Ibom	31	11
2	Federal University of Technology Ikot Abasi	Akwa Ibom	17	4
3	Akwa Ibom State University Ikot Akpaden	Akwa Ibom	13	4
4	Akwa Ibom State Polytechnic Ikot Ekpene,	Akwa Ibom	9	3
5	Federal University Otuoke	Bayelsa	7	4
6	Niger Delta University Wilberforce Island	Bayelsa	20	7
7	Africa University Toro-orua,	Bayelsa	18	5
8	Bayelsa Medical University Yenagoa	Bayelsa	17	6
9	Federal Polytechnic Ekowe	Bayelsa	17	4
10	University of Calabar	Cross River	32	17
11	Cross River State University of Technology	Cross River	18	9
12	Federal Polytechnic Ugep	Cross River	10	4
13	Cross River State Institute of Technology Ugep	Cross River	8	2
14	Federal University of Petroleum Resources Effurun	Delta	19	6
15	Nigerian Maritime University Okerenkoko	Delta	10	3

16	Admiralty University Ibusa	Delta	13	3
17	Delta State University Abrakka	Delta	28	10
18	Delta State University of Science and Technology Ozoro	Delta	13	3
19	Dennis Osadebe University Asaba	Delta	6	2
20	Delta State Polytechnic Ogwashi-Uku	Delta	6	3
21	Delta State Polytechnic Otefe-Oghara	Delta	5	2
22	University of Benin	Edo	37	13
23	Ambrose Alli University Ekpoma	Edo	19	7
24	Edo University Uzairue	Edo	8	3
25	Auchi Polytechnic Auchi	Edo	16	6
26	Edo Polytechnic Usen	Edo	11	3
27	University of Port-Harcourt	Rivers	34	12
28	Ignatius Ajuru University of Education Rumuoluomeni	Rivers	25	8
29	Rivers State University	Rivers	30	11
30	Ken Sarowiwa Polytechnic	Rivers	19	7
31	Port-Harcourt Polytechnic	Rivers	7	3
	Total		**523**	**185**

Source: Field Survey, 2025

3.3 Sample and Sampling Techniques

The total sample for this study comprised 274 procurement officers and 105 inventory managers, making a total of 379 respondents. This sample was derived using a purposive sampling technique to select the study area and institutions. The three oldest states in the

South-South geopolitical zone - Cross River, Edo, and Rivers - were deliberately chosen because they host the region's earliest established public tertiary institutions, dating back to between 1970 and 1980. This ensured the study's focus on institutional systems with a long operational history. From these states, a total of 14 institutions were selected based on their direct relevance to the study's objectives. Four (4) were selected from Cross River, five (5) from Edo, and five (5) from Rivers. A total enumeration of all procurement officers and inventory managers within these selected institutions was utilized, as the accessible population was relatively small, making it both feasible and practical, which is, four (4) from Cross River, five (5) from Edo, and five (5) from Rivers.

Table 3.2: List of Sampled HEI Showing the Distribution of Procurement Officers and Inventory Managers from the Public Higher Education Institutions.

S/N	Name of Tertiary Institutions	State	Procurement Officers	Inventory Managers
1.	University of Calabar	Cross River	32	17
2.	Cross River State University of Technology	Cross River	18	9
3.	Federal Polytechnic Ugep	Cross River	10	4
4.	Cross River State Institute of Technology Ugep	Cross River	8	2
5.	University of Benin	Edo	37	13
6.	Ambrose Alli University Ekpoma	Edo	19	7
7.	Edo State University Uzairue	Edo	8	3
8.	Auchi Polytechnic Auchi	Edo	16	6
9.	Edo Polytechnic Usen	Edo	11	3
10.	University of Port-Harcourt	Rivers	34	12
11.	Ignatius Ajuru University of Education Rumuoluomeni	Rivers	25	8
12.	Rivers State University	Rivers	30	11
13.	Ken Sarowiwa Polytechnic	Rivers	19	7
14.	Port-Harcourt Polytechnic	Rivers	7	3
	Total		**274**	**105**

Source: Field Survey, 2024

3.4 Description of the Research Instrument(s)

Two sets of instruments were used for this study. These are "Strategic Procurement and Institutional Performance Questionnaire (SPIPQ)" and "Inventory Management and Institutional Performance Questionnaire (IMIPQ)." The SPIPQ was self-developed structured four (4) -likert scale questionnaire, while the IMIPQ was adapted and customised to align with the specific objectives of this study[2]. The SPIPQ consisted of five (5) sections (A, B, C, D, and E). Section A was on demographic data, which included age, gender, highest qualification and work experience. Section B, measured the level of institutional performance of Higher Education Institutions in South-South Nigeria. It consisted of 16 items – Productivity (6), Cost Effectiveness (4), Quality of Goods and Services Delivered (6). Section C consisted of 26 items across; measured the current strategic procurement practices employed by public higher education institutions in the South-South region of Nigeria. Under this section, there were 26 items spread across the four indicators of strategic procurement, that is, procurement planning (8), procurement control (7),procurement monitoring (6) and staff competency (5). Section D (Items = 7) explored the challenges faced by public higher education institutions in implementing effective strategic procurement practices in South-South Nigeria. Section E (Items =7) comprise of procurement frameworks aimed at resource optimization for improved institutional Performance in Public Higher Education, South-South Nigeria. The second set of questionnaire, IMIPQ also consisted of five (5) sections (A, B, C, D, and E). Section A was on demographic data. Section B measured level of institutional performance (Productivity, Cost Effectiveness, Quality of Goods and Services Delivered) of Higher Education Institutions in South-South Nigeria (as used in SPIPQ for procurement officers), Section C, which had 16 questions across three indices of

productivity (6), cost effectiveness (4) and quality of goods and services delivered (6).These questions measured the current inventory management practices employed by public higher education institutions in the South-South region of Nigeria, using a 6-point Likert scale. Section D explored the challenges faced by public higher education institutions in implementing effective inventory management practices in South-South Nigeria, with a 6-point Likert scale. Section E proposed inventory management frameworks aimed at optimising resource allocation and utilisation for improved institutional performance in public higher education institutions in the South-South Nigeria, with the use of a 6-point Likert scale.

3.5 Validity of Research Instruments

The research instrument's validity was confirmed through a thorough review of a preliminary version of the structured questionnaire by the researcher's supervisor and academic staff members. The reviewers, including measurement and evaluation specialists, assessed the questionnaire's appropriateness. The feedback, observations, and recommendations provided by these experts were meticulously examined and incorporated into the revised version. This rigorous validation process ensured the instrument had high content and face validity, covering the research topic effectively.

3.6 Reliability of Research Instruments

A pilot study was conducted with 10 procurement officers and 10 inventory managers drawn from Federal University Otuoke (Bayelsa State), Niger Delta University Wilberforce Island (Bayelsa State), University of Africa, Toro-orua (Bayelsa State), and Federal Polytechnic Ekowe (Bayelsa State). The two instruments employed were the SPIPQ and the IMIPQ. Respondents and their institutions involved in the pilot were excluded from the main study

sample. The pilot data were analysed using the Cronbach Alpha method to establish internal consistency and reliability of the instruments. The SPIPQ demonstrated high reliability, with coefficients of 0.91, 0.90, 0.90, and 0.93, while the IMIPQ also showed strong reliability, yielding coefficients of 0.88, 0.91, 0.88, and 0.91.

3.7 Method of Data Collection

A letter of introduction was collected from the Researcher's department and used by the researcher to obtain permission from the sampled school authorities. The researcher personally oversaw the collection of data, which was supplemented by a team of five (5) qualified research assistants. These assistants were instrumental in the distribution and retrieval of structured questionnaires, which were distributed exclusively to procurement and inventory officers at the selected institutions. To ensure efficiency and minimise delays, completed surveys were collected immediately on the spot after being filled out by the respondent. However, in instances where respondents were unavailable to complete the questionnaire at the time of initial contact, arrangements were made to collect the completed surveys on another day to ensure data completeness and respondent convenience

3.8 Method of Data Analysis

The filled questionnaires were analysed with descriptive and inferential statistics. Descriptive statistics of frequency counts, percentages (%), mean, and standard deviation were utilised to assess demographic data and answer the research questions. The hypotheses one and two were tested using multiple regression analysis, while hypothesis three was tested using independent samples t-test with a level of significance of 0.05.

Endnotes

1 S. Noor, O.Tajik, & J. Golzar, *Simple Random Sampling*, **International Journal of Education & Language Studies**, 1(2), 2022, 78-82.

2 B. H. Akinlabi, *Effect of Inventory Management Practices on Operational Performance of Flour Milling Companies in Nigeria*, **International Academy Journal of Management, Marketing & Entrepreneurial Studies**, 8 (2), 2021, 137-174.

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Chapter Four

Results and Discussion of Findings

This chapter presents results of the analyses and discussion of findings. The results and discussion of findings are organized to cover the following: demographic characteristics of the respondents, research question and hypotheses testing and discussion of findings.

4.1 Demographic Data Analysis

The analysis of demographic characteristics of the respondents is presented in table 4.1, 4.2, 4.3, and 4.4.

Table 4.1: Demographic Characteristics of the Respondents by Age

Age Range	Frequency	Percent
Procurement Officers		
21-30	79	30.9
31-40	80	31.3
41-50	57	22.3
51-60	27	10.5
>60	13	5.1
Total	**256**	**100.0**
Inventory Managers		
21-30	26	29.9
31-40	30	34.5
41-50	18	20.7
51-60	9	10.3
Above 61	4	4.6
Total	**87**	**100.0**

The table 4.1 shows the age distribution of Procurement Officers and Inventory Managers in the study population. Procurement Officers are predominantly aged 31-40 years, followed by those aged 21-30 years (30.9%). Inventory Managers are mostly aged 31-40 years (34.5%), with 29.9% aged 21-30 years. The age group of 41-50 years is 20.7%, while 10.3% are in the

51-60 years range. The smallest group is 4.6% aged above 61 years, resulting in a total of 87 respondents.

