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STRATEGIC PROCUREMENT MANAGEMENT PRACTICES AND HEALTHCARE SERVICE DELIVERY IN LEVEL FIVE HOSPITALS IN NAIROBI CITY COUNTY, KENYA

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ABSTRACT

Despite ongoing efforts to improve healthcare service delivery in Level Five hospitals in Nairobi City County, Kenya, supply chain inefficiencies, regular stock-outs, and limited resources still pose significant challenges. Strategic procurement management is now seen as a key facilitator of effective and equitable delivery of healthcare services in these hospitals. This study examined the influence of four strategic procurement management practices procurement planning, supplier relationship management (SRM), contract management, and procurement risk management on healthcare service delivery in Level Five hospitals in Nairobi City County, Kenya. The study was anchored on Agency Theory, Transaction Cost Economics, and Supplier Relationship Management Theory. A quantitative cross-sectional survey design was adopted with a target population of 234 staff members across all 18 Level Five hospitals (three public and fifteen private) in the county. A sample of 148 respondents was determined using Yamane's (1967) formula and selected through stratified random sampling. A total of 121 questionnaires were returned, a response rate of 81.8%. Data were analysed in SPSS version 29 using descriptive statistics, Pearson correlation, multiple linear regression, and the Mann–Whitney U test. Mean ratings were positive for all four practices, with contract management ($M = 3.68$, $SD = 0.47$) and healthcare service delivery ($M = 4.32$, $SD = 0.34$) rated highest overall. The overall regression model was significant and accounted for 68.7% of the variance in healthcare service delivery ($R^2 = .687$, $F(4, 116) = 63.562$, $p < .001$). All four practices were significant positive predictors: supplier relationship management ($\beta = .593$, $p < .001$), contract management ($\beta = .397$, $p < .001$), procurement planning ($\beta = .269$, $p < .001$), and procurement risk management ($\beta = .253$, $p < .001$). A Mann–Whitney U test found that private hospitals had a significant advantage over public hospitals in service delivery outcomes ($U = 406.50$, $Z = -3.056$, $p = .002$). The study concludes that supplier relationship management and contract management have the greatest influence on healthcare service delivery, and recommends structured supplier relationships and strong contract governance for hospital management, alongside improved procurement oversight in public hospitals for policymakers, to close the service delivery gap.

Keywords: strategic procurement management, supplier relationship management, contract management, healthcare service delivery, Level Five hospitals, Kenya

INTRODUCTION

The provision of healthcare services is one of the key elements of national development, and the security of the supply chain of these services is directly linked to the continuity, safety, and timeliness of healthcare services provided to patients. Strategic procurement is no longer a back-office administrative function; it is a strategic enabler that determines whether hospitals can maintain uninterrupted access to medicines, medical supplies, and equipment essential to deliver quality patient care World Health Organization [WHO], 2022; Balogun et al., 2025). The ability of Level Five hospitals in Kenya, the highest tier of care below a national teaching and referral hospital to maintain this access is contingent on functioning, evidence-based procurement processes.

Strategic procurement in Kenyan public institutions is regulated by the Public Procurement and Asset Disposal Act (2015), which mandates transparency, accountability, and value for money across all procuring entities (Republic of Kenya, 2015). Notwithstanding this regulatory framework, persistent systemic inefficiencies continue to undermine healthcare delivery in Level Five facilities. Data from Kenya's health procurement system indicate that stock-out rates for essential medicines remained between 40–48% for 2023–2024, order fulfilment is below 45%, and the average processing time for critical medical supplies exceeds 14.8 days (Kenya Medical Supplies Authority [KEMSA], 2023). The Ethics and Anti-Corruption Commission (2023) further found high levels of perceived corruption in county health procurement processes, including inflated tender budgets and favouritism in tendering vulnerabilities rooted in weak contract oversight and inadequate risk management structures. Private Level Five hospitals, while generally better resourced, face their own procurement challenges stemming from regulatory compliance requirements and the need to integrate with the broader health system. Both ownership types therefore confront distinct but significant procurement-related barriers to reliable service delivery.

