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The Influence of Quality Management on Performance of Level Five Hospitals in Kenya

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Abstract

Purpose: This study endeavored to establish the influence of quality management on performance of level five hospitals in Kenya.

Methodology: The researcher used correlational research design and both qualitative and quantitative data were combined. The Research Instruments were both structured and semi structured. The target population of this study was 328 respondents comprising procurement, finance, pharmacist and administration directors within level five hospitals in the forty-seven counties. The research used census survey. The researcher applied a purposive random sampling technique since the respondents share the same features with high skills, technical knowledge and the experience on the area of study. The data was analyzed by Statistical Package for the Social Sciences version 26 and the same was translated and presented in the form of data tables, graphs, pie charts and histograms.

Findings: The Pearson correlation coefficient of 0.671 indicated that there was strong positive linear relationship between Quality Management and performance of level five hospitals.

Unique Contribution: The study recommended that donors should increase their funding on health government operations, but this benefit should come at a price, that donors demand to date with accounts of how their funding is use and to see assessable results.

Keywords: *Quality Management, Health, Performance*

JEL Codes: *I18, M11, D24*

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INTRODUCTION

Globally, quality management has become a strategic imperative for enhancing organizational performance, particularly in healthcare systems where service reliability and patient safety are paramount. Countries such as Sweden, Singapore, and the United States have institutionalized healthcare quality management frameworks ranging from ISO 9001 certification in hospitals to Joint Commission International (JCI) accreditation and Lean Healthcare implementations. These approaches streamline operations, reduce medical errors, and improve patient outcomes (Antony et al., 2019; Bhunia & Shaikh, 2019; De Maio & Lagana, 2020). For instance, Lean Six Sigma in hospitals has been shown to reduce waiting times, optimize resource utilization, and enhance patient satisfaction through standardized processes and continuous improvement (Antony et al., 2019). Singapore's public healthcare reforms embedded quality assurance mechanisms that improved procurement fairness and supplier engagement, while U.S. hospitals accredited by JCI leveraged quality management to strengthen patient safety and operational efficiency. These global experiences demonstrate that healthcare quality management systems are not merely operational tools but strategic levers for institutional excellence.

Regionally, quality management principles are increasingly being integrated into public service delivery frameworks. Uganda's procurement reforms, initially aimed at reducing bureaucratic inefficiencies, evolved to include quality control mechanisms that enhanced transparency and accountability (Kiseleva et al., 2016). In Kenya, Safaricom's adoption of quality-driven supply chain practices such as standardized workflows, IT-enabled monitoring, and stakeholder engagement has led to improved service quality and innovation (Kagume et al., 2018). These cases illustrate that quality management, when embedded in organizational culture and supported by robust systems, can significantly improve performance outcomes. Moreover, the integration of IT systems, accurate data, and performance measurement tools has proven essential in sustaining quality improvements across service sectors (Masudin et al., 2018; Carrasco, 2020).

In Kenya's Level Five hospitals, persistent performance challenges such as underutilization of medical equipment, inconsistent service delivery, and poor maintenance highlight a critical gap in the application of comprehensive healthcare quality management systems. The Ministry of Health's efforts to standardize procurement and service delivery have yet to fully address these systemic issues, especially in public hospitals where quality assurance mechanisms are weak or absent (Ayah et al., 2020; Kipkemoi & Makori, 2021). This study therefore seeks to investigate how healthcare quality management practices such as ISO 9001, Lean Healthcare, and JCI accreditation—can enhance the performance of Level Five hospitals in Kenya. By bridging global insights with local realities, the study addresses an underexplored research gap and contributes to the discourse on sustainable healthcare reform.

