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Procurement Planning and Performance of Public Hospitals in Kisii County

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ABSTRACT

Purpose: This study sought to examine the effect of key procurement planning components on hospital performance. The specific objectives were: (i) to examine the relationship between needs assessment and hospital performance, (ii) to determine the influence of supplier selection on hospital performance, (iii) to assess the impact of budgeting practices on hospital performance, and (iv) to evaluate the role of ICT integration in enhancing procurement performance.

Methodology: A descriptive research design was adopted. The target population comprised 70 procurement, finance, and management personnel from selected public hospitals in Kisii County. A census sampling technique was used due to the manageable size of the population. Primary data were collected using a structured Likert-scale questionnaire, and the data were analyzed using both descriptive and inferential statistics.

Findings: Findings indicated that all four independent variables needs assessment, supplier selection, budgeting practices, and ICT integration positively and significantly influenced the performance of public hospitals. Specifically, needs assessment was found to enhance efficiency in resource utilization; supplier selection improved reliability and service quality; budgeting practices supported financial discipline; and ICT integration streamlined operations and reduced delays.

Unique Contribution to Theory, Policy and Practice: The study recommends institutionalizing data-driven needs assessment, enforcing transparent and criteria-based supplier selection, improving budget coordination between procurement and finance units, and investing in modern ICT systems and staff training. These findings offer actionable insights for policymakers, hospital administrators, and procurement professionals aiming to improve the efficiency and effectiveness of public healthcare delivery.

Keywords: *Budgeting Practices, Needs Assessment, Performance, Procurement Planning, Public Hospitals, Supplier Selection*

INTRODUCTION

Background of the Study

Procurement planning is a critical function in public health systems worldwide, as it ensures the timely acquisition of essential medical commodities, services, and equipment. The World Health Organization (WHO) recognizes procurement as a foundational element of health systems strengthening and service delivery. According to WHO (2019), poor procurement practices particularly those lacking structured needs assessment, budgeting, and supplier evaluation result in frequent stockouts, wastage of resources, and compromised healthcare delivery in many developing and even some developed countries.

Globally, health systems that have embraced strategic procurement planning and integrated digital technologies report better health outcomes, reduced costs, and improved transparency. For example, countries like Sweden and Canada have implemented centralized procurement systems supported by ICT, leading to enhanced supplier accountability and better forecasting of medical supply needs (OECD, 2020). These systems align procurement processes with health service goals, ensuring that medical supplies are delivered on time and in adequate quantities. Despite these advancements, many low- and middle-income countries (LMICs) still face challenges such as fragmented procurement systems, lack of data-driven planning, and corruption. A study by the Global Fund (2021) revealed that over 40% of medical procurement-related disruptions in LMICs were due to poor planning and coordination, leading to reduced access to essential health services. This global challenge underlines the importance of strengthening procurement planning at all levels of healthcare.

In the Sub-Saharan Africa region, public health systems are increasingly under pressure to deliver quality healthcare amid resource constraints and rising demand. Procurement inefficiencies remain a key obstacle to achieving Universal Health Coverage (UHC). According to a report by the African Union (2018), many African countries struggle with weak procurement planning frameworks, poor budgeting practices, and limited capacity for supplier evaluation and ICT integration. These challenges contribute to delayed delivery of critical supplies, financial wastage, and poor health outcomes.

Studies conducted in Uganda, Tanzania, and Ghana indicate that weaknesses in procurement planning significantly contribute to stockouts of essential drugs, inflated procurement costs, and reduced patient trust in public healthcare systems. For instance, in Uganda, Onyango *et al.*, (2020) found that public hospitals experienced supply chain breakdowns due to poor coordination and inadequate procurement forecasting. Similarly, Tanzania's Auditor General (2019) noted that over 30% of hospitals faced procurement-related service delays due to limited ICT use in procurement operations. As countries in the region work toward health system reform, there is growing recognition of the need to institutionalize effective procurement planning mechanisms. Regional frameworks, such as the African Medical Supplies Platform (AMSP), aim to harmonize

procurement strategies, promote digital procurement, and build capacity at the national and facility levels. However, implementation at the grassroots especially in local public hospitals remains inconsistent and under-researched.

In Kenya, public hospitals operate under devolved county governments, which are responsible for managing procurement functions within their jurisdictions. Although the Public Procurement and Asset Disposal Act (2015) and various county-level procurement policies have been enacted to promote transparency and efficiency, implementation remains uneven. Reports by the Office of the Auditor-General (2022) highlight frequent delays in procurement processes, poor needs assessment, and irregular supplier selection in many counties, including Kisii. Specifically, public hospitals in Kisii County have faced challenges related to stock-outs of essential medicines, delayed deliveries, and inefficient budgeting, all of which point to gaps in procurement planning. A study by Otieno and Mwangi (2022) at Kisii Teaching and Referral Hospital revealed that procurement decisions were often reactive rather than based on strategic needs assessment or accurate forecasting. In some instances, procurement officers lacked adequate ICT tools to support data-driven decision-making, further contributing to delays and inefficiencies. Despite efforts by the Kisii County Government to improve health infrastructure and service delivery, weak procurement planning continues to undermine hospital performance. Poor supplier vetting, inconsistent budgeting, and minimal integration of ICT in procurement processes hinder the timely acquisition of supplies and disrupt service delivery. This study, therefore, seeks to address these local challenges by exploring how procurement planning components namely needs assessment, supplier selection, budgeting practices, and ICT integration affect the performance of public hospitals in Kisii County.