Statement of the Problem

Persistent procurement inefficiencies, supply disruptions, and limited resources continue to undermine healthcare service delivery in Level Five hospitals in Nairobi City County. With stock-out rates between 40–48%, order fulfilment below 45%, and processing times exceeding 14.8 days per critical supply order (KEMSA, 2023), the operational consequences for patient care are severe: delayed treatment, disrupted care pathways, and declining patient confidence in the health system. Integrity failures further exacerbate these gaps, as the EACC (2023) documented widespread perceptions of corruption including inflated budgets and tendering favouritism that undermine procurement governance and supply chain reliability.

While previous research has examined procurement planning, supplier relationship management, contract management, or procurement risk management individually, limited empirical evidence addresses how these four dimensions jointly affect the quality dimensions of healthcare service delivery continuity, timeliness, accessibility, and patient satisfaction in Nairobi's Level Five hospitals specifically. Most available studies focus on either single practices or procurement efficiency rather than multidimensional service delivery quality. This gap limits the capacity of hospital managers and policymakers to design evidence-based interventions that meaningfully close the service delivery gap between public and private Level Five hospitals.

Objectives of the Study

The general objective of the study was to examine the effect of strategic procurement management practices on healthcare service delivery in Level Five hospitals in Nairobi City County, Kenya. The specific objectives were: (i) to assess the effect of procurement planning; (ii) to examine the effect of supplier relationship management; (iii) to determine the effect of

contract management practices; and (iv) to evaluate the effect of procurement risk management on healthcare service delivery in Level Five hospitals in Nairobi City County, Kenya.

LITERATURE REVIEW

Theoretical Framework

This study draws on three interrelated theories that collectively explain the governance, efficiency, and relational dimensions of strategic procurement management and their impact on healthcare service delivery. A theoretical framework is a reasoned set of interrelated propositions derived from and supported by a general set of assumptions about the phenomena under investigation (Anderson & Arsenault, 1998). The three theories Agency Theory, Transaction Cost Economics (TCE), and Supplier Relationship Management (SRM) Theory provide complementary analytical lenses for understanding how procurement planning, supplier relationship management, contract management, and procurement risk management shape healthcare service delivery outcomes in Level Five hospitals.

Agency Theory (Jensen & Meckling, 1976) explains the principal–agent relationships between organisations and the individuals or institutions that perform tasks on their behalf. In public hospitals, county health boards and hospital management (principals) delegate procurement responsibilities to procurement officers and engage suppliers (agents). Where information asymmetry exists and monitoring is weak, agents may pursue self-interested behaviour, resulting in corruption, favouritism, delayed deliveries, and sub-optimal service delivery (EACC, 2023; Nyangena et al., 2025). In public hospitals, weak contract management and inadequate risk management structures amplify these agency problems, creating vulnerabilities that manifest as stock-outs and service disruptions. Private hospitals generally face more stringent financial accountability to owners and boards, which constrains some agency problems but also introduces cost-control versus service-quality trade-offs. Agency Theory therefore directly underpins the contract management and procurement risk management variables in this study.