Problem Statement

The 2010 Constitution of Kenya devolved health service delivery to county governments with the expectation that Level Five hospitals would provide timely, high-quality, and accessible care to citizens. These hospitals were envisioned as regional referral centers equipped with modern infrastructure, skilled personnel, and efficient systems to meet growing healthcare demands (Ayah et al., 2020). However, performance indicators have declined sharply, with approval ratings

reported in national health surveys dropping from approximately 60% in 2015 to 37% in 2022, reflecting delays in service delivery, equipment underutilization, and poor responsiveness (Kenya Ministry of Health, 2022). Drug supply chains have also been disrupted by untimely deliveries from the Kenya Medical Supplies Authority (KEMSA), leaving hospitals stockless and patients untreated (Kenya Ministry of Health, 2021). This has led to public dissatisfaction and a shift toward private hospitals, which consistently report higher patient satisfaction levels in independent survey studies compared to public Level Five hospitals (Institute for Development Studies, 2019). Vulnerable patients are disproportionately affected, and counties continue to incur losses through expired inventory and delayed treatments.

Despite efforts to improve procurement and service delivery, systemic inefficiencies persist. Studies have documented challenges such as inadequate equipment maintenance, lack of skilled personnel, and poor communication across hospital systems (Gachie & Iravo, 2016; Chegugu & Yusuf, 2017; Bitkina, Kim & Park, 2020). The Institute for Development Studies and other researchers have highlighted the consequences of poorly awarded contracts and insufficient oversight, resulting in substandard services and financial losses (Hassan, 2019; Dubois et al., 2019). While these studies point to operational weaknesses, few have examined how comprehensive quality management systems encompassing staff training, performance monitoring, and continuous improvement can enhance hospital performance. This study seeks to fill that gap by investigating the influence of quality management on the performance of Level Five hospitals in Kenya, offering a contextualized analysis that responds to local challenges and contributes to sustainable healthcare reform.

LITERATURE REVIEW

Theoretical Framework

Customer Focus Theory was proposed by Peter Drucker in 1954. It emphasizes that the success of any organization depends on its ability to prioritize and respond to customer needs. The theory identifies four central processes that are understanding customer requirements, utilizing customer information, acting on feedback, and improving relationships. These processes together form the foundation of effective quality management. More recent interpretations by Oakland (2014) and Evans and Lindsay (2020) reinforce this perspective, highlighting customer focus as a cornerstone of modern quality management systems and stressing its relevance in healthcare, where patient-centered care and continuous improvement are critical performance drivers.

In the context of Kenya's county referral hospitals, citizens are regarded as the primary customers, and their expectations around service quality, scope, and cost must guide procurement and supply chain decisions. Operationally, the tenets of the theory can be directly linked to hospital performance metrics. Understanding customer requirements is reflected in patient satisfaction surveys, waiting time records, and service accessibility indicators. Utilizing customer information is evident in the deployment of hospital management information systems that track patient outcomes, drug availability, and equipment utilization rates. Acting on feedback is demonstrated through complaint resolution mechanisms, responsiveness to patient grievances, and improvements in service timeliness. Improving relationships is manifested in stakeholder engagement, trust-building with patients, and enhanced community confidence in public hospitals.

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By embedding these principles, the theory informs the study's conceptual framework by framing quality management as a dynamic, citizen-driven process that enhances service delivery and supplier responsiveness. This operationalization ensures that quality management is not only conceptual but also measurable, linking directly to hospital performance outcomes such as efficiency, patient safety, and satisfaction.

Conceptual Framework

This study hypothesized that entrepreneurial innovation, through new processes, ideas, and products influenced the performance of small-scale agribusiness grain farmers in Kenya's North Rift region. Performance is measured by sales growth, market share, and enterprise expansion.

