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Procurement Practices on Service Delivery in Level 5 County Referral Hospitals in Kenya: The Moderating Role of Leadership Styles

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Abstract

Service delivery in Kenya's county referral hospitals remains inconsistent despite ongoing reforms aimed at strengthening fiscal accountability and budgetary discipline. Procurement practices have increasingly emerged as a key determinant of service delivery, influencing the availability of medical supplies, efficiency of resource utilization, and responsiveness to patient needs. This study examined the effect of procurement practices on service delivery in Level 5 county referral hospitals in Kenya, while assessing the moderating role of leadership styles. The study was anchored on the Resource-Based View and Transformational Leadership theories and adopted a descriptive quantitative research design. The target population comprised all 47 county referral hospitals, stratified across Kenya's eight administrative regions. A sample of 148 respondents drawn from hospital management teams was selected using stratified random sampling. Data were collected through structured questionnaires, which were subjected to pilot testing to ensure validity and reliability. Data analysis was conducted using descriptive statistics, Pearson correlation, and multiple regression, alongside moderation analysis. The findings indicate that procurement practices exert a strong, statistically significant influence on service delivery. However, leadership styles did not demonstrate a significant moderating influence on this relationship. The study concluded that strengthening procurement practices is critical in enhancing service delivery in county referral hospitals.

Keywords: *Financial management, Procurement practices, service delivery, Leadership style, level 5 County Referral Hospitals*

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1. Introduction

Service delivery in county referral hospitals in Kenya continues to face persistent challenges despite ongoing reforms aimed at improving healthcare performance. Delays in service provision, shortages of essential medicines, and inconsistencies in quality of care remain evident, negatively affecting patient satisfaction and continuity of care. These challenges necessitate closer examination of institutional drivers of performance, particularly financial management practices and leadership.

In financial management, procurement practices are critical to ensuring the availability of essential medical inputs, such as drugs, equipment, and supplies. Efficient procurement systems facilitate the timely acquisition of resources and support uninterrupted healthcare delivery. In contrast, weak procurement processes contribute to delays, stock-outs, and inefficient resource utilization, thereby undermining service delivery outcomes (Obadha et al., 2020).

Leadership styles influence how procurement practices are implemented and monitored. Transformational leadership promotes innovation, accountability, and staff involvement, supporting transparent and responsive procurement systems (Mutinda & Mbatha, 2024). Conversely, transactional leadership reinforces compliance with established procedures, ensuring discipline in procurement activities, though it may limit flexibility in dynamic healthcare environments (Omari & Wanjala, 2022).

The interaction between procurement practices and leadership is therefore critical in shaping healthcare outcomes. Hospitals that integrate effective procurement systems with strong leadership demonstrate improved supply reliability and responsiveness to patient needs (Ouma et al., 2023). In contrast, weak procurement systems, combined with ineffective leadership, lead to inefficiencies and reduced service quality (Mwangi & Gituro, 2023). Evidence further shows that transparent procurement supported by strong leadership enhances performance, while weak oversight contributes to resource wastage (World Bank, 2020).

In Kenya, persistent procurement delays and accountability gaps continue to constrain hospital performance. However, improved financial planning and inclusive leadership practices have been shown to enhance procurement efficiency and coordination, supporting better healthcare outcomes (Ndiritu et al., 2021).

1.1 Problem Statement

County referral hospitals in Kenya play a critical role in delivering public healthcare services; however, persistent weaknesses in procurement practices continue to undermine their efficiency and patient outcomes. Reports from the Auditor General consistently highlight irregular procurement processes, delayed disbursements, and weak internal control systems, which contribute to resource wastage, frequent drug shortages, and disruptions in service delivery (Odhiambo & Onyango, 2024). Similarly, the Health Sector Performance Report (2023/2024) identifies low budget absorption rates and accountability gaps that adversely affect hospital operations and the quality of care provided (Ministry of Health, 2024).

Empirical evidence further indicates that only about 40% of county referral hospitals effectively implement procurement and financial management best practices, compared to a global benchmark of approximately 70%, revealing a significant gap in institutional performance (Kamau & Muli, 2023). These procurement inefficiencies are often compounded by leadership challenges. Autocratic and bureaucratic leadership styles tend to limit staff participation, reduce innovation, and weaken governance structures, thereby contributing to workforce dissatisfaction, industrial actions, and declining public trust (Kariuki & Gitonga, 2022). Such conditions ultimately disrupt service continuity and compromise patient care (Wachira et al., 2023).