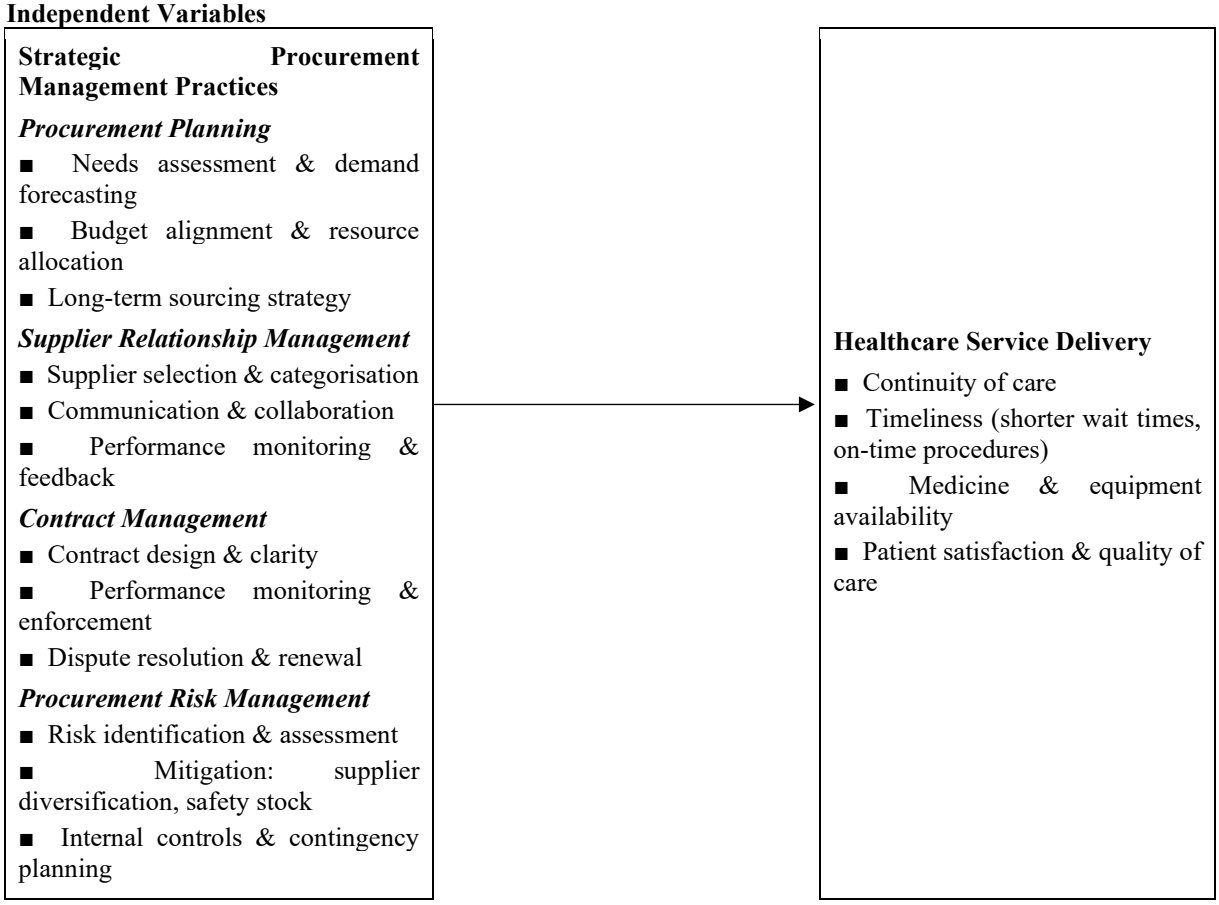
Transaction Cost Economics (Williamson, 1985, 1996), as applied in procurement and supply chain literature (Ketokivi & Mahoney, 2020; Liu et al., 2024), holds that organisations adopt governance structures that minimise transaction costs including search, negotiation, monitoring, and enforcement costs. In healthcare, where asset-specificity and demand uncertainty are high, TCE recommends long-term contracts, demand pooling, and integrated procurement planning rather than fragmented, ad hoc purchasing. In Nairobi's public Level Five hospitals, the prevalence of ad hoc tendering and frequent bidding cycles inflates transaction costs, extends lead times, and reduces order fulfilment rates directly impacting service delivery continuity (KEMSA, 2023; Yadav et al., 2022). TCE accordingly supports the procurement planning and contract management variables.