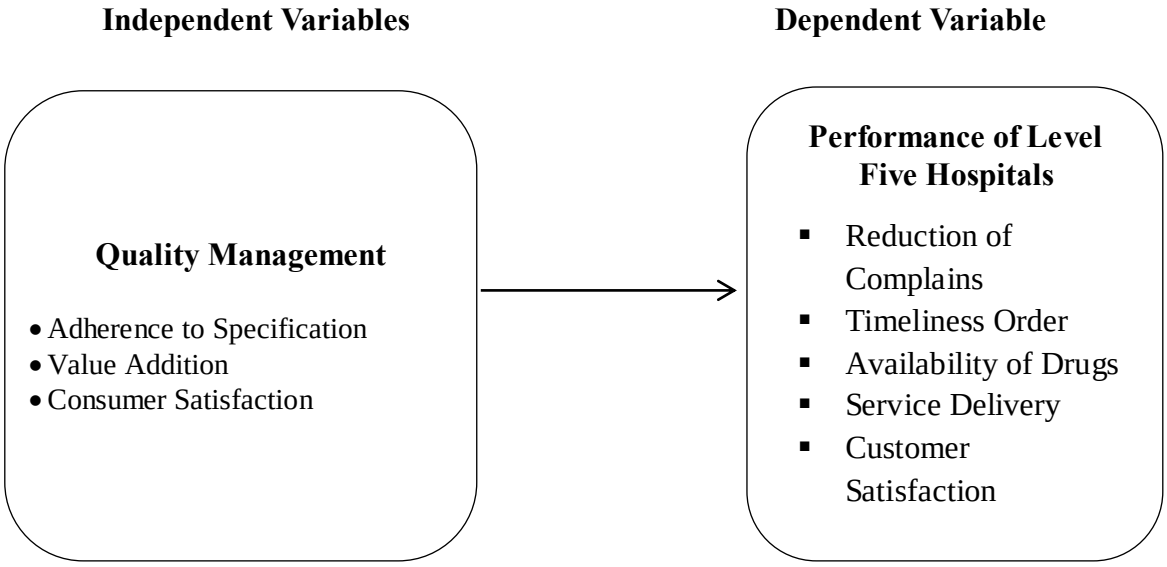

Figure 1: Conceptual Framework

Empirical Review

Ogbonna et al. (2016) investigated healthcare quality management in Nigeria's public sector, focusing on systemic issues and future prospects. Drawing from a review of policy documents and sectoral reports, the study highlighted challenges such as inadequate infrastructure, poor funding, and weak accountability mechanisms. Their findings revealed that while quality management frameworks were recognized as essential, implementation was inconsistent and largely hindered by bureaucratic inefficiencies. Although the study provided valuable insights into systemic barriers, it did not employ empirical data collection from hospitals, limiting its applicability to operational-level performance.

Jaya, Drain, and Mashamba-Thompson (2017) evaluated quality management systems for HIV rapid testing services in primary healthcare clinics in rural KwaZulu-Natal, South Africa. Using a cross-sectional design, they assessed adherence to World Health Organization standards through structured observations and interviews with healthcare workers. The findings showed significant gaps in training, documentation, and quality assurance practices, which compromised the

reliability of HIV testing services. While the study underscored the importance of robust quality management systems in diagnostic services, its scope was limited to HIV testing and did not extend to broader hospital performance metrics.

Agyei et al. (2024) examined adherence to quality management practices in faith-based hospitals in Ghana from the perspective of healthcare managers. Employing a mixed-methods approach that combined surveys and interviews, the study analyzed managerial practices related to staff training, monitoring, and continuous improvement. Results indicated that adherence to quality management practices was positively associated with improved patient satisfaction and operational efficiency. However, the study's focus on faith-based hospitals restricted its generalizability to public healthcare institutions, where resource constraints and governance structures differ significantly.

METHODOLOGY

The anchoring paradigm in this study was positivism. The population of interest in this study consisted of 328 respondents comprising senior procurement officer, senior finance officer, senior pharmacist officer and senior administration officer from all forty-seven counties. A census survey was conducted to all 328 targeted individuals in procurement, administration, pharmacy and finance directorates in County Government in Kenya. Questionnaires as well as interviews were used in data collection with the help of the research Assistants. The suitability of the questionnaire for this study was tested by first administering to 10% (33) respondents different from the 328 main respondents to detect any weaknesses in the design. The data was analyzed with SPSS version 26 and translated into readable in the form of data tables, graphs, charts, and in plain texts. Both descriptive statistics such as means, modes and measures central tendencies and inferential statistics was used to analyze the data to establish normality, collinearity, and multicollinearity between the dependent. The following multiple regression model was used to determine implication of the independent variable on the dependent variable;

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

RESULTS

Response Rate

The researcher circulated questionnaires to 295 respondents after pilot testing 10% (33) respondents for reliability and validity of the research instruments. All from the level five hospitals in Kenya. 210 questionnaires were dully filled and returned for analysis. This represented a response rate of 71.3% and a non-response rate of 28.7%.