Table 4.2: Demographic Characteristics of the Respondents by Gender

Gender	Frequency	Percent
Procurement Officers		
Male	114	44.5
Female	142	55.5
Total	**256**	**100.0**
Inventory Managers		
Male	37	42.5
Female	50	57.5
Total	**87**	**100.0**

The table 4.2 shows gender demographics for Procurement and Inventory Officers. Majority of the sampled respondents for both Procurement Officers and Inventory Managers were females

Table 4.3: Demographic Characteristics of the Participant by Qualification

Highest Qualification	Frequency	Percentage
Procurement Officers		
SSCE	27	10.5
BSc	105	41.0
MSc	85	33.2
PhD	39	15.2
Total	**256**	**100.0**
Inventory Managers		
SSCE	9	10.3
BSc	47	54.0
MSc	26	29.9
PhD	5	5.7
Total	**87**	**100.0**

The table 4.3 revealed that among the respondents, Procurement Officers have a larger percentage (41.0%) with a BSc degree, followed by MSc (33.2%). A smaller proportion (15.2%) holds a PhD degree, while 10.5% have an SSCE qualification. Inventory Managers

have the majority (54.0%) with a BSc degree, followed by 29.9% with an MSc degree. PhD holders constitute 5.7%, and 10.3% hold an SSCE qualification.

Table 4.4: Demographic Characteristics of the Participants by Work Experience

Work Experience	Frequency	Percent
Procurement Officers		
1 Year	21	8.2
2 Years	74	28.9
3 Years	77	30.1
>3	84	32.8
Total	**256**	**100.0**
Inventory Managers		
1 Year	10	11.5
2 Years	18	20.7
3 Years	26	29.9
Above 3	33	37.9
Total	**87**	**100.0**

The table 4.4 shows that Procurement Officers have the largest group (32.8%) with over 3 years of experience, followed by those with 3 years (30.1%). Those with 2 years of experience were 28.9%, while the Procurement Officers with 1 year of experience accounted for 8.2%. Inventory Managers have the majority (37.9%) with over 3 years of experience, followed by those with 3 years (29.9%). Those with 2 years of experience made up 20.7%, and 11.5% had 1 year of experience.

4.2 Presentation of Data

4.2.1 Answers to Research Questions

Research Question One: What is the level of institutional performance (Productivity, Cost Effectiveness, Quality of Goods and Services Delivered) of Higher Education Institutions in South-south Nigeria?

Table 4.5: Summary of Result of the Level of Performance of Higher Education Institutions in South-south Nigeria by Procurement and Inventory Management Officers

S/N	Item	SD (%)	D (%)	A (%)	SA (%)	N	M	STD	Remark
	Productivity								
1	There is an overall productivity of members in my institution	34(9.9)	62(18.1)	150(43.7)	97(28.3)	343	2.84	0.92	High
2	There are initiatives in place to enhance the productivity of staff? (e.g., professional development programs, research support)	37(10.8)	61(17.8)	150(43.7)	93(27.1)	343	2.83	0.93	High
3	There is a research output and contributions of my institution	35(10.2)	70(20.4)	139(40.5)	98(28.6)	343	2.87	0.94	High
4	There are mechanisms in place to promote and support research	49(14.3)	56(16.3)	143(41.7)	94(27.4)	343	2.80	0.99	High

	activities among members								
5	There is an overall academic performance of students in my institution	40(11.7)	61(17.8)	154(44.9)	88(25.7)	343	2.81	0.94	High
6	There are support systems to enhance student learning and academic success	45(13.1)	57(16.6)	159(46.4)	82(23.9)	343	2.79	0.95	High
	Cost effectiveness								
7	There is an effective financial management of my institution in optimising resources	57(16.6)	48(14.0)	164(47.8)	74(21.6)	343	2.70	0.98	High
8	There are strategies in place to minimize unnecessary expenditures	51(14.9)	47(13.7)	163(47.5)	82(23.9)	343	2.76	0.97	High
9	There are efficient physical and human resources utilized within my	46(13.4)	53(15.5)	162(47.2)	82(23.9)	343	2.75	0.95	High

	institution								
10	There are initiatives to optimise resource allocation and Utilisation	43(12.5)	62(18.1)	143(41.7)	95(27.7)	343	2.82	0.97	High
	Quality of Goods and Services Delivered								
11	There is the overall quality of teaching in my institution	44(12.8)	61(17.8)	142(41.4)	96(28.0)	343	2.84	0.97	High
12	There are continuous improvement measures for teaching quality	45(13.1)	63(18.4)	146(42.6)	88(25.7)	343	2.79	0.97	High
13	I am satisfied with the infrastructure and facilities provided by my institution	62(18.1)	47(13.7)	156(45.5)	77(22.4)	343	2.70	1.01	High
14	There is a plan for upgrading and maintaining infrastructure	52(15.2)	55(16.0)	153(44.6)	83(24.2)	343	2.76	0.98	High
15	There are effective support services offered to students	46(13.4)	55(16.0)	160(46.6)	82(23.9)	343	2.75	0.95	High

	(e.g., counseling, career guidance)								
16	There are plans to enhance and expand student support services	52(15.2)	49(14.3)	147(42.9)	95(27.7)	343	2.76	1.00	High
	Average Mean						**2.75**		

Source: Field Survey, 2024

KEY: **N** = Number of respondents, **M =** Mean

Decision Rule: 1.00 - 2.49 = Low, 2.50 - 4.00 = High.

The table 4.5 shows that the productivity dimension, which includes staff and student performance, research engagement, and institutional initiatives, shows a high level of performance, indicating that institutions are effectively fostering academic and research excellence. The cost effectiveness dimension evaluates how well institutions manage and allocate resources, with all indicators rated "High", indicating financial responsibility and strategic planning. The quality of teaching, infrastructure, and student support services also show high scores, indicating strong academic delivery. Continuous improvement measures for teaching, satisfaction with infrastructure and facilities, plans for infrastructure maintenance and upgrades, and effectiveness of student support services are all rated "High", indicating consistent delivery of quality services and support systems. The overall institutional performance is in the "High" category, with the highest rated items being research output (2.87) and quality of teaching (2.84), while the lowest is infrastructure satisfaction (2.70).

Research Question Two: What are the current strategic procurement practices employed by public higher education institutions in the South-south region of Nigeria?

Table 4.6: Summary of Result of the Current Strategic Procurement Practices Employed by Public Higher Education Institutions in the South-south Region of Nigeria

	SD (%)	D (%)	A (%)	SA (%)	N	M	STD	Remark
Procurement Planning								
Requirements evaluation is carried out by the respective departmental heads to identify the goods and services needed	41(16.0)	38(14.8)	107(41.80)	70(27.3)	256	2.80	1.01	Agree
Financial authorization is secured for the needed items prior to issuing purchase orders	26(10.2)	53(20.7)	58(22.7)	119(46.5)	256	3.05	1.04	Agree
Funds are availed based on the budget	26(10.2)	53(20.7)	80(31.3)	97(37.9)	256	2.97	1.00	Agree
Departmental heads explicitly outline the procurement requirements	25(9.8)	41(16.0)	67(26.2)	123(48.0)	256	3.13	1.01	Agree
Top management is involved in the procurement planning	21(8.2)	50(19.5)	62(24.2)	123(48.0)	256	3.12	1.00	Agree
Procurement planning sets in motion the entire procurement process	21(8.2)	38(14.8)	125(48.8)	72(28.1)	256	2.97	0.87	Agree
Suppliers collaborate with the organization to establish delivery	27(10.5)	52(20.3)	115(44.9)	62(24.2)	256	2.83	0.92	Agree

timelines that align with institutional needs								
Mean						**2.99**		
Procurement Control								
An impartial panel reviews and assesses procurement tenders	32(12.5)	47(18.4)	106(41.4)	71(27.7)	256	2.84	0.97	Agree
An autonomous committee unseals and reviews procurement tenders	24(9.4)	55(21.5)	97(37.9)	80(31.3)	256	2.91	0.95	Agree
Delivered items are verified against the corresponding local purchase order	22(8.6)	43(16.8)	126(49.2)	65(25.4)	256	2.91	0.87	Agree
Suppliers' technical competencies are assessed prior to contract issuance	26(10.2)	53(20.7)	115(44.9)	62.(24.2)	256	2.83	0.91	Agree
Losses are avoided by consistently monitoring the procurement procedures	28(10.9)	51(19.9)	111(43.4)	66(25.8)	256	2.84	0.93	Agree
Losses are minimized by regularly auditing the purchasing procedures	40(15.6)	39(15.2)	98(38.3)	79(30.9)	256	2.84	1.03	Agree
The organization routinely evaluates its current procurement guidelines	27(10.5)	47(18.4)	102(39.8)	80(31.3)	256	2.92	0.96	Agree

Mean						**2.87**		
Procurement Monitoring								
Remedial measures are implemented upon detection of irregularities in the procurement procedures	29(11.3)	36(14.1)	72(28.1)	119(46.5)	256	3.10	1.03	Agree
Challenges in the procurement process are addressed promptly to minimize disruption	39(15.2)	40(15.6)	80(31.3)	97(37.9)	256	2.92	1.07	Agree
Purchases are closely monitored as a means of managing expenditures	30(11.7)	35(13.7)	74(28.9)	117(45.7)	256	3.09	1.03	Agree
Vendor assessments are conducted regularly to maintain service quality	20(7.8)	31(12.1)	82(32.0)	123(48.0)	256	3.20	0.94	Agree
Suppliers are routinely assessed to guarantee the quality of goods provided	27(10.5)	36(14.1)	70(27.3)	123(48.0)	256	3.13	1.02	Agree
The procurement system is periodically reviewed to ensure effectiveness	28(10.9)	51(19.9)	99(38.7)	78(30.5)	256	2.89	0.97	Agree
Mean		**3.01**				**3.01**		
Staff Competency								
Skilled personnel are productive, proficient, and offer effective resolutions to procurement	20(7.8)	39(15.2)	126(49.2)	71(27.7)	256	3.00	0.86	Agree

challenges								
The institution assigns personnel according to their competencies	32(12.5)	47(18.4)	111(43.4)	66(25.8)	256	2.82	0.96	Agree
Unqualified personnel lead to substandard performance within the institution	23(9.0)	50(19.5)	103(40.2	80(31.3)	256	2.94	0.93	Agree
Personnel possess sufficient technical expertise	24(9.4)	37(14.5)	115(44.9)	80(31.3)	256	2.98	0.91	Agree
Staff are well-versed in procurement policies and regulatory guidelines	27(10.5)	52(20.3)	80(31.3)	97(37.9)	256	2.96	1.00	Agree
Mean						**2.94**		
Average Mean						**2.95**		

Source: Field Survey, 2024

KEY: **N** = Number of respondents, **M** = Mean

Decision Rule: 1.00 – 2.49= Disagree, 2.50 – 4.00 = Agree.