Despite recognition of procurement challenges in existing reports, limited empirical attention has been paid to how procurement practices directly influence service delivery outcomes,

particularly in county referral hospitals. Furthermore, the moderating role of leadership styles in shaping this relationship remains insufficiently explored. Addressing these gaps is essential for improving procurement efficiency, strengthening institutional governance, and enhancing healthcare service delivery in Kenya's public health system.

1.2 Research Objectives

i. To establish the influence of procurement practices on service delivery in level 5 county referral hospitals in Kenya.

ii. To establish whether leadership styles moderate the relationship between procurement practices and service delivery in level 5 county referral hospitals in Kenya.

1.3 Research Hypotheses

H_{01}: Procurement practices do not significantly influence service delivery in level 5 county referral hospitals in Kenya.

H_{02}: Leadership styles do not significantly moderate the relationship between procurement practices and service delivery in level 5 county referral hospitals in Kenya.

2 Literature Review

2.1 Theoretical Review

Within the Resource-Based View (RBV) framework, procurement practices are conceptualized as strategic capabilities that shape hospital performance by determining how external resources, such as supplies, equipment, and pharmaceuticals, are acquired and integrated into healthcare systems. RBV emphasizes that organizations must secure inputs that are valuable, rare, inimitable, and non-substitutable to build sustainable competitive advantage (Barney, 1991). Efficient procurement enables hospitals to transform external resources into internal strengths that competitors find difficult to replicate, thereby enhancing resilience and service delivery. When strategically managed, procurement not only reduces costs but also ensures the timely availability of essential medical inputs, aligning with RBV's assertion that competitive advantage arises not merely from resource possession but from the ability to deploy and manage those resources effectively (Chepkirui & Muthoni, 2025; Kosiol et al., 2023).

2.2 Empirical Review

2.2.1 Procurement Practices on Service Delivery

Procurement practices are a key determinant of service delivery in county referral hospitals, as they influence the availability of essential medical supplies, equipment, and services required for effective healthcare provision. Efficient procurement systems support the timely acquisition of inputs, ensuring continuity of care and operational efficiency. Conversely, weaknesses such as bureaucratic delays, lack of transparency, and non-compliance with procurement regulations lead to stock-outs, treatment delays, and reduced patient satisfaction.

Institutional Theory provides a relevant framework, emphasizing that procurement processes must align with formal regulations, ethical standards, and societal expectations to ensure accountability and efficiency in public hospitals (Scott, 2014).

Empirical evidence consistently shows that effective procurement practices improve service delivery. Timely procurement and monitoring of supplier performance have been found to enhance drug availability and reduce service disruptions in Kenyan hospitals (Otieno &

Wambua, 2022). Similarly, compliance with procurement regulations and transparency in supplier selection are associated with shorter lead times, reduced stock-outs, and improved stakeholder trust (Kamau & Muli, 2023).

Regional studies support these findings. Centralized procurement systems often create inefficiencies due to bureaucratic bottlenecks, while decentralized approaches improve responsiveness and staff satisfaction (Ndayambaje & Murekezi, 2021). However, procurement systems must balance compliance with operational flexibility to achieve optimal performance.

Despite these benefits, challenges persist, including supplier unreliability, political interference, and limited technical capacity, which constrain procurement effectiveness in Kenyan hospitals (Mwikali & Ndiritu, 2020). Recent evidence shows that digital procurement systems, staff training, and stakeholder engagement improve procurement efficiency and service delivery outcomes (Mutinda & Mbatha, 2024).

2.2.2 Leadership Styles as a Moderating Variable of Procurement Practices and Service Delivery

Leadership styles influence how procurement practices translate into service delivery outcomes in healthcare institutions. Transformational and participatory leadership promote transparency, innovation, and staff involvement in procurement decisions, thereby strengthening accountability and improving service quality (Bass & Riggio, 2021; Kim & Lee, 2022). Supportive leadership behaviors, including mentoring and coaching, enhance managerial capacity and ensure effective oversight of procurement processes and resource utilization (Liden et al., 2022).