Descriptive Statistics

Quality Management

The descriptive results for this objective are displayed in Table 1 below.

International Journal of Supply Chain Management
ISSN 2518-4709 (Online)
Vol.10, Issue 2, No.5, pp 85 - 99, 2025

www.iprjb.org

Table 1: Quality Management

Statement	1	2	2	4	5	Mean	Std. Dev.
Partnership goals enhance the network of our level five hospitals	15.5% N (32)	15.5% N (32)	7.7% N (16)	51%N (107)	10.1% N (14)	4.51	0.869
Our level five hospitals' partnership goals enhance Service delivery within the right time	14% N (29)	10.5% N (22)	15.5% N (32)	32.4% N (68)	27.5% N (58)	4.45	0.851
I am satisfied with the effectiveness of client's need in our hospital	1.4% N (3)	13.3% N (28)	24.6% N (52)	26.8% N (56)	33.8% N (71)	4.51	0.779
Our hospital has established QM relationships with its partners	4.2% N (9)	11.3% N (24)	29.6% N (62)	25.4% N (53)	29.6% N (62)	4.24	0.109
QM relationship influences hospitals performance	2.1% N (4)	19% N (40)	5.6% N (12)	54.2% N (114)	19% N (40)	4.73	0.814
I am satisfied with the effectiveness of QM relationships in our hospital	4.2% N (9)	5.6%N (12)	11.3% N (24)	56.3%N (118)	22.5% N (47)	4.20	0.898
Joint service plan ensures Compliance to specifications is very high	1.4% N (3)	13.3% N (28)	24.6% N (52)	26.8% N (56)	33.8% N (71)	4.24	0.791
Citizens receiving the services are highly satisfied in our hospital	2.8% N (6)	12.7% N (27)	28.2% N (59)	28.2% N (59)	28.2% N (59)	4.72	0.866
Adoption of Quality Management by our hospital plays a major role in creating maximum Performance	4.2% N (9)	11.9% N (25)	24.6% N (52)	29.6% N (62)	29.6% N (62)	4.10	0.850

Key: N = 210 Strongly Disagree =1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5

The overall mean score for Quality Management was 4.24, an indication that majority of the respondents who participated strongly agreed or agreed, at 25.4% (53) of the respondents and 29.6% (62) of the respondents respectively, that lean stocks practice affected the supply chain leverage of hospital level five hospitals in Kenya. The overall standard deviation for this item was measured to be 0.1094. The mean range on this variable was 0.55, showing a very small range between the highest mean score and the lowest mean score; hence showing limited levels of variability among the data, this is further capitalized by a smaller value of standard deviation of 0. 1094.

Performance of Level Five Hospitals

The descriptive statistics results for the dependent variable are shown in Table 2 below.

International Journal of Supply Chain Management
ISSN 2518-4709 (Online)
Vol.10, Issue 2, No.5, pp 85 - 99, 2025