The table 2 reveals that public higher education institutions in the South-south region of Nigeria are generally perceived to implement strategic procurement practices. The three areas of procurement planning, control, and monitoring received average mean scores of 2.95, with all items marked as Agree based on the decision rule applied. This indicates a generally positive perception of procurement practices in these institutions.

Research Question Three: How effectively do existing inventory management techniques mitigate inventory shrinkage in public higher education institutions in South-south Nigeria?

Table 4.7: Summary of Result of the extent to which Inventory Management Techniques effectively mitigate shrinkage within Public Higher Education Institutions in the South-South Region of Nigeria

	R (%)	NO (%)	SEO (%)	SLO (%)	O (%)	VO (%)	N	M	STD	REMARK
Inventory Shrinkage										
Underproduction	9(10.5)	13(15.1)	17(19.8)	17(19,8)	17(19,8)	13(15.1)	87	3.69	1.57	Slightly Often (moderately high)
Damaged inventory/stock	10(11.6)	15(17.4)	20(23.3)	15(17.4)	18(20.9)	8(9.3)	87	3.47	1.52	Slightly Often (moderately high)
Excessive stocks	12(13.8)	14(16.1)	18(20.7)	12(13.8)	20(23,0)	11(12.6)	87	3.54	1.63	Slightly Often (moderately high)
Stock out Situations	10(11.5)	15(17.2)	20(23.0)	12(13.8)	18(20.7)	12(13.8)	87	3.56	1.60	Slightly Often (moderately high)
Production bottlenecks	8(9.2)	14(16.1)	22(25.3)	14(16.1)	18(20.7)	11(12.6)	87	3.61	1.52	Slightly Often (moderately high)
Delays in delivery of raw materials	9(10.3)	13(14.9)	19(21.8)	15(17.2)	20(23.0)	11(12.6)	87	3.66	1.55	Slightly Often (moderately high)
Stock outs of spare parts for Machines	11(12.6)	12(13.8)	21(24.1)	14(16.1)	18(20.7)	11(12.6)	87	3.56	1.56	Slightly Often (moderately high)
Expired inventory/stock	10(11.5)	14(16.1)	16(18.4)	15(17.2)	20(23.0)	12(13.8)	87	3.66	1.60	Slightly Often (moderately high))
Mean								**3.59**		
Inventory Control										
ABC Classification	8(9.2)	12(13.8)	15(17.2)	18(20.7)	20(23.0)	14(16.1)	87	3.83	1.56	Slightly Often (moderately high)
Economic Order Quantity	9(10.3)	13(14.9)	17(19.5)	15(17.2)	19(21.8)	14(16.1)	87	3.74	1.60	Slightly Often

										(moderately high)
Economic Batch Quantity (EBQ)	10(11.5)	14(16.1)	15(17.2)	13(14.9)	18(20.7)	17(19.5)	87	3.76	1.68	Slightly Often (moderately high)
Actions Level Methods	8(9.2)	12(13.8)	18(20.7)	14(16.1)	20(23.0)	15(17.2)	87	3.82	1.58	Slightly Often (moderately high)
Just-in-Time	7(8.0)	11(12.6)	15(17.2)	17(19.5)	22(25.3)	15(17.2)	87	3.93	1.54	Slightly Often (moderately high)
Periodic Review Technique	9(10.3)	13(14.9)	16(18.4)	14(16.1)	19(21.8)	16(18.4)	87	3.79	1.63	Slightly Often (moderately high)
Materials Requirement Planning	8(9.2)	11(12.6)	16(18.4)	18(20.7)	20(23.0)	14(16.1)	87	3.84	1.55	Slightly Often (moderately high)
Mean								**3.71**		

Source: Field Survey, 2024

KEY: **N** = Number of respondents, **M** = Mean, R- Rarely, NO-Not Often, SEO-Seldom Often, SLO-Slightly Often, O- Often, VO-Very Often.

Decision Rule: Rarely: 1.00 -1.83, Not Often (low): 1.84 - 2.66, Seldom Often (moderate): 2.67 - 3.50, Slightly Often (moderately high): 3.51 - 4.33, Often (high): 4.34 - 5.16, Very Often (very high): 5.17 - 6.00.

Based on the results in Table 4.7, the analysis indicates that the effectiveness of inventory management techniques in mitigating inventory shrinkage is moderate at best. The data reveals a paradox where both the utilization of inventory control measures and the occurrence of inventory problems are occurring at a similar, moderately high frequency. The table evaluates two key domains: Inventory Control Techniques (strategies to manage stock) and Inventory Shrinkage. Using a 6-point frequency scale, the results show that institutions are applying inventory control techniques with a "Slightly Often" frequency, as indicated by an overall mean of 3.82.

Despite this, the institutions still experience inventory-related problems at a similar frequency. The overall mean for the Inventory Shrinkage section is 3.59, which also falls into the "Slightly Often" category. This is evidenced by the prevalence of issues like underproduction (3.69), stock-out situations (3.56), and delays in delivery (3.66).This simultaneous occurrence suggests that the current inventory management practices are not highly effective at full mitigation. While the techniques are in place, their implementation may be inconsistent or lack the rigour needed to significantly resolve issues like stock-outs, excessive inventory, and production bottlenecks.

Research Question Four: What are the prevalent challenges faced by public higher education institutions in implementing effective strategic procurement and inventory management practices in South-south Nigeria?

Table 4.8a: Summary of Result of the Challenges Faced by Public Higher Education Institutions in Implementing Effective Strategic Procurement Practices in South-south Nigeria

	SD (%)	D (%)	A (%)	SA (%)	N	M	STD	REMARK
Governance issues	32(12.5)	47(18.4)	98(38.3)	79(30.9)	256	2.88	1.00	Moderate Challenge
Regulatory frameworks and policies	24(9.4)	43(16.8)	109(42.6)	80(31.3)	256	2.96	0.93	Moderate Challenge
Budgetary constraints	27(10.5)	52(20.3)	80(31.3)	97(37.9)	256	2.96	1.00	Moderate Challenge
Technological challenges in adopting modern procurement tools	21(8.2)	37(14.5)	83(32.4)	115(44.9)	256	3.14	0.95	Moderate Challenge
Collaboration with internal stakeholders	31(21.1)	48(18.9)	80(31.3)	115(44.9)	256	2.95	1.03	Moderate Challenge
Collaborating with external entities	26(10.2)	50(19.5)	83(32.4)	97(37.9)	256	2.98	0.99	Moderate Challenge
Aligning procurement strategies with sustainability goals	21(8.2)	45(17.6)	72(28.1)	117(45.7)	256	3.12	0.98	Moderate Challenge
Average Mean						**3.00**		

Source: Field Survey, 2024

KEY: **N** = Number of respondents, M- Mean, and STD- Standard Deviation

Decision Rule: Not a Challenge: 1.00 – 1.49, Minor Challenge: 1.50 – 2.49, Moderate Challenge: 2.50 – 3.49, Significant Challenge: 3.50 – 4.49, Very Significant Challenge: 4.50 – 5.00.

This table 4.8a highlights the challenges and barriers faced by public higher education institutions in implementing effective strategic procurement practices. An average mean of

3.00 reflects moderate challenges in faced by public higher education institutions in implementing effective strategic procurement practices. The results indicate that technological challenges and sustainability alignment are the most significant barriers, while governance and regulatory issues remain persistent concerns. Budgetary constraints and collaboration challenges, both internal and external, moderately impact procurement practices.

Table 4.8b: Summary of Result of the Challenges Faced by Public Higher Education Institutions in Implementing Effective Inventory Management Practices in South-south Nigeria

	R (%)	NO (%)	SEO (%)	SLO (%)	O (%)	VO (%)	N	M	STD	REMARK
Governance issues affect inventory management implementation	7(8.0)	10(11.5)	14(16.1)	18(20.7)	22(25.3)	16(18.4)	87	3.99	1.54	Significant Challenge
Regulatory frameworks and policies impact the implementation of inventory management practices in my institution	6(6.9)	9(10.3)	15(17.2)	20(23.0)	22(25.3)	15(17.2)	87	4.01	1.47	Significant Challenge
Budgetary constraints hinder the implementation inventory management practices in my institution	5(5.7)	11(12.6)	14(16.1)	18(20.7)	22(25.3)	17(19.5)	87	4.06	1.50	Significant Challenge
Technological challenges are faced in adopting modern inventory management tools and systems	6(6.9)	10(11.5)	14(16.1)	18(20.7)	22(25.3)	17(19.5)	87	4.05	1.52	Significant Challenge
There are challenges in collaborating	5(5.7)	12(13.8)	16(18.4)	20(23.0)	23(26.4)	11(12.6)	87	3.89	1.43	Significant Challenge

with internal stakeholders during inventory management processes										
The institution face challenges in collaborating with external entities for inventory management - related matters	6(6.9)	11(12.6)	15(17.2)	16(18.4)	23(26.4)	16(18.4)	87	4.00	1.52	Significant Challenge
There are challenges in aligning inventory management with sustainability goals	7(8.0)	12(13.8)	15(17.2)	18(20.7)	20(23.0)	15(17.2)	87	3.89	1.54	Significant Challenge
Average Mean		**3.98**						**3.98**		

Source: Field Survey, 2024

KEY: **N** = Number of respondents, M- Mean, and STD- Standard Deviation

Decision Rule: Not a Challenge: 1.00 – 1.49, Minor Challenge: 1.50 – 2.49, Moderate Challenge: 2.50 – 3.49, Significant Challenge: 3.50 – 4.49, Very Significant Challenge: 4.50 – 5.00.