Statement of the Problem

Public hospitals in Kisii County continue to face significant procurement-related challenges, including delayed delivery of medical supplies, frequent stockouts, poor supplier performance, and inefficient budget utilization. These issues have contributed to operational inefficiencies, compromised service delivery, and dissatisfaction among patients and healthcare workers. Despite existing policies and efforts by the county government to strengthen procurement systems, there remains a gap in how procurement planning is conducted particularly in areas such as needs assessment, supplier selection, budgeting practices, and ICT integration. Studies have shown that poor planning in these areas can lead to cost overruns, delays, and service interruptions in public healthcare institutions (Karanja *et al*., 2019).

Numerous studies have highlighted the persistent inefficiencies in procurement planning that undermine the performance of public hospitals, both in Kenya and across other developing countries. These studies provide strong empirical support for the core problem under investigation namely, that ineffective procurement planning contributes to delays, stockouts, poor service delivery, and financial wastage in public health institutions. Abdi, (2024) conducted a study on

supplier selection in public hospitals in Kenya and found that weak supplier vetting and the lack of clear criteria for supplier evaluation significantly compromised service quality and timely delivery of goods. Their findings underscore how poor supplier selection, as a component of procurement planning, can lead to serious operational disruptions in hospitals.

Muriithi (2018) investigated budgeting practices in Kenyan public health institutions and revealed that inadequate budgeting processes resulted in underfunded procurement activities and delays in acquiring critical medical supplies. This study emphasized the importance of aligning budget planning with procurement needs to ensure smooth hospital operations. Kibet, (2021) explored the adoption of Information and Communication Technology (ICT) in procurement processes within public hospitals. They found that limited ICT integration led to poor record-keeping, lack of transparency, and lengthy procurement cycles. Hospitals that effectively used ICT tools reported improved efficiency, better tracking of orders, and reduced chances of procurement fraud highlighting ICT as a vital component of modern procurement planning. Their findings align with the broader concern that weak planning processes at the county level affect hospital performance. Therefore, the study seeks to identify the relationship between procurement planning and performance of Public Hospitals in Kisii County.

General Objective of the Study

The general objective of the study was to determine the relationship between procurement planning and performance of Public Hospitals in Kisii County.

Specific Objectives of the Study

The study was based on the following specific objectives;-

i. To identify the relationship between needs assessment and performance of Public Hospitals in Kisii County.
ii. To determine the influence of supplier selection on performance of Public Hospitals in Kisii County.
iii. To establish the influence of budgeting practices on performance of Public Hospitals in Kisii County.
iv. To assess the influence of information communication technology integration on performance of Public Hospitals in Kisii County.

LITERATURE REVIEW

Theoretical Review

Systems Theory

Systems Theory, initially developed by Ludwig von Bertalanffy (1968). It views an organization as a complex and dynamic system composed of interdependent and interacting subsystems. Each component whether it is procurement, finance, human resources, or logistics must function in

harmony with the others to achieve the system's overall goals. The theory posits that organizations receive inputs from their external environment, process them through internal mechanisms, and produce outputs, with feedback loops ensuring adjustment and continuous improvement (Katz & Kahn, 1978; Scott & Davis, 2016).

In the context of public hospitals, procurement functions such as needs assessment, budgeting, supplier selection, and ICT integration do not operate in isolation. Instead, they form interlinked subsystems that collectively influence the hospital's ability to deliver timely, quality, and cost-effective healthcare services. When one subsystem is ineffective such as a flawed needs assessment it disrupts the entire procurement chain, leading to stockouts, wastage, and diminished hospital performance. This systems view is essential for understanding how poor planning or lack of integration can cause broader organizational failure. Several contemporary studies have applied Systems Theory to procurement and healthcare performance, reinforcing its relevance. Obura, C. O. (2024) examined procurement practices in Kenyan public health facilities and found that weak coordination between budgeting and supplier selection resulted in delays and increased operational costs. Applying Systems Theory to this study provides a robust lens through which to examine the interrelationship between procurement planning components and hospital performance in Kisii County. For instance, ICT integration acts as a conduit between other procurement functions, facilitating real-time communication, tracking, and feedback. Supplier selection processes depend heavily on accurate needs assessments and aligned budgets. Therefore, Systems Theory helps explain how weaknesses in any one component such as delayed budget approvals or lack of accurate data can have cascading effects on service delivery in public hospitals. Systems Theory complements other theoretical frameworks used in this study. While the Resource-Based View emphasizes internal capabilities and the strategic use of resources, and Institutional Theory focuses on external regulations and compliance, Systems Theory unifies these perspectives by focusing on the interdependencies within the organization. It also aligns with Contingency Theory, which supports the need for adaptive and context-specific responses, especially in the dynamic environment of public healthcare.