www.iprjb.org

Table 2: Performance of Level Five Hospitals

Statement	1	2	3	4	5	Mean	Std Dev.
Our hospital has the quality of goods and services has improved as a result of reliable lead times by suppliers of raw materials.	3% N(6)	2.8% N (6)	5.6% N(12)	70% N(147)	19% N(40)	3.24	1.248
The service of our hospital resulting from predictable frequency of supplies of raw materials.	1.4% N (3)	10.6% N(22)	30.9% N(65)	30.9% N(65)	26.1% N(55)	4.58	1.243
Our hospital has improved resources because of lean procurement strategies in service process.	11.3% N(24)	5.6% N(12)	11.3% N(24)	35.9% N(75)	35.9% N(75)	4.109	1.219
Our hospital has improved resources because of implementing proper process design in the service of hospital.	1.4% N (3)	14.1% N(30)	28.2% N(59)	28.2% N(59)	28.2% N(59)	4.05	0.853
There are minimal complaints concerning the quality of goods and services offered	2.8% N (4)	4.9% N(10)	24.6% N(52)	42.9% N(90)	24.6% N(52)	4.29	1.052
Our hospital has integrated the use of IT in its management of workers' resulting to improved human capital.	1.4% N (3)	4.9% N(10)	9.1% N(19)	31% N(65)	53.5% N(112)	3.88	1.019
The cost of service is always less than the total sales	1.4% N (3)	12% N(25)	29% N(61)	29% N(61)	29% N(61)	4.70	0.850
I am satisfied that our level five hospital had reduced cost due to the minimal complaints concerning the quality of goods and services	6% N(13)	12% N(25)	29% N(61)	29% N(61)	24% N(50)	4.73	0.1094
Our hospital has ensured flexibility and reliability of operations	6.3% N(13)	6.3% N(13)	12.7% N(27)	41.5% N(87)	33.1% N(70)	3.50	1.010

Key: N = 210 Strongly Disagree =1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5

The average mean of 3.79 and a standard deviation of 1.061. From the study results, the majority 46.8% (98) of the respondents agreed with the statements measuring performance of level five hospital, with another 24.8% (52) of the respondents strongly agreeing. This is because leverage creates competitive advantage in level five hospitals. However, a few 24.8% (52) of the respondents were undecided, on this variable. Only a few 0.4% (1) of the respondents strongly disagreed with the statements measuring performance of level five hospitals in Kenya. This finding is in line with the findings of Rogerson and Parry (2020).

International Journal of Supply Chain Management
ISSN 2518-4709 (Online)
Vol.10, Issue 2, No.5, pp 85 - 99, 2025

www.iprjb.org

Inferential Data Analysis

The study conducted further inferential analysis to analyze the interrelationships of the research variables.

Correlation

A correlation analysis for the construct Quality Management was conducted to establish how Quality Management correlated with performance of level five hospitals. Table 3 shows that the Pearson correlation coefficient was 0.671. These findings indicate the presence of a strong positive linear relationship between Quality Management and performance of level five hospitals. This result is in line with the outcome of Steele and Grajo (2023).

Table 3: Correlation Analysis for Construct Quality Management

Variable		Performance of Level Five Hospitals	Quality Management
Performance of Level five hospitals	Pearson Correlation	1	.661*
	Sig. (2-tailed)		.000
	N	210	210
Quality Management	Pearson Correlation	.671**	1
	Sig. (2-tailed)	.000	
	N	210	210

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

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

Regression Analysis

The hypothesis was tested using a univariate regression model as shown below:

> **H_{O1}:** *Quality Management has no significant influence on Performance of Level five hospitals in Kenya.*

$$Y = \beta_0 + \beta_3 X_3 + \mathscr{E}$$

The histogram in figure 2 indicates that the data was normally distributed. The residual describes the error in the fit of the model to the i^{th} observation yi and are used to explain the adequacy of the fitted model. This is in agreement with the study finding of Mat Isa and Mohammad Al Dweiri (2020), analysis of the residual is frequently helpful in checking the assumption that errors are normally distributed with constant variance, and in determining whether additional terms in the model would be useful. This Figure /shape is a visual clue that the data is likely to be from a normal distribution.