Supplier Relationship Management Theory draws upon the Relational View (Dyer & Singh, 1998) and Social Exchange Theory (Blau, 1964; Dwyer et al., 1987), which hold that trust, commitment, and reciprocity in buyer–supplier relationships create value beyond the legal terms of a contract (Lambert & Schwieterman, 2012). In public hospitals, rule-based, transactional procurement interactions tend to produce adversarial relationships, slow problem resolution, and supply disruptions, while structured SRM practices built through communication, joint problem-solving, and performance feedback improve reliability and continuity. In private Level Five hospitals, strategic supplier benchmarking and long-term collaborative relationships already produce higher delivery performance and service continuity (Titus et al., 2025; Kimunya, 2021). In combination, the three theories provide a robust framework for understanding how strategic procurement management practices jointly shape healthcare service delivery outcomes in Level Five hospitals.

Conceptual Framework

The conceptual framework illustrates the relationship between four strategic procurement management practices (independent variables) and healthcare service delivery (dependent variable) in Level Five hospitals. The framework is grounded in Agency Theory, Transaction Cost Economics, and Supplier Relationship Management Theory, as shown in Figure 1.

Figure 1
Conceptual Framework



Empirical Review and Research Gap

There is a generally positive link between strategic procurement practices and healthcare performance in Kenya and the wider region, though most existing studies examine these practices in isolation or within single-facility contexts. On procurement planning, Muuki and Nderui (2024) found that strategic supplier sourcing and planning were positively associated with reduced stock-outs and improved budget utilisation in public Level Five hospitals in Nairobi, while Ofula et al. (2025) reported that established procurement planning and supplier-assessment systems were associated with better drug-availability and on-time-procedure scores. Pyuza et al. (2023) found that systematic demand forecasting under Tanzania's Jazia Prime Vendor System improved secondary medicines availability, and Akwandoh et al. (2025) identified procurement planning activities as significant predictors of medical logistics effectiveness in Ghanaian hospitals.

On supplier relationship management, Kulubi and Moronge (2019) reported a strong positive relationship between supplier contracting practices and hospital performance ($r = .716$, $p < .05$), while Mukuna et al. (2024) found that communication, collaborative contracting, and performance monitoring significantly improved the performance of Level Five county referral hospitals. On contract management, Karoki and Mwangangi (2020) found that contract management practices explained 64.7% of the variation in performance among Nairobi public hospitals, while Musonda and Mutono-Mwanza (2025) found that contract compliance

explained 45% of the variation in service delivery in Zambian public health facilities. On procurement risk management, Owich and Odero (2023) found a positive relationship between supplier risk management and supply chain performance in Western Kenya county referral hospitals, and Ndung'u (2025) found that procurement risk management significantly predicted stock-outs across 151 public hospitals in Kenya ($\beta = 0.313$, $p < .05$). Despite this evidence base, most existing studies examine these four practices separately and assess procurement efficiency rather than the multidimensional quality of service delivery. This study addresses that gap.

RESEARCH METHODOLOGY

The study used a quantitative cross-sectional survey design, suitable for investigating relationships between clearly defined variables within a heterogeneous population at a single point in time (Creswell & Creswell, 2018). The target population consisted of 234 staff in procurement, stores/inventory, and hospital administration roles across all 18 Level Five hospitals in Nairobi City County (3 public and 15 private). The sample size was determined using Yamane's (1967) formula at a 95% confidence level and a 5% margin of error, yielding a sample of 148 respondents selected through stratified random sampling based on proportional departmental representation (Kothari, 2004).