Transactional leadership reinforces compliance with procurement regulations through performance-based rewards and monitoring systems, which promote efficiency and accountability (Bass & Avolio, 2020). In contrast, passive leadership weakens coordination and oversight, resulting in inefficiencies and reduced service quality (Skogstad et al., 2021). Ethical leadership further strengthens procurement governance by promoting integrity, transparency, and responsible stewardship of public resources (Brown & Trevino, 2022). Overall, leadership styles shape the effectiveness of procurement practices and their contribution to improved healthcare performance.

2.3 Conceptual Framework

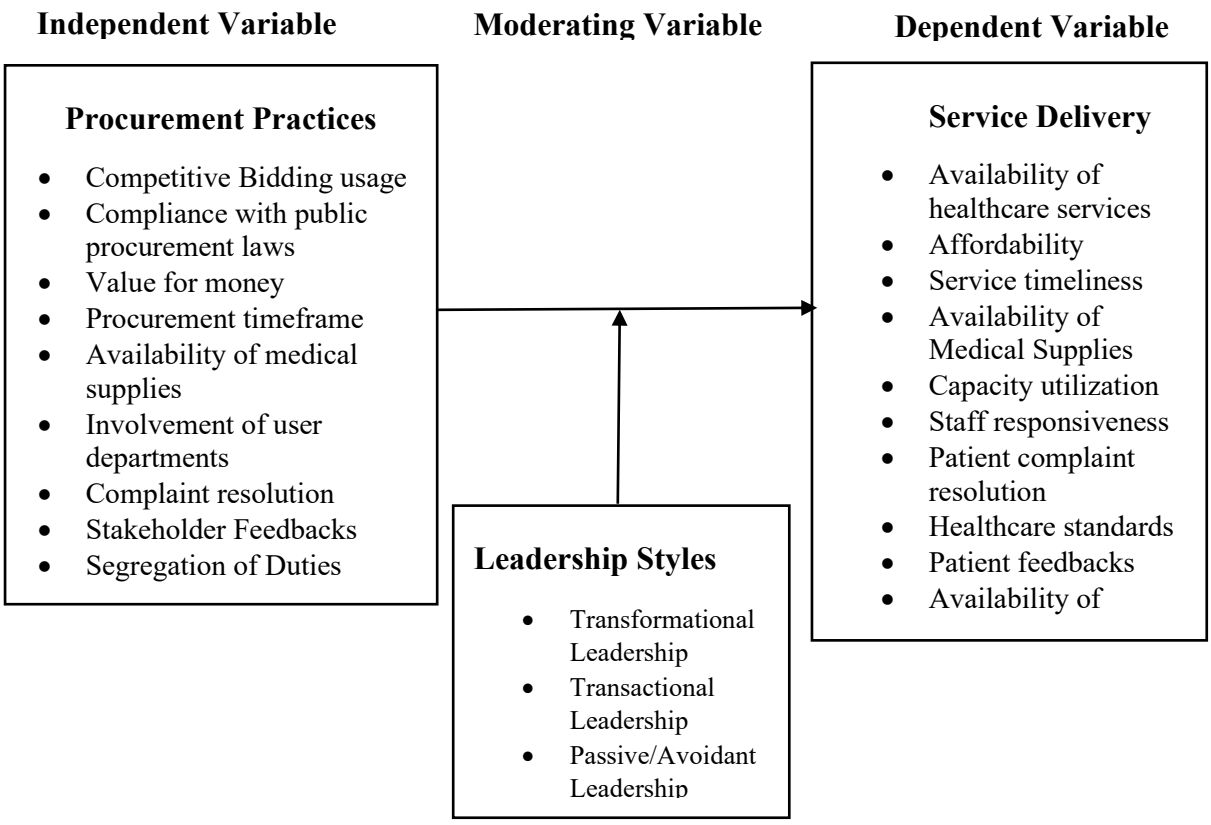

Figure 1: Conceptual Framework

3.1 Methodology

The study adopted a positivist research philosophy, emphasizing objective measurement and the use of quantitative methods to generate empirical evidence (Ali, 2024; Alharahsheh & Pius, 2020). A descriptive and quantitative research design was employed, where the descriptive component examined prevailing procurement practices, while the quantitative approach assessed their relationship with service delivery outcomes (Creswell & Creswell, 2018; Saunders et al., 2019).