Level five hospitals normal distribution

International Journal of Supply Chain Management
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Vol.10, Issue 2, No.5, pp 85 - 99, 2025

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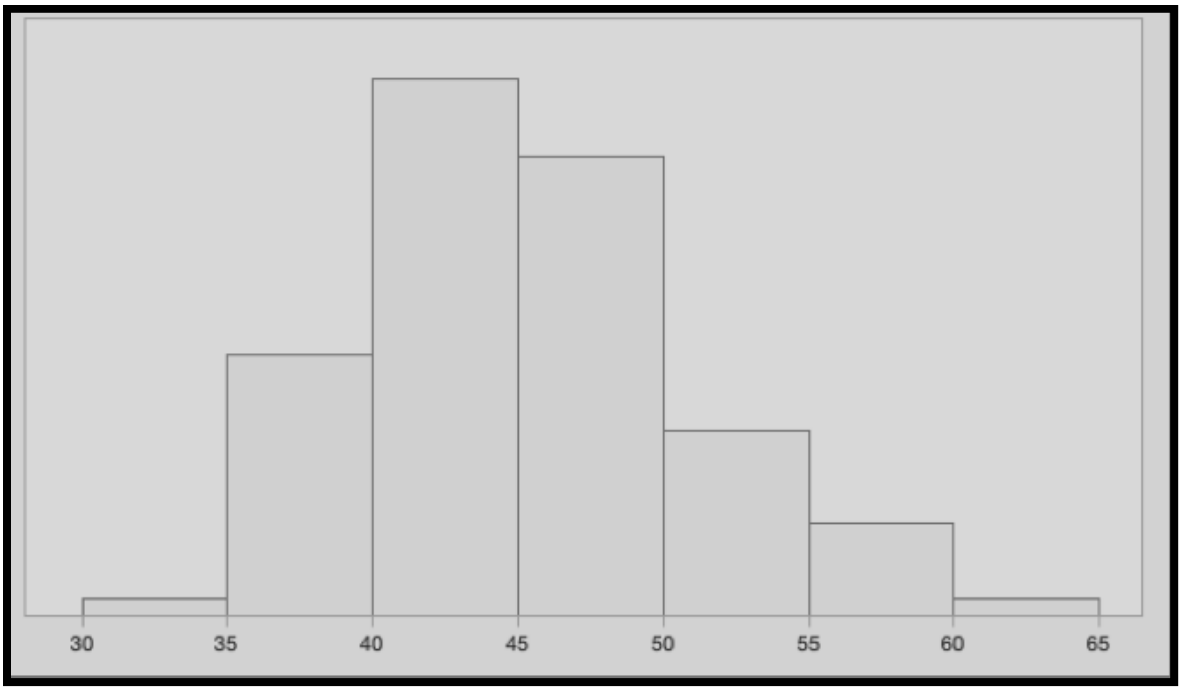

Level five hospitals normal distribution

Figure 2: Histogram Quality Management on Performance of Level Five Hospitals

Presented in Table 3 is the model summary of regression of Quality Management on performance of level five hospitals. The result show R^2=0.713 which means that about 71.3 percent of the total variation in the performance of level five hospitals in Kenya can be attributed to Quality Management. This result is in line with the findings of Ongeri and Osoro (2021).

Table 3: Model Summary of Quality Management

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.602[a]	.715	.612	.38097

a. Predictors: (Constant), Quality Management
b. Dependent Variable: Performance of Level five hospitals

Further test on the ANOVA shows that the regression model involving performance of level five hospitals as the dependent variable and Quality Management as the predictor, is very significant at 5% level of significance (F-statistic=789.170, $p<0.05$), as indicated in Table 4. This is an implication that Quality Management has a very significant influence on the performance of level five hospitals in Kenya. This result is in line with the findings of Ongeri and Osoro (2021).

International Journal of Supply Chain Management
ISSN 2518-4709 (Online)
Vol.10, Issue 2, No.5, pp 85 - 99, 2025

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Table 4: ANOVA of Quality Management

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	114.536	1	114.536	78.9903	.000[b]
	Residual	26.269	209	1.45		
	Total	**140.805**	**210**			

a. Dependent Variable: Performance of Level five hospitals

b. Predictors: (Constant), Quality Management

Further, Table 5 presents the coefficients and t-statistic of the resulting model. The constant term, (β_3= 1.035, implies that if Quality Management is kept constant, then there will be a positive performance of level five hospitals in Kenya by 13.325. The regression coefficient for Quality Management was positive and significant at 5% level of significance (β_3= 1.035, $p<0.05$), with a t-value of 28.902. This is interpreted to mean that for every unit increase in Quality Management, the performance of level five hospitals is predicted to increase by 0.547 units. This result is in line with the findings of Ongeri and Osoro (2021).