The analysis of Table 4.8b reveals that public higher education institutions in South-South Nigeria face significant challenges in implementing effective inventory management practices, as all identified barriers recorded mean scores within the "Significant Challenge" range (3.50–4.49). Major issues include governance inefficiencies, restrictive regulatory frameworks, budgetary constraints, technological limitations, poor internal and external

stakeholder collaboration, and difficulties aligning with sustainability goals. The overall average mean of 3.98 reinforces the presence of widespread and systemic challenges across institutions, implying that the issue considerably affects inventory management effectiveness.

Research Question Five: What strategic procurement and inventory management frameworks can optimise resource allocation and Utilisation to enhance institutional performance in public higher education institutions in South-South Nigeria?

Table 4.9a: Summary of Result of the Likely Strategic Procurement Frameworks aimed at Optimising Resource Allocation and Utilisation for Improved Performance in Public Higher Education Institutions in the South-south Nigeria

	SD (%)	D (%)	A (%)	SA (%)	N	M	STD	REMARK
Effectiveness of stakeholder engagement practices	19(7.4)	33(12.9)	96(37.5)	108(42.2)	256	3.14	0.91	Moderately Recommended Framework
Alignment of current budget with the institution's strategic objectives	15(5.9)	25(9.8)	88(34.4)	128(50.0)	256	3.29	0.87	Moderately Recommended Framework
Proper management of relationships with suppliers and vendors	16(6.3)	31(12.1)	79(30.9)	130(50.8)	256	3.26	0.90	Moderately Recommended Framework
Leveraging technology in the procurement process	19(7.4)	36(14.1)	72(28.1)	129(50.4)	256	3.21	0.95	Moderately Recommended Framework
Specific measures to promote ethical sourcing and environmentally friendly practices	12(4.7)	28(10.9)	90(35.2)	126(49.2)	256	3.29	0.84	Moderately Recommended Framework
The institution should enhance internal capacity for strategic procurement management	16(6.3)	36(14.1)	90(35.2)	114(44.5)	256	3.18	0.90	Moderately Recommended Framework
The institution should enhance legal and regulatory compliance in procurement	12(4.7)	27(10.5)	103(40.2)	114(44.5)	256	3.24	0.82	Moderately Recommended Framework
Average Mean						**3.23**		

Source: Field Survey, 2024

KEY: **N** = Number of respondents, M- Mean, and STD- Standard Deviation

Decision Rule: Not Recommended Framework: 1.00 – 1.49, Weakly Recommended Framework: 1.50 – 2.49, Moderately Recommended Framework: 2.50 – 3.49, Strongly Recommended Framework: 3.50 – 4.49, Very Strongly Recommended Framework: 4.50 – 5.00.

The tables 4.9a summarise the elements of a strategic procurement framework aimed at optimising resource allocation and improving institutional performance. The overall average mean of 3.23 indicates that most respondents moderately recommended the framework. The results show a high level of agreement with the suggested frameworks, with the highest priorities being budget alignment with strategic objectives and promoting ethical and environmentally friendly procurement practices.

Table 4.9b: Summary of Result of the Likely Strategic Inventory Management Frameworks aimed at Optimising Resource Allocation and Utilisation for Improved Performance in Public Higher Education Institutions in the South-south Nigeria

	R (%)	NO (%)	SEO (%)	SLO (%)	O (%)	VO (%)	N	M	STD	REMARK

There should be effectiveness of stakeholder engagement practices in the inventory management process	4(4.6)	8(9.2)	14(16.1)	20(23.0)	25(28.7)	16(18.4)	87	4.17	1.40	Strongly Recommended Framework
Current budget should align with the strategic objectives of the institution	5(5.7)	10(11.5)	12(13.8)	15(17.2)	27(28.7)	20(23.0)	87	4.21	1.52	Strongly Recommended Framework
My institution should leverage technology in the inventory management process	4(4.6)	8(9.2)	12(13.8)	16(18.4)	27(31.0)	20(23.0)	87	4.31	1.44	Strongly Recommended Framework
The institution should enhance internal capacity for strategic inventory management	3(3.4)	7(8.0)	12(13.8)	20(23.0)	25(28.7)	20(23.0)	87	4.34	1.37	Strongly Recommended Framework
The institution	5(5.7)	9(10.3)	14(16.1)	19(21.8)	22(25.3)	18(20.7)	87	4.12	1.48	Strongly Recommen

should enhance legal and regulatory compliance in inventory management		ded Framework
Average Mean	**4.23**	

Source: Field Survey, 2024

KEY: **N** = Number of respondents, M- Mean, and STD- Standard Deviation

Decision Rule: Not Recommended Framework: 1.00 – 1.49, Weakly Recommended Framework: 1.50 – 2.49, Moderately Recommended Framework: 2.50 – 3.49, Strongly Recommended Framework: 3.50 – 4.49, Very Strongly Recommended Framework: 4.50 – 5.00.

Table 4.9b reveals that all proposed strategic inventory management frameworks are strongly recommended by respondents for optimising resource allocation and enhancing institutional performance in public higher education institutions in South-South Nigeria. With an average mean score of 4.23, major strategies such as stakeholder engagement, budget alignment, technology adoption, capacity building, and regulatory compliance are all perceived as crucial. These frameworks are seen as effective approaches to improving inventory efficiency, accountability, and long-term institutional success.

4.2.2 Presentation of Hypotheses

The following hypotheses were tested in this study.

Ho1: There is no significant joint influence of strategic procurement practices and inventory management practices on performance of Higher Education in South-South Nigeria.

Table 4.10: Summary of Analysis of Regression Coefficient of the Joint Influence of Strategic Procurement and Inventory Management Practices on Performance of Higher Education in South-south Nigeria

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.153	.044		-3.459	.001
	Strategic Procurement Practices	.993	.014	.975	69.687	.000
1	(Constant)	.824	.070		11.718	.000
	Inventory Management Practices	.570	.018	.962	32.523	.000

Source: Field Survey, 2024.

Table 4.10 shows the regression coefficient was computed to determine the joint influence of strategic procurement practices on performance of Higher Education in South-south Nigeria. From the table above, the correlation coefficient was 0.993 (positive), and significant at 0.05. Table 4.10 also shows the regression coefficient was computed to determine the joint influence of inventory management practices on institutional performance of Higher Education in South-south Nigeria. From the table above, the correlation coefficient was 0.570 (positive), and significant at 0.05.

$H_0$2: There is no significant relative influence of strategic procurement and inventory management practices on performance of Higher Education in South-South Nigeria.

Table 4.11: Summary of Analysis of Regression Coefficient of the Relative Influence of Strategic Procurement and Inventory Management Practices on Performance of Higher Education in South-south Nigeria

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	-.017	.031		-.564	.573
	Procurement Planning	.127	.115	.126	1.104	.271
	Procurement Control	1.653	.097	1.614	16.971	.000
	Procurement	.073	.076	.075	.959	.339

	Monitoring					
	Staff Competency	-.868	.096	-.829	-9.061	.000
1	(Constant)	.825	.073		11.341	.000
	Inventory Shrinkage	.310	.097	.523	3.199	.002
	Inventory Control	.260	.096	.444	2.716	.008

Source: Field Survey, 2024.

Table 4.11 shows the correlation coefficient was computed to determine the influence of control, and staff competence on institutional performance of Higher Education in South-south Nigeria. From the table above, the correlation coefficient was 1.653 (positive) and -0.868 (negative) respectively, and significant at 0.05. Table 4.28 also shows the correlation coefficient was computed to determine the influence of planning and monitoring on performance of Higher Education in South-south Nigeria. From the table above, the correlation coefficient was 0.127 (positive) and 0.073 (positive) respectively, and not significant at 0.05. Table 4.11 also shows the correlation coefficient was computed to determine the relationship between inventory control and inventory shrinkage on institutional performance of Higher Education in South-south Nigeria. From the table above, the correlation coefficient was 0.310 (positive) and 0.260 (positive) respectively, and significant at 0.05.

$H_0$3: There is no significant influence of type of qualifications held by procurement and inventory staff on institutional performance of Higher Education in South-South Nigeria.

Table 4.12: Summary of Analysis of Independent Samples Test of the Effect of Type of Qualification of Procurement and Inventory Staff on Institutional Performance of Higher Education in South-South Nigeria

	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	T	Df	Sig.	Mean	Std. Error	95%

						(2-tailed)	Difference	Difference	Confidence Interval of the Difference	
									Lower	Upper
Institutional Performance of HEIs	Equal variances assumed	0.09	0.76	-2.81	341	0.01	-0.30	0.11	-0.52	-0.09
	Equal variances not assumed			-2.64	186.88	0.01	-0.30	0.11	-0.53	-0.08

Source: Field Survey, 2024.

Table 4.12 presents the results of an independent samples t-test analysing the effect of the type of qualification (academic vs. professional) of procurement and inventory staff on the institutional performance of higher education institutions in South-South Nigeria. The analysis compares the mean institutional performance scores for the two groups while considering the equality of variances. Under the assumption of equal variances, the t-value is -2.81, with df = 341, and the p-value (Sig. 2-tailed) is 0.01. This indicates that the difference in institutional performance between the two qualification types is statistically significant at the 0.05 level.

4.3 Discussion of Findings

The findings from research question one indicates that South-South Nigerian higher education institutions exhibit moderate performance in productivity, cost-effectiveness, and service quality, but face significant challenges in financial management and infrastructure. Higher Education Institutions (HEIs) face numerous challenges such as research output, staff motivation, curriculum gaps, inefficient budget allocation, government funding overreliance,

rising operational costs, inadequate infrastructure, limited student support services, and outdated teaching methods and materials.