To ensure representativeness, stratified random sampling was applied across Kenya's eight administrative regions. Using Yamane's (1967) formula, a sample size of 148 respondents was determined from a population of 235 at a 95% confidence level and a 5% margin of error (Taherdoost, 2021). Data were collected using a semi-structured questionnaire comprising Likert-scale and open-ended items. A pilot study was conducted to refine the instrument and enhance its validity and reliability (Cooper & Schindler, 2014; Mugenda & Mugenda, 2019).

Validity was assessed through content and construct measures, while factor analysis confirmed convergent validity with factor loadings ≥ 0.4 (Mandala et al., 2022). Reliability was established using Cronbach's alpha, with a threshold of 0.7 considered acceptable (Tavakol & Dennick, 2021).

Data were analyzed using SPSS, employing descriptive statistics, Pearson correlation, and multiple regression. Diagnostic tests for normality, multicollinearity, and heteroscedasticity

were conducted to ensure model robustness (Field, 2020; Hair et al., 2022). Leadership styles were tested as a moderating variable using hierarchical regression with interaction terms (Hayes, 2022). Ethical considerations were upheld through NACOSTI approval, informed consent, and confidentiality (WHO, 2019).

4. Results and Discussion

4.1 Response Rate

A total of 148 questionnaires were distributed to respondents, out of which 132 were completed and returned, resulting in a response rate of 89.19%. All returned questionnaires were fully completed and deemed suitable for analysis. This high response rate exceeds commonly recommended thresholds in research, indicating adequate participation and enhancing the reliability and generalizability of the study findings.

Table 1: Response Rate

Questionnaires	Frequency	Percentage
Returned	132	89.19
Not Returned	16	10.81
Total	**148**	**100**

4.2 Descriptive Analysis of Procurement Practices

The study assessed respondents' perceptions of procurement practices in county referral hospitals in relation to service delivery. Overall, the findings indicate strong agreement that procurement systems are effectively implemented. Results in Table 2 show that supplier selection based on value for money and performance history recorded the highest mean score (M = 4.03, SD = 0.882), suggesting that procurement decisions are guided by performance-based criteria that enhance efficiency and accountability.

Compliance with procurement regulations was also rated highly (M = 3.94, SD = 0.845), indicating adherence to public procurement laws that promote transparency and accountability. Similarly, timely completion of procurement activities (M = 3.94, SD = 0.880) reflects hospitals' ability to acquire essential inputs within required timelines, thereby minimizing service disruptions.

The availability of essential medicines and supplies (M = 3.93, SD = 0.858) demonstrates the contribution of procurement systems to stable healthcare supply chains. In addition, user department involvement in procurement planning (M = 3.92, SD = 0.807) indicates alignment between procurement decisions and operational needs.

Moderate ratings were observed for transparent and competitive bidding procedures (M = 3.81, SD = 0.811), suggesting fairness in supplier selection with room for improvement. The resolution of procurement-related complaints (M = 3.93, SD = 0.858) further indicates the presence of mechanisms for addressing disputes and improving stakeholder coordination.

The overall mean score (M = 3.92, SD = 0.848) confirms that procurement practices are generally effective. These findings align with Institutional Theory, which emphasizes

compliance with regulatory frameworks and organizational norms in promoting efficiency and accountability (Scott, 2014).

Table 2: Descriptive Results of Procurement Practices

Statement	N	Min	Max	Mean	SD
The hospital follows competitive and transparent bidding procedures	132	1	5	3.81	.811
Procurement and disposal processes comply with existing public procurement laws	132	1	5	3.94	.845
Suppliers are selected based on value-for-money and performance history	132	1	5	4.03	.882
Procurement activities are completed within approved timeframes	132	1	5	3.94	.880
Essential medicines and supplies are consistently available	132	1	5	3.93	.858
User departments are involved in specifying procurement needs	132	1	5	3.92	.807
Complaints from suppliers and user departments are settled amicably	132	1	5	3.93	.858

4.3 Descriptive Analysis of Leadership Styles

The study assessed respondents' perceptions of leadership styles in county referral hospitals in relation to procurement practices and service delivery. Overall, the findings indicate that leadership behaviors are perceived as supportive and conducive to effective organizational functioning. Respondents expressed general agreement that leadership practices enhance staff motivation, engagement, and performance, as reflected by an aggregate mean score of 3.94 (SD = 0.856). This suggests that leadership plays an important role in shaping the effectiveness of procurement systems and overall service delivery.