Data were gathered using a structured questionnaire employing five-point Likert scales (1 = Strongly Disagree to 5 = Strongly Agree) for the four independent constructs (procurement planning, supplier relationship management, contract management, procurement risk management) and the dependent construct (healthcare service delivery). Pilot testing with 20 respondents from a comparable Level Five hospital outside the study area established acceptable convergent validity (Average Variance Extracted > 0.50 across all constructs) and reliability, with Cronbach's alpha ranging from 0.81 to 0.89 across constructs, above the 0.70 benchmark recommended by Nunnally (1978). A total of 121 questionnaires were returned, a response rate of 81.8%, exceeding the 70% threshold recommended for quantitative social science research (Mugenda & Mugenda, 2003). Data were analysed using descriptive statistics (means and standard deviations), Pearson correlation, and multiple linear regression in SPSS version 29 to test the model: $HSD = \beta_0 + \beta_1(PP) + \beta_2(SRM) + \beta_3(CM) + \beta_4(PRM) + \varepsilon$, where HSD is healthcare service delivery, PP is procurement planning, SRM is supplier relationship management, CM is contract management, and PRM is procurement risk management. Diagnostic testing included normality assessment (Kolmogorov–Smirnov), multicollinearity assessment (Tolerance and VIF), residual analysis, and the Mann–Whitney U test to compare healthcare service delivery outcomes between public and private hospitals. All tests were conducted at $\alpha = .05$.

RESULTS AND DISCUSSION

Response Rate and Sample Profile

A total of 121 questionnaires (81.8% response rate) were returned complete of the 148 administered. Respondents were drawn proportionally: 106 (87.6%) from private hospitals and 15 (12.4%) from public hospitals, consistent with the actual composition of 15 private and 3 public Level Five hospitals in Nairobi City County. The sample comprised 62.0% female and 38.0% male respondents, with 47.1% holding a bachelor's degree and 38.0% a master's degree, and 34.7% with 5–10 years of experience. Departmental representation included Procurement/Supply Chain (44.6%), Stores/Inventory/Pharmacy (33.9%), and Hospital Administration (21.5%).

Descriptive Statistics

Mean scores were positive for all four independent constructs, with healthcare service delivery recording the highest score, well above the neutral midpoint of 3.0. Contract management recorded the highest composite mean ($M = 3.68$, $SD = 0.47$) and the least spread, suggesting

that systematic supplier-compliance monitoring is the most consistently practised procurement activity. Procurement risk management recorded the lowest composite mean (M = 3.39, SD = 0.52) and the greatest item-level variability, indicating it is the least formalised of the four practices. Healthcare service delivery was rated highly overall (M = 4.32, SD = 0.34), with no respondent disagreeing with any service delivery statement. Table 1 presents the construct-level descriptive statistics.

Table 1
Descriptive Statistics for Study Constructs (N = 121)

Construct	M	SD
Procurement Planning (PP)	3.38	0.52
Supplier Relationship Management (SRM)	3.62	0.53
Contract Management (CM)	3.68	0.47
Procurement Risk Management (PRM)	3.39	0.52
Healthcare Service Delivery (HSD)	4.32	0.34

Note. Measures were rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

4.3 Correlation Analysis

The correlation of each independent variable with healthcare service delivery was positive and significant, as shown in Table 2. Supplier relationship management recorded the strongest association ($r = .597$, $p < .001$), followed by contract management ($r = .449$, $p < .001$) and procurement planning ($r = .341$, $p < .001$), both moderate effects, and procurement risk management ($r = .249$, $p = .006$), a small effect. Inter-predictor correlations were all weak and non-significant (ranging from −.129 to .155), indicating that the four practices are functionally distinct dimensions and that the data were appropriate for multiple regression.

Table 2
Pearson Correlation Matrix (N = 121)

Variable	1	2	3	4	5
1. Procurement Planning (PP)	1				
2. Supplier Relationship Mgmt. (SRM)	.054	1			
3. Contract Management (CM)	.001	.054	1		
4. Procurement Risk Mgmt. (PRM)	.155	−.129	.078	1	
5. Healthcare Service Delivery (HSD)	.341***	.597***	.449***	.249**	1

Note. ** $p < .01$. *** $p < .001$ (two-tailed).