Systems Theory is not without limitations. One key criticism is that it often assumes rational decision-making and may overlook the influence of politics, power struggles, and informal networks within organizations (Scott, 2003). Additionally, the theory provides limited guidance on managing each subsystem individually. However, its holistic perspective makes it highly suitable for public sector environments, where coordination and integration of various functions are critical to performance. Given the multifaceted nature of healthcare procurement in devolved systems like Kenya's, Systems Theory offers valuable insights for identifying inefficiencies and crafting integrated solutions. Systems Theory offers a comprehensive framework for examining how the interplay of procurement planning variables affects hospital performance. Its application to this study underscores the importance of viewing procurement not as isolated activities, but as

a network of functions whose alignment determines the efficiency and effectiveness of healthcare service delivery.

Resource-Based View (RBV)

The Resource-Based View (RBV) of the firm is a strategic management theory developed by Wernerfelt (1984) and later expanded by Jay Barney (1991). RBV posits that the performance and competitive advantage of an organization are primarily determined by its internal resources and capabilities rather than external factors. These resources must be valuable, rare, inimitable, and non-substitutable (VRIN) to create sustained organizational advantage. According to Barney (1991), such resources include tangible assets like technology and infrastructure, as well as intangible ones such as skills, knowledge, and organizational culture.

In the context of public procurement and healthcare service delivery, RBV provides a framework for analyzing how internal capabilities such as effective procurement personnel, reliable ICT systems, streamlined budgeting processes, and well-developed supplier relationships—can enhance institutional performance. The theory suggests that hospitals that manage these resources strategically are more likely to realize operational efficiency, cost savings, and improved patient care outcomes.

Recent empirical studies have reinforced the relevance of RBV in public sector procurement. Mugo, & Ngugi, (2021) applied RBV to assess procurement performance in Kenyan counties and found that the presence of skilled procurement officers and robust ICT systems had a direct, positive impact on service delivery.

RBV is particularly relevant as it supports the examination of how internal procurement planning practices specifically needs assessment, supplier selection, budgeting, and ICT integration can serve as strategic assets that influence hospital performance in Kisii County. For instance, accurate needs assessments reduce procurement errors and wastage, while effective budgeting ensures timely acquisition of essential medical supplies. Similarly, ICT systems such as e-procurement platforms and inventory management software enable better tracking and transparency, which are vital for public accountability and performance. RBV complements Systems Theory, which is also used in this study. While Systems Theory provides a macro-level view of how different procurement functions interact within the organization, RBV offers a micro-level focus on the quality and strategic management of the resources that underpin those functions. Together, they offer a comprehensive understanding of both the structure and the substance of procurement processes in public hospitals.

RBV has been criticized for its inward-looking nature, with limited consideration of environmental dynamics, institutional constraints, or regulatory frameworks (Priem & Butler, 2001). This limitation is especially relevant in public sector contexts, where compliance with procurement laws and external accountability are critical. However, this critique is addressed in the present

study by integrating RBV with Institutional Theory, which accounts for the influence of laws, norms, and policies on procurement behavior. The Resource-Based View provides a valuable lens for analyzing how internal procurement planning resources contribute to the performance of public hospitals. In Kisii County, where resource scarcity and inefficiencies are common challenges, applying RBV highlights the importance of building and leveraging strategic capabilities to enhance healthcare delivery and institutional effectiveness.

Institutional Theory

Institutional Theory, developed by John Meyer and Brian Rowan (1977) and further elaborated by DiMaggio and Powell (1983), focuses on the influence of formal rules, norms, and cultural expectations on organizational behavior. The theory posits that organizations operate within institutional environments that impose pressures to conform, including coercive (legal mandates), mimetic (imitation of successful peers), and normative (professional standards) forces. Organizations adopt certain structures and practices not only for efficiency but to gain legitimacy, secure resources, and ensure survival within their institutional context.

In public procurement, especially within healthcare systems, Institutional Theory helps explain how external regulatory frameworks, policies, and social expectations shape procurement practices and ultimately influence organizational performance. Public hospitals are required to comply with procurement laws, ethical guidelines, and government policies, which may sometimes constrain operational flexibility but are essential for transparency, accountability, and public trust.

Recent research underscores the applicability of Institutional Theory in understanding procurement behavior in public healthcare. Njenga, & Mogaka, (2025) examined compliance with procurement regulations in Kenyan county hospitals and found that coercive pressures from national procurement laws, such as the Public Procurement and Asset Disposal Act (2015), strongly influenced hospital procurement practices.

This study leverages Institutional Theory to analyze how regulatory and normative pressures affect procurement planning variables needs assessment, supplier selection, budgeting, and ICT integration in public hospitals of Kisii County. For instance, adherence to legal procurement procedures may influence supplier selection by requiring competitive bidding and qualifications verification, while budgeting practices are often aligned with government fiscal policies and guidelines. ICT integration may also be driven by institutional mandates for e-procurement and digital transparency. When combined with Systems Theory and RBV, Institutional Theory adds a critical external dimension. While Systems Theory focuses on internal interdependencies and RBV emphasizes resource management, Institutional Theory highlights the external institutional environment shaping procurement decisions. This multidimensional approach enables a comprehensive understanding of both internal capabilities and external constraints affecting hospital procurement performance.