The findings from research question two indicates that Public Higher Education Institutions in South-South Nigeria have effective strategic procurement practices, but improvements are needed in supplier evaluations, efficiency, and periodic reviews. Compliance with regulations and senior management oversight enhance financial accountability and reduce fraudulent activities. Issues include standardized evaluation frameworks, limited technology-driven performance tracking systems, political influence in supplier selection, excessive paperwork, delayed fund disbursement, inefficient procurement workflows, outdated policies, weak enforcement of reforms, and lack of continuous training.

The findings from research question three indicates that while inventory management strategies are in place, institutions still face significant challenges, including underproduction, raw material delays, expired inventory, production bottlenecks, and stockouts. These results indicate that while institutions are aware of and are applying these techniques, they are not highly effective at mitigating the problems they are designed to solve. The simultaneous occurrence of both suggests that the issue is not a lack of knowledge of the techniques, but rather a failure in their implementation. This may be as a result of inconsistent application whereby, that is instead of being consistently applied across all operations, the techniques may be used sporadically or only in specific departments. It may also be as a result of significant gap between the theoretical knowledge of procurement personnel and the practical application of the techniques. Staff may not have the necessary training, technology, or institutional support to implement techniques like Just-in-Time or ABC Classification with the required discipline and accuracy. The findings could also suggest a disconnect between

institutional policy and on-the-ground reality. While an institution may have a policy to use a certain technique, internal bottlenecks or a lack of enforcement may render it ineffective. The findings challenge the assumption that the mere presence of a strategic framework guarantees success. This result has implication for future research on institutional performance; they should focus not just on which techniques are being used, but on the quality, consistency, and contextual factors of their implementation.

The findings from research question four highlights the challenges faced by Higher Education Institutions (HEIs) in procurement and inventory management, including budget constraints, governance issues, technological barriers, and stakeholder collaboration difficulties. Issues include lengthy approval processes, weak enforcement of procurement policies, complex laws, rigid approval structures, frequent policy changes, government funding delays, outdated methods, lack of training in e-procurement technologies, high procurement software costs, resistance to change, conflicting priorities, poor communication, and lack of awareness on sustainable procurement.

The findings from research question five indicates strong support for frameworks that prioritize budget alignment with strategic objectives, stakeholder engagement, ethical procurement practices, technological adoption, and internal capacity building. It highlights the challenges faced by HEIs, such as lack of stakeholder engagement, misallocated budgets, inconsistent supplier performance, weak vendor relationships, limited ICT infrastructure, resistance to change, lack of formal policies on ethical and sustainable procurement, and a lack of skilled personnel in strategic procurement. It also highlights the need for better inventory management, with budget constraints limiting efficient planning and a lack of data-driven forecasting.

The regression analyses of hypothesis one and two presented in Tables 4.10a to 4.11b provide comprehensive insights into the joint and relative influences of strategic procurement and inventory management practices on the performance of higher education institutions in South-South Nigeria**.**

The hypothesis one indicates a strong joint positive and significant relationship between strategic procurement practices and performance (B = 0.993, β = 0.975, $t = 69.687$, $p < 0.05$). This finding implies that as higher education institutions strengthen their procurement systems, specifically in planning, control, monitoring, and staff competence, their overall institutional performance improves significantly[1]. The high standardized beta value suggests that procurement practices contribute greatly to performance outcomes. It reinforces the position that procurement is a fundamental determinant of performance[2]. Similarly, Table 4.10b reveals a significant and positive joint influence of inventory management practices on performance (B = 0.570, β = 0.962, $t = 32.523$, $p < 0.05$). This result demonstrates that effective inventory control, monitoring of stock levels, and reduction of inventory losses contribute to improved performance outcomes among higher education institutions. This finding aligns with previous studies on Nigerian flour milling companies, which found that inventory shrinkage negatively affected operational performance, while proper inventory control improved cost-effectiveness[3]. The joint emphasizes the predictive power of procurement and inventory practices on performance, consistent with related findings in, where procurement planning, ICT adoption, and green purchasing policies collectively explained 77.1% of performance variability[1, 4].

Further insight from Table 4.11a highlights the relative influence of strategic procurement components. Among the variables, procurement control (B = 1.653, β = 1.614, *t*

= 16.971, $p < 0.05$) exerted the strongest positive and significant effect on institutional performance, underscoring the necessity of enforcing procurement standards and compliance mechanisms. In contrast, staff competency (B = -0.868, β = -0.829, t = -9.061, $p < 0.05$) exhibited a significant but negative influence, suggesting that deficiencies in staff skills or lack of professional training may hinder effective procurement operations. Conversely, procurement planning (B = 0.127, $p > 0.05$) and procurement monitoring (B = 0.073, $p > 0.05$) showed positive but statistically insignificant influences, implying that while these aspects are important, their independent contributions to performance were less pronounced when other variables were controlled. These findings resonate with studies in Western Kenya where personnel competency was identified as a stronger determinant of procurement performance compared to planning[5], and with Rwandan evidence showing that procurement plan management and supplier relationships significantly improve institutional efficiency[2]. Likewise, Table 4.11b presents the relative influence of inventory management components-inventory shrinkage (B = 0.310, β = 0.523, t = 3.199, $p < 0.05$) and inventory control (B = 0.260, β = 0.444, t = 2.716, $p < 0.05$), both of which were positively and significantly associated with performance. This indicates that minimizing losses through effective shrinkage control and adopting robust inventory control mechanisms lead to better cost management and operational efficiency. These results corroborate findings from Ethiopian health facilities, which revealed that poor inventory classification and ineffective procurement strategies led to inefficiencies, underscoring the importance of structured inventory systems[4, 5].

The Independent Samples Test result from hypothesis three reveals a significant impact of the type of qualification (academic vs. professional) of procurement and inventory

staff on the institutional performance of higher education institutions (HEIs) in South-South Nigeria. The independent samples t-test results show a statistically significant difference in institutional performance between the two groups, indicating that qualification type plays a critical role in determining institutional performance. This aligns with previous research on institutional performance and workforce qualification, such as a study in the United Arab Emirates that found that learning and development, along with career management, significantly improved sustainable institutional performance[6]. Research on Islamic university lecturers in Indonesia also found that both hard and soft skills, along with institutional learning and innovation capabilities, significantly influence lecturer performance[7].

Endnotes

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Chapter Five

Conclusion

This chapter presents the conclusion of the study. The conclusion is organized to cover the following: summary of findings, conclusion, recommendations, contribution to knowledge, and suggested areas for further research.

5.1 Summary of Findings

The study reveals that South-South Nigerian higher education institutions exhibit high performance (Mean = 2.82) in productivity, cost-effectiveness, and service quality.

The study reveals that Public Higher Education Institutions in South-South Nigeria have effective strategic procurement practices. Among the strategic procurement practices, procurement monitoring (Mean = 3.01) was the most practiced, followed by procurement planning (Mean = 2.99), competency (Mean = 2.94), and control (Mean = 2.87).

The analysis of research question 3 indicates that the effectiveness of inventory management techniques in mitigating inventory shrinkage is moderate. The data reveals a paradox where both the utilization of inventory control measures (mean =3.82**)** and the occurrence of inventory problems (mean = 3.59) are occurring at a similar, moderately high frequency.

Answers to research question 4 show that the prevalent challenges faced by public higher education institutions in implementing effective strategic procurement management practices are technological challenges with a mean of 3.14, followed closely by aligning procurement strategies with sustainability goals (mean = 3.12),collaborating with external entities (mean = 2.98), regulatory frameworks and policies (mean = 2.96), budgetary constraints (mean =2.96),collaboration with internal stakeholders(mean = 2.95) and governance issues (mean = 2.88) in that order.

For inventory management, budgetary constraints emerged as the most significant challenge with a mean of 4.06, closely followed by technological challenges (mean=4.05). Regulatory frameworks and policies ranked next (mean = 4.01), alongside collaborating with external entities (mean = 4.00). Governance issues followed with a mean of 3.99, while collaborating with internal stakeholders (mean= 3.89) and aligning inventory management with sustainability goals (mean=3.89) were rated as the least severe challenge.

The study reveals a strong support for frameworks that prioritise budget alignment with strategic objectives, stakeholder engagement, ethical procurement practices, technological adoption, and internal capacity building. The results show that strategic procurement frameworks contribute positively to resource optimization and institutional performance in public Higher Education Institutions in South-South Nigeria, with an overall average mean of 3.23. Among the specific frameworks, both alignment of the current budget with institutional strategic objectives and specific measures to promote ethical sourcing and environmentally friendly practices ranked highest, each with a mean of 3.29. This was followed by proper management of relationships with suppliers and vendors (3.26) and enhancing legal and regulatory compliance in procurement (3.24). Leveraging technology in the procurement process was next with a mean of 3.21, while enhancing internal capacity for strategic procurement management scored 3.18. The least-rated framework was effectiveness of stakeholder engagement practices, with a mean of 3.14.

Inventory management frameworks also play a significant role in enhancing resource optimization and institutional performance in public Higher Education Institutions in South-South Nigeria, with an overall average mean of 4.23. Among the specific frameworks, enhancing internal capacity for strategic inventory management ranked highest with a mean of 4.34, followed closely by leveraging technology in the inventory management process (*mean*=4.31), aligning the current budget with the institution's strategic objectives (*mean*= 4.21), effectiveness of stakeholder engagement practices in the inventory management process (4.17) and enhancing legal and regulatory compliance in inventory management (*mean*=.12 *)* accordingly.

Strategic procurement practices have a strong, joint, positive, and significant influence on institutional performance (B = 0.993, β = 0.975, t = 69.687, p < 0.05), indicating that effective procurement systems, particularly in planning, control, monitoring, and staff competence, significantly enhance the overall performance of higher education institutions.

Inventory management practices exert a joint significant and positive influence on institutional performance (B = 0.570, β = 0.962, t = 32.523, p < 0.05), suggesting that efficient inventory control, regular stock monitoring, and minimization of inventory losses contribute to improved institutional outcomes.

