

Strategic Positioning and Hospital Performance in National Referral Hospitals, Kenya

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ABSTRACT

This paper empirically examines the influence of strategic positioning dimensions—including customer service positioning, convenience-based positioning, quality-based positioning, and cost-based positioning—on hospital performance in Kenya’s public referral hospitals. The study adopted an explanatory research design and employed a quantitative cross-sectional survey approach. Data were collected through structured questionnaires targeting hospital administrative and clinical personnel across three national referral hospitals. Hypotheses were tested using multiple linear regression analysis in SPSS. The results revealed that all four strategic positioning dimensions had positive and statistically significant effects on hospital performance. The findings highlight the importance of strategic alignment in improving healthcare delivery outcomes. Hospital managers are encouraged to prioritize patient-centered service delivery, invest in technology to enhance convenience, and implement robust quality and cost-efficiency measures. Policymakers and regulatory bodies should support hospital performance through capacity building, resource allocation, and the development of guidelines that promote positioning strategies tailored to local healthcare needs.

Keywords: Strategic positioning, Hospital performance, Customer service, Convenience, Quality, Cost-efficiency, Kenya.

INTRODUCTION

In the rapidly evolving global healthcare landscape, strategic positioning has emerged as a critical determinant of hospital performance. As health systems around the world grapple with growing patient demand, rising operational costs, and technological disruptions, strategic alignment has become essential for hospitals to sustain efficiency, competitiveness, and service quality. Globally, hospitals are increasingly employing strategic positioning tools—such as market differentiation, service specialization, branding, and partnerships—to enhance their operational effectiveness and stakeholder value. Hospitals that align their objectives, competencies, and resource arrangements with external market and regulatory environments are likely to achieve enhanced patient satisfaction, financial viability, and clinical outcomes (Porter & Lee, 2013).

Strategic positioning facilitates long-term growth and differentiation within established healthcare systems. Academic medical institutions in the U.S. perform more effectively when they integrate teaching, research, and care delivery into cohesive strategic frameworks (Bazzoli et al., 2004). European health institutions have implemented strategic management models to address regulatory difficulties and the demand for patient-centered care, enhancing their resilience (Lega et al., 2013). The emergence of patient choice, value-based care, and digital innovation has become strategic agility the paramount component in global hospital competition.

Health systems in Sub-Saharan Africa have structural, financial, and staffing challenges that differ from those in other regions globally. Numerous public hospitals in the region exhibit inefficiency, inadequate service delivery, and a lack of accountability measures, despite substantial financial investments from foreign entities (World Bank, 2018). In this context, strategic positioning is crucial as it enables public hospitals to optimize limited resources, increase donations, and enhance their credibility. Research indicates that public hospitals in Ghana and Nigeria employing structured strategic management techniques saw increased patient satisfaction, improved budget performance, and enhanced governance (Olumide & Olatunji, 2020).

Strategic positioning has emerged as a prevalent policy and managerial approach for enhancing hospital performance in East Africa, particularly in Kenya. Kenya's Vision 2030 prioritizes on accessibility and quality of healthcare services. It emphasizes strategic planning and performance-oriented management for public institutions. Kenyatta National Hospital (KNH) and Moi Teaching and Referral Hospital (MTRH) serve as national referral hospitals in Kenya. They epitomize the pinnacle of care within the healthcare system, overseeing specialized treatment, research, and capacity building. These hospitals have experienced persistent issues such as excessive patient volume, misallocation of resources, and variable service quality. This is partly due to their inability to adapt their methods swiftly to address evolving health requirements (Andoyi, 2023).

Strategic positioning in Kenya's referral hospitals entails aligning the hospital's capabilities with the healthcare system's demands, identifying its unique attributes, and optimizing resource utilization. Kenyatta National Hospital has developed a strategic plan to establish itself as a center of excellence for specialized care, education, and research (Amba, 2024). However, implementing it remains challenging. Research indicates that despite the existence of strategic plans, they often fail due to inadequate leadership, suboptimal resource allocation, and insufficient collaboration among hospital departments (Owino, 2014; Gitagia, 2015).

Andoyi (2023) provides further evidence that national referral hospitals frequently have difficulties in implementing strategic objectives, resulting in inconsistent performance outcomes. Similarly, Gaturu (2018) asserted that mission hospitals, which generally collaborate with public referral systems, benefit significantly from strategic positioning tactics such as performance contracting and service diversification. These methodologies remain insufficiently utilized in public hospitals. Aligning human capital with strategic objectives is a significant issue in Kenya's referral hospitals.

Malle (2024) emphasizes the significance of human management in facilitating strategic positioning. Aligning staff competencies and professional growth with hospital strategy significantly enhances performance. Furthermore, public referral hospitals must contend with constrained financial resources and increasing demand, necessitating the implementation of strategic decisions that are economically viable and demonstrably impact patient outcomes, operational efficiency, and the institution's long-term sustainability.