Regression Analysis

Normality of regression residuals was confirmed by the One-Sample Kolmogorov–Smirnov test ($N = 121$, test statistic = .049, $p = .200$). Multicollinearity diagnostics confirmed that regression assumptions were satisfied, with Tolerance ranging from .950 to .989 and VIF values between 1.011 and 1.053, all within acceptable thresholds (Hair et al., 2019). The regression model was statistically significant, $F(4, 116) = 63.562$, $p < .001$, and jointly

explained 68.7% of the variance in healthcare service delivery ($R^2 = .687$, Adjusted $R^2 = .676$), a large effect size (Cohen, 1988), as reported in Tables 3 and 4.

Table 3
Model Summary

R	R^2	Adjusted R^2	SE of the Estimate
.829	.687	.676	.192

Note. Dependent variable: Healthcare Service Delivery. Predictors: Procurement Planning, Supplier Relationship Management, Contract Management, Procurement Risk Management.

Table 4
Analysis of Variance for the Regression Model

Source	SS	df	MS	F	p
Regression	9.366	4	2.342	63.562	< .001
Residual	4.273	116	.037		
Total	13.640	120			

Note. Dependent variable: Healthcare Service Delivery.

Table 5 presents the regression coefficients. The derived regression equation is: HSD = 0.748 + 0.378(SRM) + 0.287(CM) + 0.174(PP) + 0.164(PRM). All four practices were statistically significant positive predictors. Supplier relationship management was the strongest predictor ($\beta = .593$, $t = 11.260$, $p < .001$), followed by contract management ($\beta = .397$, $t = 7.595$, $p < .001$), procurement planning ($\beta = .269$, $t = 5.097$, $p < .001$), and procurement risk management ($\beta = .253$, $t = 4.745$, $p < .001$).

Table 5
Multiple Regression Coefficients

Predictor	B	SE B	β	t	p	Tolerance	VIF
Constant	0.748	.233	—	3.207	.002	—	—
Procurement Planning	.174	.034	.269	5.097	< .001	.970	1.031
SRM	.378	.034	.593	11.260	< .001	.973	1.027
Contract Management	.287	.038	.397	7.595	< .001	.989	1.011
Procurement Risk Mgmt.	.164	.035	.253	4.745	< .001	.950	1.053

Note. Dependent variable: Healthcare Service Delivery. SRM = Supplier Relationship Management.

Public–Private Hospital Comparison

Public and private hospitals were compared on healthcare service delivery outcomes using a Mann–Whitney U test (Table 6). Private hospitals recorded a significantly higher mean rank (64.67) than public hospitals (35.10), a statistically significant difference ($U = 406.50$, $Z = -3.056$, $p = .002$, $r = .278$, a small-to-medium effect). The mean healthcare service delivery score for private hospitals ($M = 4.35$) exceeded that of public hospitals ($M = 4.07$), confirming

that private Level Five hospitals achieved significantly better service delivery outcomes than their public counterparts.

Table 6
Mann–Whitney U Test: Comparison of Public and Private Hospitals on Healthcare Service Delivery

	Public Hospitals	**Private Hospitals**
n	15	106
Mean rank	35.10	64.67
Sum of ranks	526.50	6854.50
Mann–Whitney U		406.50
Z		−3.056
p		.002
Effect size r		.278
M (Healthcare Service Delivery)	4.07	4.35

Note. Effect size r = Z / √N, where N = 121. M = group mean on the Healthcare Service Delivery composite score.