Procurement control emerged as the strongest predictor of institutional performance (B = 1.653, β = 1.614, t = 16.971, p < 0.05), emphasizing that adherence to procurement standards, effective supervision, and compliance mechanisms are critical to enhancing performance.

Staff competency showed a significant but negative relationship with performance (B = -0.868, β = -0.829, t = -9.061, p < 0.05), implying that inadequate professional skills or insufficient training among procurement staff may hinder effective performance outcomes.

Procurement planning and procurement monitoring demonstrated positive but statistically insignificant effects on performance (B = 0.127, p > 0.05; B = 0.073, p > 0.05), indicating that these elements, though important, have limited independent contributions when other factors are considered.

Inventory shrinkage and inventory control both have significant positive effects on performance (B = 0.310, β = 0.523, t = 3.199, p < 0.05; B = 0.260, β = 0.444, t = 2.716, p < 0.05), suggesting that minimizing stock losses and strengthening inventory control systems improve cost management and operational efficiency.

The test of hypothesis 3 show that type of qualification (academic or professional) of procurement and inventory officers have a statistically significant influence on institutional performance of Higher Education Institutions in South-South Nigeria(t-value=-2.81, df = 341, p-value =0.01).

5.2 Conclusion

This study examined the influence of strategic procurement and inventory management practices on the performance of public Higher Education Institutions in South-South Nigeria. The findings demonstrated that while the institutions exhibit relatively high levels of productivity, cost-effectiveness, and service quality, their performance is shaped by the effectiveness of procurement and inventory strategies in place. Strategic procurement practices such as monitoring, planning, competency, and control were found to be effective, while inventory management practices such as inventory control and shrinkage reduction were moderately strong. Despite these achievements, the institutions face certain challenges, particularly in the areas of budgetary constraints, governance structures, technological adoption, and stakeholder collaboration. Nevertheless, strategic frameworks that emphasize budget alignment with institutional goals, stakeholder engagement, ethical sourcing, technology adoption, and internal capacity building were shown to support resource optimization and institutional performance. In conclusion, the results confirmed both the joint and relative significant influence of procurement and inventory management practices on institutional performance, with qualifications of procurement and inventory officers also contributing meaningfully. The study underscores the importance of strengthening procurement and inventory systems to enhance accountability, efficiency, and sustainability in public Higher Education Institutions.

5.3 Recommendations

Based on the findings of this study, the following recommendations were made:

1. The Human Resources Department, in collaboration with the Procurement and Inventory Management Units, should be responsible for developing targeted professional development programmes to address competency gaps.
2. The Procurement Unit, working closely with the Internal Audit Department and senior management, should be responsible for improving monitoring processes, with emphasis on supplier evaluation, cost control, and responsiveness to challenges.
3. The Inventory Management Unit, in collaboration with the Internal Audit Department and supported by senior management, should be responsible for developing robust policies and procedures for managing inventory shrinkage, including periodic audits, stock rotation, and real-time tracking systems.
4. Senior Management, in collaboration with the Procurement and Inventory Management Units, should be responsible for establishing performance benchmarks and conducting regular evaluations, using data-driven insights to identify areas for improvement and guide decision-making processes.
5. Top Management, in collaboration with the Procurement and Inventory Management Units, should be responsible for encouraging cross-departmental collaboration to ensure cohesive decision-making and effective resource allocation.

5.4 Contribution to Knowledge

The study has contributed to knowledge from various perspectives as discussed below:

Theoretical Perspective: The study has deepened theoretical understanding by applying and extending the Economic Order Quantity (EOQ) Model, Resource-Based View (RBV) Theory,

and Stakeholder Theory to procurement and inventory management in higher education. It demonstrated how these frameworks explain the optimisation of costs, effective use of internal resources, and the balancing of stakeholder interests, thereby enriching the theoretical basis for institutional performance analysis.

Empirical Perspective: The research has provided empirical evidence on the significant influence of procurement practices (planning, monitoring, control, and staff competence) and inventory management practices (control and shrinkage) on institutional performance in public higher education institutions in South-South Nigeria. The findings offer measurable insights that reinforce the practical relevance of strategic procurement and inventory management in enhancing productivity, cost-effectiveness, and service quality.

Conceptual Perspective: The study has contributed conceptually by developing a clear model (Figure 2.1) that illustrates the relationships between strategic procurement practices, inventory management practices, staff qualifications, and institutional performance. This conceptual model provides a framework for future research, enabling scholars to test, refine, and adapt the relationships across different higher education contexts.

Practical Perspective: The study offers actionable recommendations for policymakers, institutional leaders, and practitioners. These include designing targeted professional development programmes to address competency gaps, strengthening monitoring processes, adopting robust inventory control measures, and establishing data-driven performance benchmarks. By bridging theory with practice, the study provides practical guidance for improving efficiency, accountability, and sustainability in higher education management.

5.5 Suggested Areas for Further Research

The following suggestions were made for further research based on the findings of the study.

1. Explore the adoption and effectiveness of advanced technological tools, such as artificial intelligence, blockchain, and predictive analytics, in procurement and inventory management within higher education institutions.
2. Assess the long-term effects of targeted training programmes and capacity-building initiatives on staff competence, performance, and organisational outcomes in higher education.
3. Conduct comparative studies on the effectiveness of procurement and inventory management practices across different geopolitical zones in Nigeria or other countries with similar educational contexts.
4. Investigate sustainable procurement and inventory practices and their role in promoting environmental and financial sustainability in higher education institutions.
5. Conduct longitudinal research to evaluate how changes in procurement and inventory management practices affect institutional performance over time.

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Appendix I

Questionnaire

Lead City University, Ibadan
Faculty of Education
Department of Educational Management

Strategic Procurement and Institutional Performance Questionnaire (SPIPQ)

Dear Respondents,
The Researcher is a student of the above-named university, investigating the influence of strategic procurement on the performance of public higher education institutions in South-South Nigeria. Your sincere response to the items below will be highly appreciated. Your identity will not be revealed in any form, so feel free to complete the questionnaire with objectivity and independent judgment.
Thank you for your cooperation.

Yours sincerely,
Researcher.

Section A: Demographic Data

1. Age: 21-30 [ ] 31-40 [ ] 41-50 [ ] 51-60 [ ] 61 and above [ ]

2. Gender: Male [ ] Female [ ]
3. Highest Qualification: FSLC [ ] SSCE [ ]B.Sc[ ]M.Sc[ ]Ph.D[ ]
4. How long have you been working here? 1 year [ ] 2 years [ ] 3 years [ ] more [ ]

Section B: This section consists of items to measure the level of institutional performance (Productivity, Cost Effectiveness, Quality of Goods and Services Delivered) of Higher Education Institutions in South-South Nigeria. Kindly tick the option that best describe your response to the items in the table below:

S/N		Strongly Disagree	Disagree	Agree	Strongly Agree
	Productivity				
1	There is an overall productivity of members in my institution				
2	There are initiatives in place to enhance the productivity of staff? (e.g., professional development programmes, research support)				
3	There is a research output and contributions of my institution				
4	There are mechanisms in place to promote and support research activities among members				
5	There is an overall academic performance				

	of students in my institution				
6	There are support systems to enhance student learning and academic success				
	Cost effectiveness				
7	There is an effective financial management of my institution in optimising resources				
8	There are strategies in place to minimize unnecessary expenditures				
9	There are efficient physical and human resources utilised within my institution				
10	There are initiatives to optimise resource allocation and utilisation				
	Quality of Goods and Services Delivered				
11	There is the overall quality of teaching in my institution				
12	There are continuous improvement measures for teaching quality				
13	I am satisfied with the infrastructure and facilities provided by my institution				
14	There is a plan for upgrading and maintaining infrastructure				
15	There are effective support services offered to students (e.g., counseling, career guidance)				
16	There are plans to enhance and expand student support services				

Section C: This section consists of items to measure the current strategic procurement practices employed by public higher education institutions in the South-South region of Nigeria. Kindly tick the option that best describe your response to the items in the table below:

S/N		Strongly Disagree	Disagree	Agree	Strongly Agree
	Procurement Planning				
1	Needs assessment is undertaken by respective heads of department for goods and services required.				
2	Budget approval is obtained for the required items before purchase orders are placed.				
3					
4	Funds are availed based on the budget				

5	The procurement needs are clearly defined by the heads of department				
6	Top management is involved in the procurement planning				
7	Procurement planning sets in motion the entire procurement process in the institution				
8	Delivery schedules that fit in the institution requirements are drawn with the suppliers				
	Procurement Control				
9	Procurement bids are evaluated by an independent committee				
10	Procurement bids are opened by an independent committee				
11	Received goods are checked against the local purchase order				
12	The technical abilities of the suppliers are evaluated before contract awarding				
13	Losses are prevented through continuously checking the purchase processes				
14	Losses are prevented through continuously checking the purchase processes				
15	The Institution periodically reviews the existing procurement policies				
	Procurement Monitoring				
16	Corrective actions are taken once discrepancy is identified in the procurement processes				
17	Obstacles in the procurement process are mitigated in a timely manner				
18	Close supervision of purchases is done as a way of controlling costs				
19	Supplier evaluation is periodically undertaken to ensure quality of the services.				
20	Supplier evaluation is periodically undertaken to ensure quality of the goods.				
21	Reviews of the procurement system are done at regular intervals				

	Staff Competency				
22	Competent staff is effective, efficient and provide solutions to the procurement problems				
23	The institution deploys staff based on skills				
24	Incompetent staff contributes to poor performance in the institution				
25	Staff has adequate professional skills				
26	Staff has knowledge on procurement rules and regulations.				