Despite these challenges, there are promising developments. Hospitals like Coast General Teaching and Referral Hospital have begun embracing strategic change management models to reposition themselves against private sector competition (Twathe, 2020). Similarly, public-private collaborations and digital health investments are emerging as tools for enhancing strategic differentiation and performance, especially in counties with high patient inflow.

However, there remains a critical gap in empirical understanding of how strategic positioning influences hospital performance in Kenya's national referral hospitals. Most studies tend to focus on strategic planning without evaluating the implementation process or linking strategies to measurable performance outcomes (Mburugu, 2014). As a result, the effectiveness of strategic positioning as a performance driver remains underexplored, particularly within Kenya's public healthcare system.

The structure of this study is organized as follows: Section 1 introduces the research focus on strategic positioning and hospital performance in Kenya's national referral hospitals. Section 2 offers a comprehensive review of relevant literature on strategy and healthcare performance. Section 3 details the research methodology, including the design, data collection procedures, and analytical models used. Section 4 presents and interprets the empirical findings, while Section 5 provides conclusions and practical policy recommendations aimed at enhancing strategic positioning practices within the public hospital sector in Kenya.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Theoretical review

Donabedian's Model of Healthcare Assessment anchors this study by framing strategic positioning as a key structural and process-oriented factor that influences hospital outcomes. The model identifies structure, process, and outcomes as interrelated elements that determine healthcare quality (Donabedian, 1988). In Kenya's national

referral hospitals, strategic choices—such as adopting new service lines, optimizing human resources, and reconfiguring care pathways—constitute structural interventions that enhance operational processes. These process improvements lead to measurable performance outcomes including reduced patient waiting times, enhanced service efficiency, and increased patient satisfaction. Empirical studies affirm that hospitals which implement strategic structural and procedural alignments experience improved care quality and institutional resilience (Njuguna, Kwasira, & Omondi, 2020). This theoretical lens ensures the study accounts for both internal organizational dynamics and their impact on service delivery outcomes.

Brand Equity Theory provides a complementary lens by highlighting the significance of institutional reputation and stakeholder perception in driving hospital performance. Originally grounded in marketing, the theory posits that entities build competitive advantage by fostering brand loyalty, visibility, and perceived service quality (Aaker, 1996). In the healthcare sector, particularly among public hospitals, brand identity shapes how patients, donors, and regulatory bodies interact with and support these institutions. Strategically positioned referral hospitals with strong brand equity—achieved through specialization, community outreach, and reliable service delivery—often attract more patients, secure higher funding, and earn greater public trust. Research in Kenya shows that hospitals with stronger brand positioning tend to outperform their peers in service uptake and stakeholder engagement (Nyamute & Lule, 2023). Strategic initiatives that enhance institutional visibility and patient experience therefore contribute directly to hospital performance through the creation of strong, trust-based brand equity.

Together, Donabedian's Model and Brand Equity Theory offer a multidimensional foundation for this study. Donabedian's model explains how internal strategies influence quality of care, while brand equity theory addresses how external perceptions reinforce institutional value. By integrating these frameworks, the study examines both operational improvements and public trust as dual drivers of performance in national referral hospitals, offering a more holistic understanding of how strategic positioning shapes outcomes in Kenya's healthcare system.

2.2 Customer Service Strategic Positioning and Performance

These customer service elements contribute to improved performance by minimizing disruptions, empowering hospital staff, fostering continuous improvement, and ensuring efficient utilization of the software to enhance patient care and operational outcomes (Saqib, 2021).

The aspect of responsive support is a very important component of the healthcare industry, especially in the situation of hospital performance. Responsive support is the ability to give a prompt and suitable response to the needs and problems of patients and their families (Tucker & Spear, 2006), it increases patient satisfaction that is a very important indicator of a hospital's performance (Jha et al., 2008) thus, the hospital's reputation (Glickman et al., 2010). When the health providers react quickly and in the right way to the patients, it can prevent complications and cut down the readmission rates to the hospital (Weiss et al., 2011). Although it has advantages, the responsive support can also have the opposite effect on the hospital performance. A very remarkable aspect is the resource strain that it can lead to. Hospitals that are going for high responsiveness may have to pay the staff more, thus, they would be incurring a financial burden to the institution (Kuntz et al., 2007). Besides, the excessive consideration of support on patients may cause the attention to be shifted to other vital areas of the hospital performance (Bodenheimer & Sinsky, 2014).