The results show that leaders actively support employee development, with the highest-rated item indicating that leaders help others develop themselves (M = 4.02, SD = 0.886). This reflects a strong emphasis on capacity building, enhancing staff competence, and improving the management of procurement processes. Leaders were also perceived to foster positive interpersonal relationships, as employees reported feeling valued and appreciated (M = 3.84, SD = 0.799), a factor that strengthens teamwork and coordination in procurement activities.

Leadership behaviors further promote intellectual stimulation, with respondents indicating that leaders encourage innovative thinking (M = 3.82) and provide new perspectives (M = 3.84). These practices support continuous improvement in procurement systems and align with transformational leadership principles that enhance creativity and problem-solving. In addition, leaders were found to communicate expectations clearly (M = 3.86), ensuring alignment between procurement objectives and institutional goals.

Motivational practices were also evident, with leaders providing recognition and rewards for achievement (M = 3.92) and offering performance feedback (M = 3.93). These practices enhance accountability and reinforce adherence to procurement procedures. High levels of trust were observed, as leaders were perceived to inspire confidence (M = 3.99) and pride among employees (M = 3.98), and to help staff find meaning in their work (M = 3.91).

However, some elements of passive leadership were noted (M = 3.95–4.10), suggesting limited intervention in stable situations, which may constrain innovation if overemphasized.

The findings support Transformational Leadership Theory, which emphasizes motivation, intellectual stimulation, and commitment. In this study, leadership styles function as a moderating variable, influencing the effectiveness of procurement practices and thereby contributing to improved efficiency, coordination, and healthcare service delivery outcomes.

Table 3: Descriptive Results of Leadership Styles

Statement	N	Min	Max	Mean	SD
I make others feel good to be around me	132	1	5	3.84	.799
I express with a few simple words what we could and should do	132	1	5	3.86	.880
I enable others to think about old problems in new ways	132	1	5	3.82	.818
I help others develop themselves	132	1	5	4.02	.886
I tell others what to do if they want to be rewarded for their work	132	1	5	3.92	.865
I am satisfied when others meet agreed-upon standards	132	1	5	3.98	.856
I am content to let others continue working in the same way as always	132	1	5	3.89	.867
Others have complete faith in me	132	1	5	3.99	.833
I provide appealing images of what we can do	132	1	5	3.98	.847
I provide others with new ways of looking at puzzling things	132	1	5	3.84	.863
I let others know how I think they are doing	132	1	5	3.93	.893
I provide recognition/rewards when others reach their goals	132	1	5	3.92	.838
As long as things are working, I do not try to change anything	132	1	5	3.95	.832
Whatever others want to do is O.K. with me	132	1	5	4.02	.886
Others are proud to be associated with me	132	1	5	3.98	.847
I help others find meaning in their work	132	1	5	3.91	.869
I get others to rethink ideas that they had never questioned before	132	1	5	3.92	.865
I give personal attention to others who seem rejected	132	1	5	3.93	.867
I call attention to what others can get for what they accomplish	132	1	5	3.96	.860
As long as things are working, I do not try to change anything	132	1	5	4.10	.855
I ask no more of others than what is absolutely essential	132	1	5	4.00	.865

4.4 Descriptive Analysis of Service Delivery

The study assessed respondents' perceptions of service delivery in county referral hospitals in relation to procurement practices. Service delivery was examined across key dimensions, including availability, affordability, responsiveness, efficiency, and quality of care. In public healthcare institutions, these outcomes are largely influenced by resource availability, supply chain efficiency, and the effectiveness of procurement systems that support service provision. Evidence suggests that efficient procurement and resource management significantly enhance service delivery outcomes (McPake et al., 2023; Barasa et al., 2021).

The descriptive results presented in Table 4 indicate moderate to high levels of agreement across most indicators. Respondents reported that healthcare services are moderately available (M = 3.37, SD = 0.920) and affordable (M = 3.58, SD = 0.958), suggesting that hospitals are making efforts to maintain access despite resource constraints. Service efficiency recorded a high mean score (M = 4.10, SD = 0.915), indicating that services are generally delivered promptly. Similarly, the availability of essential drugs, equipment, and supplies (M = 3.87, SD = 0.851) reflects the role of procurement systems in maintaining relatively stable supply chains (Tsofa et al., 2022).