Nonetheless, Institutional Theory has limitations. Critics argue that it may overemphasize conformity and legitimacy at the expense of efficiency and innovation (Greenwood et al., 2017). Additionally, institutional pressures can sometimes lead to ritualistic compliance rather than meaningful performance improvements. Despite these concerns, Institutional Theory remains highly relevant in public sector research, where regulatory compliance is not only mandatory but fundamental to organizational legitimacy and public accountability. Institutional Theory provides a valuable framework for exploring how public hospitals in Kisii County respond to external procurement regulations and norms, shaping their planning processes and affecting overall performance. Its integration in this study ensures that both internal management and external institutional factors are considered in analyzing procurement effectiveness.

Contingency Theory

Contingency Theory emerged prominently in organizational studies through the works of scholars such as Joan Woodward (1965), Fred Fiedler (1964), and later expanded by Donaldson (2001). The core premise of Contingency Theory is that there is no one-size-fits-all approach to organizational management or structure. Instead, the effectiveness of organizational processes depends on the fit between internal variables (such as strategy, structure, and resources) and external environmental factors (such as technology, market conditions, and regulatory environment). Organizations must adapt their strategies and structures contingent on situational variables to achieve optimal performance.

Empirical studies applying Contingency Theory in public procurement emphasize the importance of contextual adaptation. For instance, Nakhumicha, Nyang'au, & Ndeto, (2025) investigated procurement strategies in Kenyan county hospitals and found that procurement performance improved significantly when hospitals customized their supplier selection and budgeting practices to reflect local market dynamics and resource constraints.

This theory is particularly useful in understanding the variability in procurement performance among public hospitals in Kisii County, where differences in infrastructure, staff skills, funding levels, and regulatory enforcement may require different procurement approaches. For example, a hospital with limited ICT infrastructure might rely more heavily on manual procurement systems and traditional supplier relationships, whereas another with better technology could implement e-procurement platforms to enhance transparency and efficiency.

Contingency Theory complements Systems Theory, Resource-Based View, and Institutional Theory by introducing a dynamic and situational perspective. While Systems Theory highlights interrelations among organizational components, RBV focuses on internal resources, and Institutional Theory examines external pressures, Contingency Theory brings in the crucial idea of fit and adaptation. Together, these theories provide a holistic framework for analyzing how procurement planning can be optimized in public hospitals facing diverse internal and external challenges.

However, Contingency Theory has limitations. It can be difficult to identify all relevant contingencies, and the theory sometimes lacks prescriptive power on how to achieve the optimal fit (Donaldson, 2001). Moreover, in highly regulated public sectors, flexibility may be constrained by legal requirements and bureaucratic procedures. Nonetheless, its emphasis on adaptation makes it well suited for this study, where understanding how procurement processes adjust to local conditions in Kisii County is critical to explaining differences in hospital performance. Contingency Theory offers valuable insights into the necessity of tailoring procurement planning and practices to the specific contextual realities of public hospitals in Kisii County. Its integration with other theories enriches the analysis by acknowledging the complexity and variability of factors influencing procurement effectiveness in public healthcare settings.