Table 5: Coefficients of Quality Management

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	1.022	.076		13.425	.000
	Quality Management	.714	.025	.902	28.092	.000

a. Dependent Variable: Performance of Level Five Hospitals

Performance of Level five hospitals = 1.022+ .714 Quality Management

From the result in Table 3 to Table 5 above, the null hypothesis that Quality Management does not significantly influence the performance of level five hospitals in Kenya, is rejected and the study takes ***alternativ***e. This result revealed that Quality Management contributes positively towards performance of level five hospitals in Kenya. This agrees with the study finding of Muazu (2019), that for hospitals effectiveness and for gaining competitive advantage in cost, it is necessary for the hospitals to eliminate waste. In general, waste is the failure to add, or is a barrier to adding, value for the beneficiary. The sourcing officers deal with unknown or ever-changing actors and uncertain supply and demand. The finding also concurs with the argument by Muazu (2019) that health production operations generally face high uncertainty, changing priorities and requirements, unstable supply chains, and a combination of sudden demand surges with supply of unordered (material) donations of limited use. This adds up to creating a challenging environment for process management thus difficulties in waste elimination. This result is in line with the findings of Ongeri and Osoro (2021).

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SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study examined the effect of Quality Management on the performance of Level Five hospitals in Kenya revealed that quality practices play a critical role in enhancing waste management and resource utilization. While many hospitals had successfully eliminated non-value-adding activities, others continued to struggle with inefficiencies, especially in the handling of relief supplies, which often face logistical challenges and corruption risks. Forms of waste identified included diversion of aid funds, kickback schemes, and misuse of emergency resources, all of which compromised the quality and relevance of healthcare assistance. Mechanisms such as audits, penalties, and oversight by charity-monitoring organizations were found to be effective in curbing fraud and improving accountability. Ultimately, regression analysis confirmed a significant positive relationship between Quality Management and hospital performance, affirming that structured quality systems contribute meaningfully to operational efficiency and service delivery in Kenya's public health sector.

Conclusion

The study affirmed that Quality Management positively influences the performance of Level Five hospitals by enhancing waste management and resource utilization. While many organizations had successfully eliminated non-value-adding activities, some hospitals continued to face inefficiencies, particularly in managing scarce resources and emergency supplies. Key forms of waste identified included corruption and diversion of aid funds, which compromised the value and reach of healthcare assistance. These issues were exacerbated during crises, where lack of oversight enabled fraudulent transactions. To address such challenges, mechanisms like import tax elimination, punitive measures, audits, and charity-monitoring organizations were employed to strengthen accountability and safeguard resources intended for vulnerable populations.

Recommendations

The study recommended that donors increase funding for government health operations, but with strict accountability measures, including timely reporting and demonstrable results from Level Five hospitals. Donors should insist on efficient procurement and delivery of high-quality goods to beneficiaries, ensuring speed and effectiveness. At the county level, improvements such as timely subnational budget allocations and disbursements are essential for better preparedness and response. County officials are also encouraged to build capacity in areas like resilience measurement, climate change modeling, and emergency response planning. Despite some progress, further action is needed to ensure systems are robust enough to mitigate future disruptions and safeguard public health.

Areas for Further Studies

Future studies may focus on fundraising and donation management, recognizing that quality management in healthcare is a multifaceted system involving interconnected components from policy to service delivery. As an "organic" system, effective quality management requires seamless coordination across departments, processes, and stakeholders. Further research could explore other dimensions of the holistic healthcare quality ecosystem such as donor accountability, performance

monitoring, and patient-centered care to deepen understanding of how quality systems influence outcomes in public hospitals.

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