However, some aspects of service delivery recorded moderate ratings, indicating areas requiring improvement. These include operational capacity (M = 3.11, SD = 1.123), complaint management systems (M = 3.18, SD = 0.995), and monitoring of healthcare standards (M = 3.17, SD = 0.895). Staff responsiveness (M = 3.54, SD = 1.022) and patient satisfaction (M = 4.14, SD = 0.811) were rated positively, reflecting favorable patient experiences. Nonetheless, staff training for specialized services recorded a relatively lower mean (M = 3.12, SD = 1.172), highlighting the need for continued capacity development.

The overall mean score (M = 3.54, SD = 0.961) suggests that service delivery is moderately effective. These findings align with Systems Theory, which emphasizes that coordinated institutional processes, including procurement efficiency, leadership, and workforce development, collectively determine organizational performance. Strengthening procurement systems is therefore essential for improving service delivery outcomes in county referral hospitals.

Table 4: Descriptive Results of Service Delivery

Statement	N	Min	Max	Mean	SD
Healthcare services are always available to the patients	132	1	5	3.37	.920
Healthcare services are often affordable to the patients	132	1	5	3.58	.958
Required healthcare services are often delivered promptly and efficiently	132	1	5	4.10	.915
Essential drugs, equipment, and supplies are readily available	132	1	5	3.87	.851
The hospital operates at its maximum capacity	132	1	5	3.11	1.123
Staff respond promptly to patient needs and emergencies	132	1	5	3.54	1.022
Management actively addresses patients' concerns and complaints	132	1	5	3.18	.995
Healthcare standards are clearly defined and monitored	132	1	5	3.17	.895
Patients are satisfied with the quality of services offered	132	1	5	4.14	.811
Feedback from patients is regularly collected and acted upon	132	1	5	3.80	.912
Staff are adequately trained to deliver specialized care	132	1	5	3.12	1.172

Respondents were further asked to *evaluate overall service delivery in their hospitals over the past five years in relation to procurement practices*. The results presented in Table 5 indicate that the majority of respondents perceived an improvement in service delivery. Specifically, 118 respondents (89.39%) reported that service delivery has improved, while 14 respondents (10.61%) indicated no improvement.

These findings suggest that enhanced procurement practices have contributed positively to service delivery outcomes in county referral hospitals, particularly through improved availability of essential supplies and increased efficiency in healthcare provision.

Table 5: Overall Rating of Service Delivery Based on Procurement Practices

Response	Frequency	Percentage (%)
Service Delivery has improved in the last five years	118	89.39
Service Delivery has not improved in the last five years	14	10.61
Total	**132**	**100**

4.5 Bivariate Correlation Analysis

The results presented in Table 6 indicate statistically significant positive relationships among the variables. Procurement practices (X3) show a strong and positive correlation with service delivery (Y) ($r = 0.587$, $p < 0.01$), suggesting that improvements in procurement systems are associated with enhanced service delivery outcomes. This implies that efficient procurement processes contribute to better resource availability and improved healthcare performance.

Leadership styles (Z) also exhibit a moderate positive relationship with service delivery ($r = 0.398$, $p < 0.01$), indicating that effective leadership enhances organizational performance. Additionally, leadership styles show a weak but statistically significant positive relationship with procurement practices ($r = 0.060$, $p > 0.05$), indicating limited direct influence on procurement implementation.

Table 6: Results of Correlation Analysis of Variables

Variable	Y	X_1	Z
Service Delivery (Y)	1		
Sig. (2-tailed)			
N	132		
Procurement Practices (X_1)	.587**	1	
Sig. (2-tailed)	.000		
N	132	132	
Leadership Styles (Z)	.398**	.060*	1
Sig. (2-tailed)	.000	.498	
N	132	132	132

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

4.6 Test of Hypothesis

4.6.1 Test of Hypothesis One: Procurement Practices on Service Delivery

The objective of the study was to determine the influence of procurement practices on service delivery in Level 5 county referral hospitals in Kenya. Regression analysis was conducted, and the results are presented in Tables 7, 8, and 9.

The Model 1 summary results in Table 7 indicate a correlation coefficient (R) of 0.587, reflecting a moderate positive relationship between procurement practices and service delivery.