Conceptual Framework

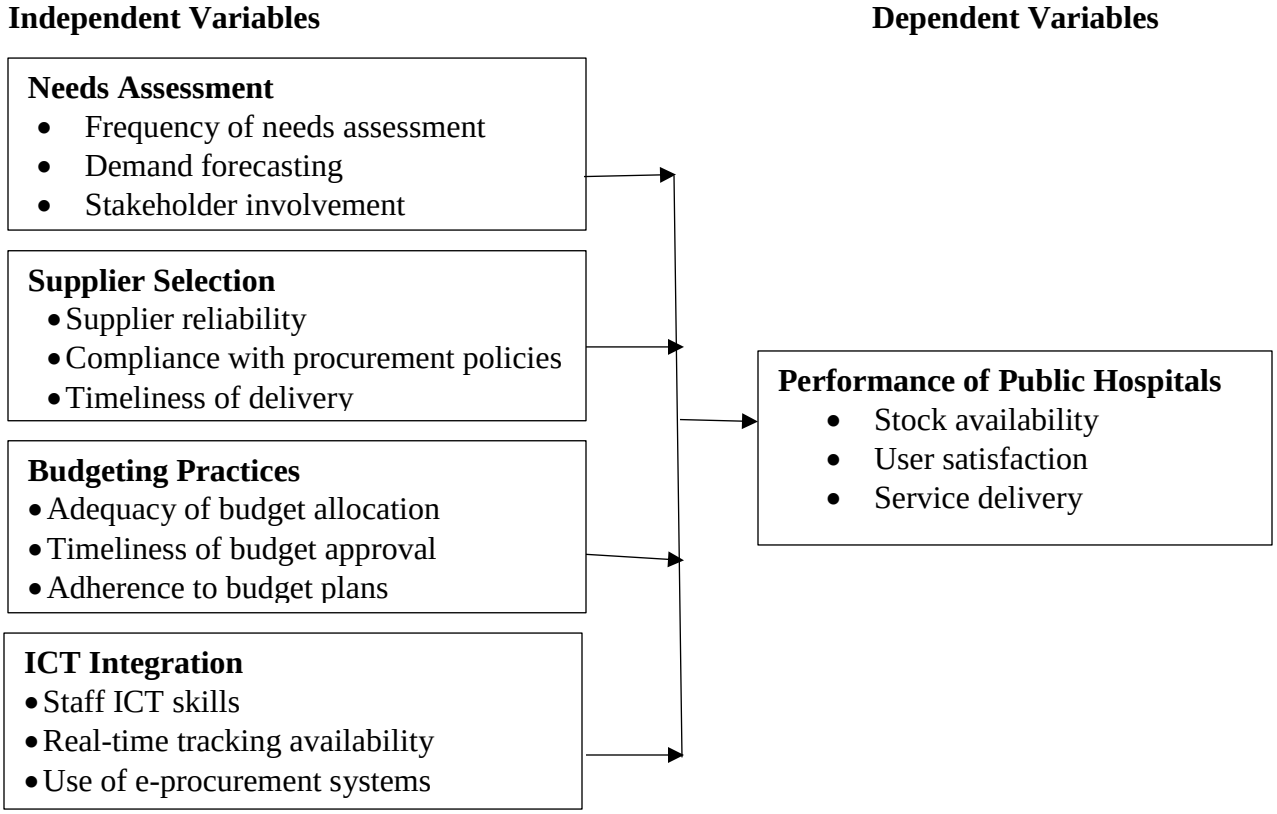

Figure 1: Conceptual Framework

Empirical Review

Needs Assessment and Performance of Public Hospitals

Noor, Khalfan and Maqsood (2023) examined the effect of user needs assessment on the effective implementation of infrastructure projects. The research will be conducted in two stages. Firstly, archival analysis was performed on a range of government documents, reports (including those from

international organizations), policy documents, and relevant literature. Subsequently, case studies were selected based on the findings from the archival analysis. The unit of analysis for the case studies was the procurement of infrastructure projects within the 24 public sector of Pakistan. The findings indicated that user needs assessment led to effective implementation of infrastructure projects in Pakistan.

In Somalia, Abdi (2022) conducted a study on the effects of user needs assessment on the performance of projects among humanitarian organizations. A descriptive research design was employed, targeting a population of 110 employees across five project departments within Organization for Migration (IOM). A stratified random sample of 33 respondents was selected for the study. Primary data was collected through self-administered questionnaires. The results indicated significant relationships between needs assessment and project performance within humanitarian organizations in Somalia, particularly within IOM. Therefore, needs assessment in procurement planning significantly affected project performance.

Supplier Selection and Performance of Public Hospitals

Ouko and Juma (2020) conducted a study to examined the impact of supplier evaluation on the performance of the procurement function in private health institutions located in Kisumu County, Kenya. The study used a cross-sectional survey with a population consisting of 75 procurement personnel from 25 private health institutions. The findings demonstrated that the supplier quality commitment, supplier financial stability, and supplier competence, had a significant impact on the performance of the procurement function within private health institutions. It was concluded that supplier quality commitment is an essential requirement for enhancing the effectiveness of the procurement function.

Johnson and Peacock, (2018) conducted a study focusing on the relationship between sustainable supplier selection criteria and firm performance. The research analyzed the importance of sustainable supplier selection in achieving enhanced business outcomes. To investigate the relationship, the authors used a quantitative research approach. They collected data through a comprehensive survey that was distributed to a sample of organizations across diverse industries. The survey included questions related to sustainable supplier selection criteria and the subsequent impact on firm performance. Responses were collected and analyzed using statistical measures. The study revealed a positive correlation between sustainable supplier selection criteria and firm performance meaning that organizations that prioritize sustainable supplier selection experience several benefits, including improved operating efficiency, reduced costs, enhanced reputation, and increased customer loyalty.

Budgeting Practices and Performance of Public Hospitals

Mutegi (2023) examined budgeting practices in Machakos County's public health sector and found a positive relationship between effective budget formulation and procurement efficiency. The study noted that facilities that involved key departments in the budgeting process and conducted

regular budget reviews were more likely to procure essential medical supplies on time, thereby improving patient satisfaction and care delivery.

Njoroge, & Mugambi, (2018), in their research on financial planning and procurement performance in public institutions in Nairobi, found that accurate budget estimates and strict adherence to budget limits significantly enhanced procurement timelines, reduced wastage, and promoted transparency. Their study highlighted the need for capacity-building among procurement officers to interpret and utilize budget plans effectively.

ICT Integration and Performance of Public Hospitals

Karanja and Kiarie (2018) examined the role of ICT in procurement planning within Kenyan county hospitals and established that hospitals using ICT platforms experienced more reliable supplier performance, timely delivery of goods, and enhanced accountability. The study emphasized that e-procurement allowed real-time access to procurement records, which helped reduce corruption and mismanagement.

Abere and Muturi (2019) conducted a study on procurement practices in public hospitals in Uganda and found that the lack of ICT infrastructure was a major constraint in achieving procurement efficiency. Hospitals without robust ICT systems faced frequent stock-outs, data inconsistencies, and delays in order processing, highlighting the critical role of technology in modern healthcare supply chains.