Discussion

Supplier relationship management had the strongest influence on healthcare service delivery ($\beta = .593$, $p < .001$), supporting Kulubi and Moronge (2019) and Mukuna et al. (2024), and confirming SRM Theory's proposition that collaborative, trust-based supplier relations generate greater supply reliability than arm's-length transactions. Contract management ranked as the second-strongest predictor ($\beta = .397$, $p < .001$) and recorded the highest descriptive rating ($M = 3.68$), consistent with Karoki and Mwangangi (2020) and with Agency Theory's emphasis on monitoring and accountability as safeguards against information asymmetry and governance weaknesses documented in Kenyan public health procurement (EACC, 2023). Procurement planning's significant influence ($\beta = .269$, $p < .001$) aligns with Muuki and Nderui (2024) and with Transaction Cost Economics, under which structured procurement planning reduces the transaction costs associated with fragmented, ad hoc purchasing reflected in KEMSA's (2023) reported 14.8-day lead time and 40–48% stock-out rate. Procurement risk management, the weakest predictor in magnitude, nevertheless remained statistically significant ($\beta = .253$, $p < .001$), consistent with Owich and Odero (2023) and Ndung'u (2025), suggesting that its protective value is realised partly in conjunction with the other three practices rather than as a standalone activity. The markedly better performance of private hospitals ($p = .002$) indicates that how these practices are implemented — rather than merely whether they exist — shapes service delivery outcomes, and that public Level Five hospitals have significant room to strengthen supplier relationship and contract governance structures already well established in private hospitals.

CONCLUSION AND RECOMMENDATIONS

This study confirms that strategic procurement management practices are statistically significant and practically meaningful determinants of healthcare service delivery in Level Five hospitals in Nairobi City County, Kenya, jointly accounting for 68.7% of the variance in service delivery outcomes. Supplier relationship management and contract management were the strongest drivers, followed by procurement planning and procurement risk management, underscoring procurement's shift from an administrative support function toward a central driver of hospital performance. The substantial performance gap between private and public

hospitals further indicates that it is not merely the existence of these practices that matters, but how they are implemented.

The study recommends that hospital management and the Nairobi City County Health Department establish structured supplier relationship management frameworks, formalising buyer–supplier communication, performance feedback, and collaborative planning processes, particularly in public hospitals. Level Five hospitals should adopt standardised, performance-based contract structures with clearly defined supplier key performance indicators and regular compliance monitoring, and the Public Procurement Regulatory Authority should establish sector-specific contract management guidelines for healthcare procurement. Procurement planning should be linked to annual hospital operational plans and budgets, and formal risk-assessment procedures addressing stock-outs, supplier failure, and fraud should be established. A public–private procurement learning exchange — through which public hospital systems draw on practices already embedded in private Level Five hospitals — would help close the identified service delivery gap. Future studies should examine the moderating role of hospital ownership and governance capacity, adopt longitudinal designs to establish causality, and investigate the mediating role of supply chain integration mechanisms such as the KEMSA–hospital system linkage.

REFERENCES

Akwandoh, E., Xinyu, J., Medin, Z. Y., & Ma, Y. (2025). Assessing the impacts of competitive tendering on the effectiveness of medical logistics in Ghana's healthcare sector at Effia-Nkwanta Regional Hospital and Tepa Government Hospital. *SN Operations Research Forum, 6*(2), Article 58. https://doi.org/10.1007/s43069-025-00458-5

Anderson, G., & Arsenault, N. (1998). *Fundamentals of educational research* (2nd ed.). RoutledgeFalmer.

Balogun, A. K., Ayodimeji-Alaba, H., Adebayo, K. T., & Aminat, O. (2025). Strategic procurement practices in healthcare organizations and their impact on Medicaid and Medicare cost containment. *Journal of Healthcare Administration, 14*(1), 45–62.

Blau, P. M. (1964). *Exchange and power in social life.* Wiley.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing buyer–seller relationships. *Journal of Marketing, 51*(2), 11–27.

Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review, 23*(4), 660–679.

Ethics and Anti-Corruption Commission. (2023). *Report on corruption and unethical conduct in Kenyan health care projects: A study of procurement and financial management practices.* https://eacc.go.ke

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Karoki, S. N., & Mwangangi, R. (2020). Influence of contract management on performance of public hospitals in Nairobi City County, Kenya. *International Journal of Supply Chain Logistics, 5*(2), 1–20.

Kenya Medical Supplies Authority. (2023). *Annual performance report 2022/2023.* Government Printer.

Ketokivi, M., & Mahoney, J. T. (2020). Transaction cost economics as a theory of supply chain efficiency. *Production and Operations Management, 29*(4), 1011–1031.