Section D: This section consists of items to explore the challenges and barriers faced by public higher education institutions in implementing effective strategic procurement practices in South-South Nigeria. Kindly tick the option that best describe your response to the items in the table below:

S/N		**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
1	Governance issues affect procurement implementation				
2	Regulatory frameworks and policies impact the implementation of strategic procurement practices in my institution				
3	Budgetary constraints hinder the implementation of strategic procurement practices in my institution				
4	Technological challenges are faced in adopting modern procurement tools and				

	systems				
5	There are challenges in collaborating with internal stakeholders during procurement processes				
6	The institution face challenges in collaborating with external entities for procurement-related matters				
7	There are challenges in aligning procurement strategies with sustainability goals				

Section E: This section consists of items to propose strategic procurement frameworks resource optimization and institutional performance in public higher education institutions in the South-South Nigeria.

Kindly tick the option that best describe your response to the items in the table below:

S/N		**Strongly Disagree**	**Disagree**	**Agree**	**Strongly Agree**
1	There should be effectiveness of stakeholder engagement practices in the procurement process				
2	Current budget should align with the strategic objectives of the institution				
3	Relationships with suppliers and vendors should be properly managed				

4	My institution should leverage technology in the procurement process				
5	There should be specific measures in place to promote ethical sourcing and environmentally friendly practices				
6	The institution should enhance internal capacity for strategic procurement management				
7	The institution should enhance legal and regulatory compliance in procurement				

Lead City University, Ibadan
Faculty of Education
Department of Educational Management

Inventory Management and Institutional Performance Questionnaire (IMIPQ)

Dear Respondents,
The Researcher is a student of the above named Institution, investigating the influence of strategic procurement practices on performance of public higher education institutions in South-South Nigeria. Your sincere response to the items below will be highly appreciated; so as to assist the researcher arrive at rational conclusion regarding the issue of interest to this study. Your identity will not be revealed in any form, so feel free to complete the questionnaire with objectivity and independent judgment.
Thanks for your cooperation.

Yours sincerely,

Researcher.

Section A: Demographic Data

1. Age: 21-30 [ ] 31-40 [ ] 41-50 [ ] 51-60 [ ] 61 and above [ ]
2. Gender: Male [ ] Female [ ]
3. Highest Qualification: FSLC [ ] SSCE [ ]B.Sc[ ]M.Sc[ ]Ph.D[ ]
4. How long have you been working here? 1 year [ ] 2 years [ ] 3 years [ ] more [ ]

Section B: This section consists of items to measure the level of institutional performance indicators (Productivity, Cost Effectiveness, Quality of Goods and Services Delivered) of Higher Education Institutions in South-South Nigeria. Kindly tick the option that best describe your response to the items in the table below:

S/N		Strongly Disagree	Disagree	Agree	Strongly Agree
	Productivity				
1	There is an overall productivity of members in my institution				
2	There are initiatives in place to enhance the productivity of staff? (e.g., professional development programmes, research support)				
3	There is a research output and contributions of my institution				
4	There are mechanisms in place to promote and support research activities among members				
5	There is an overall academic performance				

	of students in my institution				
6	There are support systems to enhance student learning and academic success				
	Cost Effectiveness				
7	There is an effective financial management of my institution in optimising resources				
8	there are strategies in place to minimize unnecessary expenditures				
9	There are efficient physical and human resources utilised within my institution				
10	there are initiatives to optimise resource allocation and utilisation				
	Quality of Goods and Services Delivered				
11	There is the overall quality of teaching in my institution				
12	there are continuous improvement measures for teaching quality				
13	I am satisfied with the infrastructure and facilities provided by my institution				
14	there is a plan for upgrading and maintaining infrastructure				
15	There are effective support services offered to students (e.g., counseling, career guidance)				
16	there are plans to enhance and expand student support services				

Section C: This section consists of items to measure the current inventory management practices employed by public higher education institutions in the South-South region of Nigeria.

S/N		Rarely	Not Often	Seldom Often	Slightly Often	Often	Very Often
	Inventory Shrinkage						
1	Underproduction						
2	Damaged inventory/stock						
3	Excessive stocks						

4	Stock out Situations						
5	Production Bottlenecks						
6	Delays in delivery of raw materials						
7	Stock outs of spare parts for Machines						
8	Expired inventory/stock						
	Inventory Control						
9	ABC Classification						
10	Economic Order Quantity (EOQ)						
11	Economic Batch Quantity (EBQ)						
12	Actions Level Methods						
13	Just-in-Time						
14	Periodic Review Technique						
15	Materials Requirement Planning						

Section D: This section consists of items to explore the challenges and barriers faced by public higher education institutions in implementing effective inventory management practices in South-South Nigeria.

S/N		**Rarely**	**Not Often**	**Seldom Often**	**Slightly Often**	**Often**	**Very Often**
1	Governance issues affect inventory management implementation						
2	Regulatory frameworks and policies impact the implementation of inventory management practices in my institution						

3	Budgetary constraints hinder the implementation inventory management practices in my institution						
4	Technological challenges are faced in adopting modern inventory management tools and systems						
5	There are challenges in collaborating with internal stakeholders during inventory management processes						
6	The institution face challenges in collaborating with external entities for inventory management -related matters						
7	There are challenges in aligning inventory management with sustainability goals						

Section E: This section consists of items to propose inventory management frameworks aimed at optimising resource allocation and utilisation for improved institutional performance in public higher education institutions in the South-South Nigeria.

S/N		**Rarely**	**Not Often**	**Seldom Often**	**Slightly Often**	**Often**	**Very Often**
1	There should be effectiveness of stakeholder engagement practices in the inventory management process						
2	Current budget should align with the strategic objectives of the institution						
3	My institution should leverage technology in the inventory management process						
4	The institution should enhance internal capacity for strategic inventory management						
5	The institution should enhance						

	legal and regulatory compliance in inventory management						

Appendix II

Selected Photographs




Photographs of the researcher, research assistants, and respondents were taken during the data collection process to document field activities and provide visual evidence of participation

Photographs of the researcher and research assistants, were taken during the data collection process to document field activities and provide visual evidence of participation

Photographs of the research assistants, and respondents were taken during the data collection process to document field activities and provide visual evidence of participation

Appendix III

Selected Letters of Introduction

Lead City University (LCU)
Motto: Knowledge for Self-reliance
Administrative Building, Lagos - Ibadan Expressway, Toll Gate Area, Ibadan,
Oyo State, Nigeria Tel: 08033794249 Email: asse@lcu.edu.ng
Dr. Oluyomi Susan Pitan
B.Sc. (Ed.), Ife; M.Ed., Ph.D. Ibadan
Head, Department of Arts & Social Science Education
Department of Arts & Social Science Education
www.lcu.edu.ng

29/04/2024

The Vice Chancellor,
University of Calabar,
Etagbor,
Cross River State.

Dear Sir/Madam,

Request for Permission to Carry out Research in Your Institution

I am writing to introduce Francis ERHABOR, a PhD student in Educational Management at the Department of Arts and Social Science Education, Lead City University, Ibadan. Mr. Erhabor is currently conducting research titled "Influence of Strategic Procurement Practices on Organizational Performance of Public Higher Education in South-South Nigeria."

As part of his research, Mr. Erhabor requires access to certain members of staff in your institution, particularly those involved in Procurement, Supply, and Inventory Management. I am writing on his behalf to request that you grant him access to your institution to conduct his research activities. Additionally, we kindly ask that you provide him with any necessary support he may require for data collection.

We assure you that all information provided will be treated as anonymous and used solely for research purposes.

Thank you for considering this request.

Yours sincerely,

Office of the Vice-Chancellor RECEIVED 09 SEP 2024 UNIVERSITY OF CALABAR

Dr Oluyomi Pitan

Cc: The Registrar
The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

Lead City University (LCU)

Motto: Knowledge for Self-reliance

Administrative Building, Lagos - Ibadan Expressway. Toll Gate Area, Ibadan, Oyo State, Nigeria Tel: 08033794249 Email: asse@lcu.edu.ng

Dr. Oluyomi Susan Pitan
B.Sc. (Ed.), Ife; M.Ed., Ph.D. Ibadan
Head, Department of Arts & Social Science Education

Department of Arts & Social Science Education

www.lcu.edu.ng

28/04/2024

OFFICE OF THE RECTOR
RECEIVED
SIGN
DATE 19/09/24
FEDERAL POLYTECHNIC, UGEP

The Rector,
Federal Polytechnic, Ugep,
Cross River State

Dear Sir/Ma,

Request for Permission to Carry out Research in Your Institution

I am writing to introduce Francis ERHABOR, a PhD student in Educational Management at the Department of Arts and Social Science Education, Lead City University, Ibadan. Mr. Erhabor is currently conducting research titled "Influence of Strategic Procurement Practices on Organizational Performance of Public Higher Education in South-South Nigeria."

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Yours sincerely,

Dr Oluyomi S. Pitan

Cc: The Registrar
The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

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Head, Department of Arts & Social Science Education

Department of Arts & Social Science Education

www.lcu.edu.ng

29/04/2024

The Rector,
Cross River State
Institute of Technology Ugep,

Dear Sir/Ma,

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Thank you for considering this request.

Yours sincerely,

Dr Oluyomi S. Pitan

Cc: The Registrar
The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

Original Copy Collected by me on 13th Sept. 2024.
Ubi Etony Ubi - S.A.R

Lead City University (LCU)

Motto: Knowledge for Self-reliance

Administrative Building, Lagos - Ibadan Expressway, Toll Gate Area, Ibadan, Oyo State, Nigeria Tel: 08033794249 Email: asse@lcu.edu.ng

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B.Sc. (Ed.), Ife; M.Ed., Ph.D. Ibadan
Head, Department of Arts & Social Science Education

Department of Arts & Social Science Education

www.lcu.edu.ng

29/04/2024

The Vice Chancellor,
Cross River State University of Technology,
Calabar

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Dr Oluyomi Pitan

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The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

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Administrative Building, Lagos - Ibadan Expressway, Toll Gate Area, Ibadan, Oyo State, Nigeria Tel: 08033794249 Email: asse@lcu.edu.ng

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B.Sc. (Ed.), Ife; M.Ed., Ph.D. Ibadan
Head, Department of Arts & Social Science Education

Department of Arts & Social Science Education

29/04/2024

25/07/24

OFFICE OF THE VICE CHANCELLOR
25 JUL 2024
RECEIVED

The Vice Chancellor,
Ignatius Ajuru University
Of Education,
Rumuoluomeni,.
Rivers State

Dear Sir/Ma.