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The coefficient of determination (R^2) is 0.344, indicating that approximately 34.4% of the variation in service delivery is explained by procurement practices. This suggests that procurement systems, such as supplier selection, compliance, and timely acquisition of medical supplies, play a significant role in influencing service delivery outcomes. The adjusted R^2 value of 0.339 further confirms the model's reliability, while the standard error of estimate (0.61913) indicates a moderate level of prediction error. Overall, these findings demonstrate that procurement practices are important predictors of service delivery performance.

Table 7: Model Summary: Procurement Practices

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.587[a]	.344	.339	.61913	.344	68.216	1	130	.000
2	.670[b]	.449	.441	.56949	.105	24.652	1	129	.000
3	.670[c]	.449	.436	.57171	.000	.000	1	128	.985

a. Predictors: (Constant), Zscore(X_1)
b. Predictors: (Constant), Zscore(X_1), Zscore(Z)
c. Predictors: (Constant), Zscore(X_1), Zscore(Z), ZX_1

The ANOVA results presented in Table 8 further assess the overall significance of the regression Model 1. The findings show an F-statistic of 68.216 with a corresponding p-value of 0.000, which is below the 0.05 significance level. This confirms that the regression model is statistically significant and that procurement practices significantly explain variations in service delivery. The results indicate that the observed relationship is not due to random chance and that procurement systems contribute meaningfully to healthcare performance outcomes.

Table 8: ANOVA[a] Results: Procurement Practices

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	26.149	1	26.149	68.216	.000[b]
	Residual	49.832	130	.383		
	Total	75.981	131			
2	Regression	34.144	2	17.072	52.639	.000[c]
	Residual	41.837	129	.324		
	Total	75.981	131			
3	Regression	34.144	3	11.381	34.821	.000[d]
	Residual	41.837	128	.327		
	Total	75.981	131			

a. Dependent Variable: Y
b. Predictors: (Constant), Zscore(X_1)
c. Predictors: (Constant), Zscore(X_1), Zscore(Z)
d. Predictors: (Constant), Zscore(X_1), Zscore(Z), ZX_1

The regression results in Table 9 provide further insight into the relationship between procurement practices and service delivery. The constant term ($\beta_0 = 3.878$) represents the baseline level of service delivery when procurement practices are held constant at zero level.

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The beta value (β_1 = 0.447, P<0.001) indicate that procurement practices in county referral hospitals in Kenya are positively and significantly related to service delivery in these hospitals. This implies that improvements in procurement practices lead to significant and better service delivery in these hospitals. This leads to rejection of null hypothesis H_{01}, which stated that "Procurement practices do not significantly influence service delivery in level 5 county referral hospitals in Kenya" in favor of H1 and concludes that "Procurement practices significantly influence service delivery in level 5 county referral hospitals in Kenya".

From a practical perspective, these findings underscore the importance of strengthening procurement systems in county referral hospitals. Effective procurement enhances transparency, improves supplier management, and ensures the timely acquisition of essential medical supplies, thereby reducing service disruptions and improving operational efficiency.

The results are consistent with prior studies showing that procurement planning and supplier monitoring improve service delivery in Kenyan public hospitals (Amemba & Nyambega, 2022). Compliance with procurement regulations and improved supply chain coordination has also been linked to enhanced efficiency and accountability (Rotich & Wanyama, 2023). These findings also align with Systems Theory, in which procurement functions as a critical subsystem that links financial planning and service delivery.

Table 9: Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.878	.054		71.965	.000
	Zscore(X_1)	.447	.054	.587	8.259	.000
2	(Constant)	3.878	.050		78.239	.000
	Zscore(X_1)	.455	.050	.598	9.146	.000
	Zscore(Z)	.247	.050	.325	4.965	.000
3	(Constant)	3.878	.050		77.845	.000
	Zscore(X_1)	.456	.051	.598	8.989	.000
	Zscore(Z)	.247	.050	.325	4.945	.000
	Z*X_1	.001	.070	.001	.019	.985

a. Dependent Variable: Y

4.6.2: Test of Hypothesis Two: Leadership Styles as a Moderating Variable on Procurement Practices and Service Delivery