Kimunya, J. (2021). *Strategic procurement and performance of private Level Five hospitals in Nairobi County* [Unpublished master's thesis]. University of Nairobi.

Kothari, C. R. (2004). *Research methodology: Methods and techniques* (2nd ed.). New Age International.

Kulubi, M. M., & Moronge, M. (2019). Role of supplier relations management on the performance of hospitals in Nairobi County, Kenya. *The Strategic Journal of Business & Change Management, 6*(1), 586–604.

Lambert, D. M., & Schwieterman, M. A. (2012). Supplier relationship management as a macro business process. *Supply Chain Management: An International Journal, 17*(3), 337–352.

Liu, Y., Zheng, H., & Wang, Y. (2024). Transaction cost economics in healthcare procurement: A systematic review. *International Journal of Production Economics, 267*, 109022.

Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative approaches.* African Centre for Technology Studies.

Mukuna, D., Osoro, A., Osoro, J. N. D. A., & Ndolo, J. (2024). The effect of supplier relationship management on the performance of Level Five county referral hospitals in Kenya. *International Journal of Social Science and Human Research, 7*(3), 1–26.

Musonda, E., & Mutono-Mwanza, G. B. (2025). The impact of supply chain management practices on service delivery in the public health sector in Zambia. *African Journal of Commercial Studies, 6*(4), 15–21.

Muuki, A. K., & Nderui, D. N. (2024). Supplier sourcing and performance of public Level 5 hospitals in Nairobi City County, Kenya. *International Journal of Social Sciences Management and Entrepreneurship, 8*(3), 1–15.

Ndung'u, H. N. (2025). Entrepreneurial supply chain practices, healthcare financing and performance of public hospitals in Kenya. Embu University Repository. https://repository.embuni.ac.ke

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Nyangena, J. M., Ondari, J., & Omari, S. (2025). Governance and leadership as moderators of the relationship between strategic procurement and service delivery in public hospitals, Kisii County, Kenya. *European Journal of Business and Management, 17*(6). https://doi.org/10.7176/EJBM/17-6-12

Ofula, A. A. O., Kibuine, M. K., & Sang, W. (2025). Medical equipment procurement practices and healthcare service delivery among referral hospitals in Kenya. *Strategic Journal of Business & Change Management, 12*(2), 1–18.

Owich, J. A., & Odero, J. A. (2023). Supplier risk management practices and performance of supply chain in the health sector in Kenya. *African Journal of Empirical Research, 4*(2), 375–383. https://doi.org/10.51867/ajernet.4.2.38

Pyuza, D., Mitiku, S., Swalehe, O., Kagisha, V., & Njunwa, K. J. (2023). Performance of Jazia Prime Vendor System in ensuring availability of health commodities in Singida Region, Tanzania. *Journal of Pharmaceutical Policy and Practice, 16*(1), 43.

Republic of Kenya. (2015). *The Public Procurement and Asset Disposal Act, 2015.* Government Printer.

Spieske, A., Gebhardt, M., Kopyto, M., & Birkel, H. (2022). Improving resilience of the healthcare supply chain in a pandemic: Evidence from Europe during the COVID-19 crisis. *Journal of Purchasing and Supply Management, 28*(5), 100748.

Titus, A. W., Kibet, Y., Ngacho, C., & Akuku, C. (2025). The role of strategic capabilities on the relationship between supplier benchmarking and quality of health care services among private hospitals in Western Kenya. *African Journal of Empirical Research, 6*(3), 727–748. https://www.ajol.info/index.php/ajempr/article/view/307773

Williamson, O. E. (1985). *The economic institutions of capitalism.* Free Press.

Yadav, P., Tata, H., & Babaley, M. (2022). The world medicines situation report: Storage and supply chain management. *Journal of Pharmaceutical Policy and Practice, 15*(4), 32–41. https://doi.org/10.1186/s40545-022-00445-

Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper and Row.