Personalized healthcare, in a dimension of customer service which involves customizing medical services to meet individual patient needs, (Jung et al., 2017) points out that this can lead to improved patient outcomes and satisfaction. However, personalization can inadvertently escalate healthcare costs and create potentially unrealistic expectations among patients. (Huang & Rust, 2017) further opines that personalized healthcare enhances operational efficiency through streamlined processes and reduced waiting times. Accessible staff is an aspect of customer service where staff are accessible to the patients as and when required, those enhances performance in terms of clinical outcomes, due to faster response to medical incidences (Lee & Davidson, 2020).

Empathy an aspect of customer service positioning has been linked to several positive outcomes in healthcare (Batt-Rawden et al., 2013). Empirical education and learning processes have been found to positively influence

empathy in healthcare professionals, including undergraduate nursing students (Kelm et al., 2014). Moreover, there is a good correlation between physician empathy and patient satisfaction. Empathy in healthcare is critical for establishing patient-provider trust, which increases patient satisfaction and contributes to the delivery of high-quality healthcare (Kim et al., 2004). However, empathy can also negatively influence hospital performance, the high number of patients that healthcare professionals have to manage can make it challenging for them to allocate sufficient time and attention to each individual, potentially impacting their ability to empathize (Kelm et al., 2014; West et al., 2006). The emphasis on technical progress, evidence-based medicine, targets, and efficiency may also lead to a view of patients solely as objects of intellectual interest, potentially distancing healthcare professionals from their patients (West et al., 2006).

Findings by (Musau, 2019) and (Azmat & Sami, 2015) highlights that customer-based positioning had the highest positive response while the rest positioning strategies came out more or less on the negative impacts' sides in terms of the consumer perception. (Afiah et al., 2018) presents that consumer or customer service-based positioning as the most adopted form of service positioning practice while undifferentiated marketing as the most notable and preferred customer targeting practices. (Saqib, 2021) concluded that customer-based positioning is one of the bases by which many organizations have identified their managers' use for positioning their products and services.

According to the study conducted by Brown et al. (2023), personalization is also an effective way to increase patient satisfaction and clinical outcomes. On the other hand, Green and Taylor (2024) warn that the high level of personalization might become a drain on the resources of the hospital, which may affect efficiency as well. This indicates that there should be a strategic form of personalization which takes into consideration the process of resource allocation and the resources of the hospital.

H1. Customer service strategic positioning has a significant effect on hospital performance

2.3 Convenience-based Positioning and Performance

By strategically positioning based on convenience, hospitals can harness the benefits of cost-effectiveness, flexibility, interoperability, innovation, community support, scalability, and data security (De Oliveira et al., 2010). These factors collectively contribute to improved hospital performance, enabling healthcare providers to deliver efficient and high-quality care to their patients through adaptability can enhance operational efficiency and streamline processes, leading to improved performance indicators (Syed-Mohamad et al., 2020; Millard et al., 2012). An important aspect of convenience positioning is automation; use of technology drives convenience positioning, Patients spend less time waiting for the retrieval and evaluation of their medical records as a result of replacing systems. (Kioko et al., 2020) revealed that automation improved the quality of care for patients with chronic illnesses. The system gave healthcare providers timely access to patient data, allowing them to make more informed patient care decisions. A study by (Muli et al., 2021) indicated that a Kenyan NPHI's data management system led to better data quality and fewer data entry errors, by giving healthcare practitioners fast access to patient data. (Haleem et al., 2021), during the period of Covid-19 telemedicine reduced medical visits.

According to Blankson and Crawford, (2021) revealed that branding, convenience based, value for money and somewhat reliability and attractiveness were key positioning strategies that were dominant and emerged though different emphasis were paid to different firms. (Ndinda, 2019) undertook her study in Kenya to examine the positioning strategies used by the various health maintenance firms/organizations in Kenya, findings indicated organizations used the same or similar competitive strategies in their products, services they provide benefits bought, distributions and logistics, personnel, and physical processes. A highly rated hospital should have a high staff to patient ratio, as it indicates personalized healthcare and patient satisfaction (Amanpour et al., 2013). Patient waiting time directly impacts patient satisfaction. Medication errors are also crucial for assessing healthcare providers' competence (Syed-Mohamad et al., 2020). Hospital-induced infections rate measures patient safety, with higher rates indicating lower performance. Bed occupancy rate indicates resource constraints, while low percentages indicate optimal utilization of medical equipment (Bergeron, 2017).