The second hypothesis sought to determine whether leadership styles moderate the relationship between procurement practices and service delivery in Level 5 county referral hospitals in Kenya. Moderated regression analysis was conducted to assess whether leadership styles influence the strength or direction of this relationship through interaction effects. The following three models were used in this analysis:

Model I (Without Moderator):

$$Y = \beta_0 + \beta_i X_i + \epsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

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Where: Y = Service delivery, β_0 = Constant, β_i = Coefficient of independent variable X_i, X_1 = Procurement practices and ε = Stochastic error term

Model II (With Moderator as an Independent Variable):

$Y = \beta_0 + \beta_i X_i + \beta_i Z_j + \epsilon$, ... (2)

Where: Z_j = Moderating Variable: leadership style B_5 = Coefficient for the moderator

Model III (Interaction Terms for Moderation):

$Y = \beta_0 + \beta_{iXi} + \beta_i Z_j + \beta_{ij} (X_i \cdot Z_j) + \varepsilon$ ..... (3)

Where: $X_i \cdot Z_j$ = Interaction terms between each independent variable X_i and the moderator Z_j, β_{ij} = Coefficients for the interaction terms, Z_j = Moderator (leadership style)

The findings in the Model Summary in Table 7 indicated a significant change in the F-statistic between Model 1 and Model 2. The R^2 also changed by 10.5% from 34.4% in Model 1 to 44.9 in Model 2, and this change is statistically significant. This indicated that when leadership styles were included in Model 2 as an independent variable (Z), the Model's explanatory power improved by 10.5%. However, when interaction terms were introduced in Model 3, the R^2 remained constant at 49.9%, which was an insignificant change since the P-Value is greater than 0.05 in Model 3.

The Model Validity, as shown in the ANOVA Table 8, indicated that all three models were valid for further analysis as shown by $F_{(1,130)} = 68.216$, $P<0.001$ in Model 1, $F_{(2, 129)} = 52.639$, $P<0.001$, and $F_{(3,128)} = 34.821$, $P<0.001$. This implies that procurement practices and leadership styles are good predictors of variations in service delivery in level 5 county referral hospitals in Kenya.

Table 9 shows the regression weights in the three models. All variables are statistically significant in the first two models. However, in Model 3 where the interaction terms between procurement practices and leadership styles are added ($Z*X_1$) the interactions are insignificant since the p-value is greater than 0.05. Specifically, the interaction term between leadership styles and procurement practices yielded a coefficient Bij = 0.001 with a p-value of 0.985, which exceeds the 0.05 significance threshold. This implies that, although leadership styles as an independent variable improve service delivery in level 5 county hospitals in Kenya, the interaction between procurement practices and leadership styles does not directly influence service delivery outcomes. This leads to the failure to reject H_{02} and conclude that "leadership styles do not significantly moderate the relationship between procurement practices and service delivery in level 5 county referral hospitals in Kenya". However, leadership styles remain a key contextual factor influencing the overall effectiveness of procurement practices in healthcare institutions in Kenya today.

5. Conclusion

The study found that procurement practices have a positive and statistically significant effect on service delivery in Level 5 county referral hospitals in Kenya. Transparent procedures, timely acquisition of medical supplies, effective supplier selection, and adherence to regulations enhance efficiency, resource utilization, and institutional performance. These practices reduce stock-outs, minimize service delays, and ensure consistent availability of essential healthcare inputs, improving patient care and hospital outcomes. Regression results confirmed this relationship, leading to rejection of the null hypothesis and affirming the critical

role of procurement systems. Leadership styles did not significantly moderate this relationship, but played a supportive role by enhancing coordination, communication, and adherence to procurement procedures, thereby strengthening implementation and overall performance.

6. Recommendations

County referral hospitals should prioritize strengthening procurement systems by enhancing procurement planning, supplier management, and compliance with procurement regulations. Transparent procurement processes and effective monitoring mechanisms will enable hospital management and county authorities to ensure efficient use of resources and continuous availability of essential medical supplies. Hospitals should also adopt digital procurement systems to improve efficiency, transparency, and tracking of procurement activities. In addition, hospital administrators and senior management should invest in leadership development programs that enhance competencies in coordination, accountability, and strategic oversight. Strengthening leadership capacity will support effective implementation of procurement systems, improve interdepartmental coordination, and ultimately contribute to improved healthcare service delivery outcomes.

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