Request for Permission to Carry out Research in Your Institution

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Dr Oluyomi S. Pitan

Cc: The Registrar
The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

Lead City University (LCU)

Motto: Knowledge for Self-reliance

Administrative Building, Lagos - Ibadan Expressway, Toll Gate Area, Ibadan, Oyo State, Nigeria. Tel: [illegible] Email: [illegible]

Dr. Oluyomi Susan Pitan

[illegible]

Department of Arts & Social Science Education

[illegible]

19/04/2024

The Rector,
Federal Polytechnic Auchi,
Auchi,
Edo State

RECTOR'S OFFICE
RECEIVED
17 SEP 2024

Dear Sir/Ma,

Request for Permission to Carry out Research in Your Institution

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Yours sincerely,

Dr Oluyomi S. Pitan

Cc: The Registrar
The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

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B.Sc. (Ed.), Ife; M.Ed., Ph.D. Ibadan
Head, Department of Arts & Social Science Education

Department of Arts & Social Science Education

www.lcu.edu.ng

2/04/2024

University of Port Harcourt
RECEIVED
25 JUL 2024
Vice Chancellor's Office

The Vice Chancellor,
University of Port-Harcourt,
Rivers State.

Dear Sir/Ma,

Request for Permission to Carry out Research in Your Institution

I am writing to introduce Francis ERHABOR, a PhD student in Educational Management at the Department of Arts and Social Science Education, Lead City University, Ibadan. Mr. Erhabor is currently conducting research titled "Influence of Strategic Procurement Practices on Organizational Performance of Public Higher Education in South-South Nigeria."

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The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

Lead City University (LCU)

Motto: Knowledge for Self-reliance

Administrative Building, Lagos - Ibadan Expressway, Toll Gate Area, Ibadan, Oyo State, Nigeria Tel: 08033794249 Email: asse@lcu.edu.ng

Dr. Oluyomi Susan Pitan
B.Sc. (Ed.), Ife; M.Ed., Ph.D. Ibadan
Head, Department of Arts & Social Science Education

Department of Arts & Social Science Education

edu.ng

29/04/2024

OK
ACKNOWLEDGEMENT
SIGN:.....
DATE: 25 JUL 2024
OFFICE OF THE VICE CHANCELLOR
RSU, PH.

The Vice Chancellor,
Rivers State University,
Rivers State

Dear Sir/Ma,

Request for Permission to Carry out Research in Your Institution

I am writing to introduce Francis ERHABOR, a PhD student in Educational Management at the Department of Arts and Social Science Education, Lead City University, Ibadan. Mr. Erhabor is currently conducting research titled "Influence of Strategic Procurement Practices on Organizational Performance of Public Higher Education in South-South Nigeria."

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Yours sincerely,

Dr Oluyomi S. Pitan

Cc: The Registrar
The Head of Department, Procurement and Supply
The Head of Department, Inventory Management

Bio-data

A. Personal Data

Full Name:	Francis ERHABOR
Address:	152, Upper Sakponba Road, Benin City
Phone No:	07035800781, 08113560664
E-mail:	erafrnk@gmail.com
LinkedIn Profile:	https://www.linkedin.com/in/francis-erhabor-9103151b2/
Date and Place of Birth:	9th December 1982
Nationality:	Nigerian
Marital Status:	Married
No. of Children & their Ages:	3@ 8Years, 6Years and 2years +
Name and Address of Spouse:	Esther Otiotio Erhabor, No 2 Erhabor's Close, behind house of fulfillment Church Agudama - epie, Yenagoa. Bayelsa State
Name and Address of Next of Kin:	Esther Otiotio Erhabor, No 2 Erhabor's Close, behind house of fulfillment Church Agudama - epie, Yenagoa. Bayelsa State.

Date of Assumption of Duty in Current Establishment:

June 19th2024

Status on First Appointment in Current Establishment:

Principal Administrative Officer

Present Position:

Principal Administrative Officer/Personal Assistant to the Deputy ProvostAdministration

Educational Background

Lead City University, Ibadan – MPhil/Ph.D. in Educational Management

(In view), 2022

Imo State University, Owerri – M.Ed. in Educational Management and Planning,

2014–2016

Niger Delta University, Bayelsa – PGD in Technical Education,

2011–2013

Federal Polytechnic, Auchi – ND & HND in Accountancy,

2002–2007

Lumbley Primary School, Benin City:

1987 - 1992

Work Experience:

Edo State College of Health Sciences and Technology, Benin City – Principal Administrative Officer (2024 – Date)

Duties:

Provide administrative support to the Deputy Provost Administration

Coordinate meetings and special projects

Ensure compliance with regulations

Horizon Business School, Owerri (Online) – Lecturer/Instructor for Chartered Institute of Procurement and Supply (CIPS) (2021 – 2024)

Duties:

Facilitated and delivered CIPS curriculum

Conducted interactive online lectures

NCDMB/Wellsworth Energy Services, Port Harcourt – Course/Job Trainee (2020 – 2021)

On the Job-Training: Health, Safety and Environment, logistics, procurement and leadership

Federal Polytechnic Ekowe, Bayelsa (Part-time) – Programme Coordinator/Lecturer (2018 – 2023)

Taught: Human Resource Management, Project Management, Safety and Security Management

Erebor Global Classic Limited, Yenagoa, Bayelsa State – Operational Manager

(2014 – 2018)

Duties: Oversaw company operations and team leadership

Latic Hotels Limited.,Yenagoa, Bayelsa State – General Manager

(2011 – 2013)

Duties: Managed hospitality operations and team

Udeme Hotels Ltd., Yenagoa – General Supervisor/Manager

(2008 – 2010)

Duties: Supervised daily hotel operations

Precious Palm Royal Hotels, Benin City – Various Roles

(2002 – 2005)

Responsibilities: Store Keeper, Cashier, Internal Auditor, Personal Assistant tothe Group Accountant

Current Graduate Supervision: Dr. Oluyomi S. Pitan

Membership of Academic/Professional Bodies:

Chartered Institute of Procurement and Supply (CIPS) UK – Member

Chartered Institute of Management and Leadership (USA) – Member

Chartered Institute of Project Management (Ghana) – Associate Member

Chartered Institute of Contract Project & Facility Management – Associate Member

Nigeria Institute of Management – Member

Teacher Registration Council of Nigeria (TRCN) – Certified

Institute of Chartered Accountant of Nigeria – Student Member

Publications:

F. Erhabor& O.S Pitan (2025) *INFLUENCE OF STRATEGIC PROCUREMENT PRACTICES ON INSTITUTIONAL PERFORMANCE OF PUBLIC HIGHER EDUCATIONAL INSTITUTION IN SOUTH-SOUTH, NIGERIA*. Nigeria Journal of Educational Management, University of Benin(ISSN: 978-35468 – 9 – 9) Vol. 9, No. 1, pp. 146-161).

F. Erhabor& O.S Pitan (2025) *INVENTORY MANAGEMENT PRACTICES INFLUENCE ON INSTITUTIONAL PERFORMANCE OF PUBLIC HIGHER EDUCATIONAL INSTITUTION IN SOUTH-SOUTH*, *NIGERIA*. Open Journal of Educational Development (ISSN: 2734-2050), 6(2), 1-12. https://doi.org/10.52417/0jed.v6i2.930

Thesis:

Influence of Strategic Procurement and Inventory Management Practices on Educational Performance of Higher Educational Institution in South South Nigeria.

Contribution to Books:

Published Refereed Conference Proceedings:

Faculty of Arts & Education International Conference on Sustainable Development 6th – 5th June 2022

Theme: Pragmatic Human Capital for Sustainable Development

Paper: ERHABOR, F. (2023, May). Vocational and Universal Basic Education for Sustainable Development in Nigeria. In *Lead City University Postgraduate Multidisciplinary Conference Proceedings* (Vol. 1, No. 2, pp. 372-381).

Papers Accepted for Publication:

F. Erhabor& O.S Pitan (2025) *CHALLENGES AND BARRIERS OF INVENTORY MANAGEMENT PRACTICES FACED BY PUBLIC HIGHER EDUCATIONAL INSTITUTION IN SOUTH-SOUTH, NIGERIA, PROPOSED INVENTORY MANAGEMENT FRAMEWORK,* Journal of Capital Development in Behavioural Sciences

Extra-Curricular Activities:

Reading, Surfing the Net and Watching Documentary on Leadership

Names and Addresses of Referees:

Dr. Oluyomi Susan Pitan

Head of Department Educational Management,

Lead City University Ibadan

Email. Dryomipitan@gmail.com

Tel. 08033794249

Associate Prof. Paulley, FibainmineGodgift

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Niger Delta University,

Bayelsa State

Email: paulleyfg@ndu.edu.ng

Tel: 08037768953

Dr. (Mrs.) L.O. Matthew

Deputy Provost Administration,

Edo State College of Health Sciences and Technology,

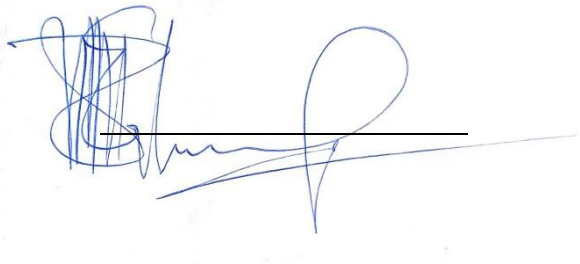
Dumez Road, Benin City.

Tel: +2348103527032, 07085895571

Email: edocohest.dpa@gmail.com

29/09/2025

Date



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The University Compliance Certification

This is to certify that this thesis written by **Francis ERHABOR** with Matric No: **LCU/PG/002899** in the **Department of Arts and Social Sciences Education**, Faculty of Education, Lead City University, Ibadan is in full compliance with the approved University format and style.

……. ……

Signature **Date**