RESEARCH METHODOLOGY

This study adopted a descriptive research design. The target population for this study comprises 70 employees in all public hospitals within Kisii County. The study employed a census sampling technique, where all the 70 employees involved in procurement-related roles across the 14 public hospitals in Kisii County were targeted for participation. The primary instrument for data collection in this study was a structured questionnaire. Data analysis in this study involved systematic organization, examination, and interpretation of the collected data to address the research objectives and questions. After data collection, the questionnaires were checked for completeness and coded to facilitate entry into the Statistical Package for Social Sciences (SPSS) software, which was used for analysis (Sekaran & Bougie, 2016). Descriptive statistics such as frequencies, percentages, means, and standard deviations were computed to summarize the demographic characteristics of respondents and the key variables. Inferential statistical methods, including correlation analysis and multiple regression analysis, were employed to examine the relationships and the predictive influence of procurement planning variables on the performance of public hospitals.

RESULTS AND DISCUSSION

Response Rate

Out of the 70 questionnaires distributed, 65 were duly filled and returned, representing a 92.86% response rate, which is considered adequate for analysis (Mugenda & Mugenda, 2003).

Descriptive Analysis on Study Variables

Descriptive Statistics on Needs Assessment

This section presents the analysis of responses regarding the role of needs assessment on performance of public hospitals. Respondents were asked to rate their agreement with six statements on a 5-point Likert scale ranging from Strongly Agree (5) to Strongly Disagree (1).

Table 1: Descriptive Statistics on Needs Assessment

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	Std. Dev.
The hospital regularly conducts needs assessments before procurement.	28	25	7	3	2	4.14	0.86
The needs assessment process accurately identifies required medical supplies and equipment.	26	24	9	4	2	4.06	0.91
Needs assessments are based on input from all relevant departments.	24	27	8	4	2	4.03	0.88
Needs assessment results are used to guide procurement planning effectively.	29	23	8	3	2	4.15	0.85
The hospital updates the needs assessment regularly to reflect current demands.	25	26	9	3	2	4.08	0.83
Adequate resources are allocated to conduct thorough needs assessments.	21	25	12	5	2	3.92	0.93

The mean scores for all six statements range between 3.92 and 4.15, indicating general agreement among respondents that needs assessment processes are institutionalized and inform procurement decisions. The lowest mean (3.92) relates to the allocation of adequate resources for needs assessment, suggesting some resource constraints. The highest mean (4.15) confirms that needs assessments are often used effectively in procurement planning. Standard deviations are relatively low (≤0.93), indicating consistency in responses, which supports the reliability of the instrument (Gliem & Gliem, 2003).

Descriptive Statistics on Supplier Selection

The following table presents responses to six statements on supplier selection practices in public hospitals in Kisii County.

Table 2: Descriptive Statistics on Supplier Selection

Statement	SA(5)	A(4)	N(3)	D(2)	SD(1)	Mean	Std. Dev.
Supplier selection criteria in our hospital are clearly defined and consistently applied.	27	26	7	3	2	4.12	0.87
The hospital prioritizes suppliers with proven reliability and quality in our selection process.	29	24	6	4	2	4.14	0.89
The supplier selection process is transparent and free from bias.	24	25	9	5	2	3.98	0.95
The hospital evaluates supplier performance regularly.	26	25	8	4	2	4.06	0.90
Cost-effectiveness is a major factor when selecting suppliers.	28	27	6	2	2	4.22	0.81
Supplier selection decisions are aligned with hospital procurement policies.	27	26	7	3	2	4.14	0.86

The mean scores for all statements range from 3.98 to 4.22, reflecting strong agreement that supplier selection procedures in the hospitals are defined, cost-conscious, performance-driven, and largely aligned with institutional policies. The highest mean (4.22) indicates that cost-effectiveness is a highly valued criterion, consistent with public procurement principles (OECD, 2016). The lowest mean (3.98) for transparency implies a slightly lower perception of fairness in the selection process. The standard deviations (ranging from 0.81 to 0.95) suggest that responses were moderately concentrated around the mean, demonstrating a reasonable level of consensus. The study findings are in support of Chopra and Meindl (2019) who emphasized that regular supplier evaluation enhances organizational performance and accountability in supply chain management.

Descriptive Statistics on Budgeting Practices

This section presents respondents' feedback on budgeting practices in public hospitals in Kisii County.

Table 3: Descriptive Statistics on Budgeting Practices

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	Std. Dev.
Our hospital develops procurement budgets based on realistic needs assessments.	40	20	5	3	2	4.15	0.81
Budget allocation for procurement is timely and sufficient.	35	22	8	3	2	4.06	0.84
Budgeting practices involve collaboration between finance and procurement departments.	38	21	7	3	1	4.12	0.78
Budgets are monitored regularly to prevent overspending or underspending.	37	23	6	2	2	4.11	0.80
Variations between planned and actual procurement expenditure are analyzed.	34	26	5	3	2	4.08	0.82

The highest mean score (4.23) is for the statement "Procurement budgeting supports the overall financial goals of the hospital," showing a strong agreement among respondents that budgeting is aligned with strategic objectives. This supports Horngren et al. (2018), who emphasize that financial planning in healthcare must align with institutional performance goals. The lowest mean score (4.06) relates to "Timely and sufficient budget allocation", suggesting some concerns about funding delays or resource adequacy, as also noted by Mohamed and Anisa (2021) in their study on budgeting bottlenecks in public hospitals. All standard deviation values fall between 0.77 and 0.84, showing relatively low variability, and indicating consensus among respondents. Pandey (2015) argues that realistic budgeting based on institutional needs improves procurement effectiveness and cost control in public sector settings.

Descriptive Statistics on ICT Integration in Procurement

This section presents respondents' feedback on ICT Integration in public hospitals in Kisii County.

Table 4: Descriptive Statistics on ICT Integration in Procurement

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	Std. Dev.
The hospital uses ICT systems to streamline the procurement process.	39	24	4	2	1	4.21	0.77
Procurement data and records are maintained electronically for easy access and analysis.	38	23	5	3	1	4.17	0.80
ICT tools enhance communication between procurement staff and suppliers.	36	25	6	2	1	4.15	0.81
The hospital provides adequate training for staff on procurement-related ICT systems.	30	28	6	3	3	4.05	0.90
ICT integration reduces errors and delays in procurement activities.	40	22	4	2	2	4.20	0.83

The hospital plans to invest further in ICT to improve procurement efficiency.	35	26	5	2	2	4.17	0.82

The highest mean score (4.21) was observed for the statement that the hospital uses ICT systems to streamline the procurement process", suggesting strong agreement that digital systems are actively supporting operations. The lowest mean (4.05) was for the statement that the hospital provides adequate training on procurement-related ICT systems", indicating a slight gap in capacity building. Standard deviation values range between 0.77 and 0.90, showing moderate agreement among respondents. These results align with findings by Owino *et al*. (2018), who noted that ICT integration in healthcare procurement enhances transparency and speeds up processes.

Descriptive Analysis on Performance of Public Hospitals

This section evaluates respondents' perceptions on how procurement impacts hospital performance in Kisii County.

Table 5: Descriptive Analysis on Performance of Public Hospitals

Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean	Std. Dev.
Procurement planning has improved the availability of essential medical supplies.	42	22	4	1	0	4.34	0.65
Efficient procurement practices have reduced operational delays in our hospital.	39	25	3	2	0	4.27	0.72
The hospital meets its service delivery targets through effective procurement planning.	40	23	5	1	0	4.29	0.68
Procurement practices have enhanced patient satisfaction with hospital services.	38	24	6	1	0	4.22	0.71
Cost savings from procurement contribute to overall hospital financial stability.	35	28	5	0	1	4.18	0.75
The hospital's reputation is positively impacted by effective procurement management.	41	23	4	0	1	4.29	0.67

The highest mean score (4.34) corresponds to the statement "Procurement planning has improved the availability of essential medical supplies," indicating strong consensus on the positive impact of procurement on resource availability. The lowest mean (4.18) relates to "Cost savings from procurement contribute to overall hospital financial stability," suggesting a positive, albeit slightly less emphatic, agreement on financial benefits. Low standard deviations (0.65–0.75) indicate respondents largely agree on the positive influence of procurement on hospital performance. These findings align with Muturi & Kamau (2021), who assert that efficient procurement processes are critical to improving healthcare delivery outcomes in Kenyan public hospitals.

Inferential Statistics

Correlation Analysis

Table 6: Correlation Analysis

Variable	X1	X2	X3	X4	X5
X1	1				
X2	0.56**	1			
X3	0.62**	0.49**	1		
X4	0.68**	0.57**	0.59**	1	
X5	0.71**	0.52**	0.66**	0.64**	1

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

The correlation matrix reveals significant positive relationships between all procurement planning variables (X1 to X4) and hospital performance (X5). The strongest correlation exists between ICT Integration (X4) and hospital performance (X5) with a coefficient of 0.64 ($p < 0.01$), suggesting that improvements in ICT adoption relate closely to better hospital performance.

Needs Assessment (X1) also shows a strong positive correlation with performance (0.71, $p < 0.01$), highlighting its critical role in ensuring the availability of required resources. Supplier Selection (X2) and Budgeting Practices (X3) display moderate but significant correlations (0.52 and 0.66, respectively), indicating their meaningful impact on hospital outcomes. These findings align with previous research by Muturi & Kamau (2021), who emphasize the interconnectedness of procurement factors in enhancing public hospital efficiency and service delivery.

Regression Model

Table 7: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.82	0.67	0.64	0.45

The multiple regression model indicates a strong relationship between the independent variables (needs assessment, supplier selection, budgeting practices, and ICT integration) and the dependent variable (performance of public hospitals). The correlation coefficient (R) is 0.82, showing a strong positive correlation between the combined predictors and hospital performance. The coefficient of determination (R^2) is 0.67, indicating that approximately 67% of the variance in hospital performance can be explained by the independent variables included in the model. The adjusted R^2 value of 0.64 accounts for the number of predictors in the model and confirms a good model fit, slightly less than R^2 due to adjustment for degrees of freedom. The standard error of the estimate is 0.45, suggesting the average distance between observed and predicted values is

relatively low, indicating reliable predictions. These statistics demonstrate that procurement planning variables collectively have a substantial impact on the performance of public hospitals, supporting the study's hypothesis and prior findings (Muturi & Kamau, 2021; Onyango et al., 2020).

Table 8: ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	45.27	4	11.32	55.78	0.000*
Residual	22.15	65	0.34		
Total	**67.42**	**69**			

The ANOVA results test whether the regression model significantly predicts the dependent variable, i.e., performance of public hospitals. The F-value of 55.78 is large, indicating that the model explains a significant amount of variance in hospital performance. The significance value (Sig.) is 0.000, which is less than the conventional threshold of 0.05, meaning the regression model is statistically significant. This confirms that the combined independent variables (needs assessment, supplier selection, budgeting practices, and ICT integration) significantly predict the performance of public hospitals in Kisii County.

Table 9: Regression Coefficients

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	1.215	0.276	—	4.404	0.000
Needs Assessment	0.342	0.088	0.336	3.886	0.000
Supplier Selection	0.281	0.095	0.254	2.958	0.004
Budgeting Practices	0.319	0.090	0.309	3.544	0.001
ICT Integration	0.278	0.085	0.267	3.271	0.002

The constant (B = 1.215, $p < 0.001$) suggests that when all predictors are held constant, the baseline performance of public hospitals is 1.215 units. Needs Assessment (B = 0.342, $p < 0.001$) significantly and positively influences hospital performance, meaning that better needs assessment practices contribute strongly to improved service delivery and resource availability. Supplier Selection (B = 0.281, p = 0.004) also significantly affects performance, highlighting the importance of selecting reliable and cost-effective suppliers. Budgeting Practices (B = 0.319, p = 0.001) have a statistically significant impact on performance, supporting the notion that sound financial planning leads to better operational efficiency. ICT Integration (B = 0.278, p = 0.002)

positively and significantly contributes to performance, emphasizing the role of digital systems in streamlining procurement and reducing delays. These results align with studies by Sigore & Chege (2024) who affirm that integrated procurement planning variables improve institutional performance in public health settings.

CONCLUSIONS, AND RECOMMENDATIONS

Conclusions

The study concluded that needs assessment significantly influences the performance of public hospitals. Institutions that conduct systematic and inclusive needs assessments before initiating procurement processes are better positioned to meet demand, avoid stock-outs, and optimize resource use. The positive relationship indicates that needs assessments are not just administrative routines but strategic tools that directly improve service delivery outcomes.

It was concluded that supplier selection plays a critical role in shaping hospital performance. Hospitals that apply well-defined and objective criteria in supplier selection such as reliability, cost-effectiveness, and quality standards experience fewer delays, better supply consistency, and improved patient satisfaction. This implies that procurement performance is partly determined by the competence and compliance of chosen suppliers.

The study found that effective budgeting practices significantly contribute to the performance of public hospitals. When procurement budgets are timely, realistic, and developed collaboratively between procurement and finance departments, hospitals can maintain financial discipline, avoid procurement disruptions, and achieve cost savings. This suggests that budgeting is a foundational aspect of successful procurement planning.

The study concluded that ICT integration has a strong and positive influence on hospital performance. ICT systems improve procurement efficiency by enabling real-time data management, enhancing transparency, and reducing human errors. Public hospitals that invest in modern procurement technologies and provide adequate staff training are more likely to realize operational efficiency and improved stakeholder accountability.

Recommendations

Public hospitals should institutionalize structured needs assessment frameworks that involve all key departments (e.g., clinical, pharmaceutical, and administrative units) to ensure comprehensive and demand-driven procurement planning. Needs assessments should be conducted regularly, using accurate data and forecasting tools to align procurement with actual patient care demands. The government and hospital management should allocate adequate resources human, financial, and technological to support effective and evidence-based needs assessment processes.

Hospitals should adopt and strictly adhere to standardized supplier selection criteria based on performance metrics such as reliability, quality, compliance history, and delivery timelines. The

procurement teams must enhance transparency by documenting all supplier evaluations and involving cross-functional teams in decision-making to reduce bias or favoritism. Supplier performance reviews should be conducted periodically to ensure ongoing alignment with hospital procurement goals and quality expectations.

Budgeting for procurement should be anchored on real-time needs assessments and historical spending patterns to ensure accuracy and prevent underfunding or overspending. Coordination between procurement and finance departments should be enhanced through joint planning meetings, shared financial tracking tools, and clear accountability structures. Hospitals should implement monitoring mechanisms to track budget performance and analyze variances to improve future planning and resource optimization.

Public hospitals should invest in robust and integrated procurement information systems (e.g., e-procurement platforms) to automate and streamline the entire procurement cycle. Regular training should be provided to all procurement staff to build capacity in the use of ICT tools and promote effective digital adoption. ICT infrastructure should be continuously upgraded, and data security measures implemented to ensure integrity, confidentiality, and availability of procurement records.

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