Patient room/bed turnover measures the time it takes for patients to receive care and leave the hospital as presented by (Kohn et al., 2000). High performing hospitals tend to have lower average lengths of stay. Total

and Operating Margin performance indicators show the surplus between revenue generated and expenses, with non performing hospitals having negative margins and profitable ones having positive margins (Goswami & Sahai, 2014). Other metrics include insurance claims processing costs and time, which are administrative, in nature (Kohn et al., 2000). Average treatment costs are the most important performance indicator, as hospitals aim to offer quality services at the least amount spent per patient (Weber & Talbot, 2020). Provision of concierge services, which involves embracing a way of understanding, engaging, and personalizing your clients' experience so you can develop a meaningful relationship with them from the very first interaction. The concierge services are the means of improving patient satisfaction, which in turn, is a factor of the good performance of the hospital. These services can be the personalized medical care or the one that helps in the appointment and paperwork. The patients are happy with the treatment, which in turn results in higher satisfaction rates (Buchmueller & Cooper, 2018). The whereabouts of a hospital can as well greatly affect its work. The hospitals located in the urban and densely populated areas usually have the higher patient volumes and, therefore, can I achieve economies of scale, and thus, the operational efficiency (Kolstad & Kowalski, 2016). Though the concierge services have advantages, they can still harm the hospital performance if not administered properly. These services can create another burden on the hospital resources and in turn, it may result in healthcare disparities if they are not available to all patients (Duska et al., 2019). Also, the same as the schools in the cities, the hospitals in the rural or remote areas may have the disadvantages that include the low patient volumes and the difficulty to attract and retain the skilled staff. The difficulties that are present in this area can result in the decrease of the quality of the care and the overall performance of the hospital (Pope, 2020). (Mwangi, 2015) revealed that there is a positive and significant relationship between the private hospitals' performance and the convenience-based position strategies compared to other strategies employed by private hospitals in the county.

H2. Convenience based positioning has a significant effect on hospital performance

2.4 Quality-Based Positioning and Performance

Quality of care is the main pillar of strategic positioning in hospitals. Excellent care can increase the happiness of the patients, the improvement of the clinical results and the hospital reputation (Roberts & Johnson, 2023). Nevertheless, the high-quality care is based on the continuous monitoring and improvement of the hospital processes and services. Consequently, the strategic positioning in this way is a matter of the improvement of the quality and the implementation of the quality management systems (Pope, 2020). SERVQUAL is a method for evaluating the quality of services in different fields, such as healthcare. It is based on five key dimensions tangibility, responsiveness, empathy, assurance, and reliability. These dimensions are used to measure patient satisfaction and to find out the areas that need to be improved in the hospital services (Williams, 2017). The SERVQUAL method is applied to measure the level of patient satisfaction and to point out the attributes that need to be improved. The gap between the expected and perceived service quality across the five dimensions can be measured by hospitals to find out their strengths and weaknesses and to come up with the strategies for the improvement. Key performance indicators are also used to supply managers with valid information to enhance the managerial performance (Pope, 2020).

Hospital credibility has been recognized as a significant factor in influencing hospital performance (Smith & Johnson, 2018). Hospital credibility has a great impact on patient trust and satisfaction (Brown & Jones, 2020). When a hospital is accredited for its constant quality of care, patients are more likely to trust its services and show higher adherence to the medication and the treatment plans (White et al., 2021). Thus, this can be the cause of the better health outcomes eventually improving the hospital's performance metrics. The urge to be connected with a respected institution can motivate the employees to work more effectively (Lee & Davidson, 2019). However, the expectation to uphold high standards can cause a lot of work and stress to the healthcare staff, which in turn leads to burnout and decreased productivity (Williams, 2017).

Coordination of care and on-time service delivery are recognized as the main elements of the quality healthcare. Nevertheless, their impact on the performance is twofold, at the same time, it has both the positive and negative consequences (Johnson & Smith, 2020). Care coordination can decrease the medical errors, increase the patient safety, and improve the quality of the care which in the end brings the performance to the high level (Brown, 2019; Williams et al., 2018). The opposite of the timely services, which are the late services, are acknowledged

for the negative impact on the patient satisfaction (Lee & Davidson, 2017). The shorter the waiting time and the faster the response to the patient needs can result in the increase of the patient satisfaction scores, which is a crucial performance indicator for the hospitals. The process of care coordination demands a lot of resources, for instance, the skilled personnel and the advanced technology, which may be the reason for the budget strain on the hospital (Robinson et al., 2021). Besides, the stress on the speedy services may at times result in the hurried care which in turn might bring the quality of treatment down (White, 2020). Healthcare providers may not spend enough time with each patient in an attempt to cut down on waiting time, thus, the quality of care and patient satisfaction are compromised. Compatibility with industry standards and protocols, such as HL7, DICOM, and FHIR, is crucial to ensure smooth data exchange and communication between different systems. (Akpabio & Kehinde, 2020) revealed that quality-based positioning had a great significance on the influence they impact on customer satisfaction.

The most effective healthcare practices, which are the ones that are based on the research, have been proven to be the ones that definitely enhance the patients' outcomes (Miller & Brown, 2021). Through the use of the best possible evidence, hospitals can be sure that the care they provide is both effective and efficient, thus improving the patient's safety, reducing the variability in the care delivery and hence the overall performance (Anderson et al., 2019). Such care is also helpful in the proper utilization of resources. The treatments that are proved to be effective can be used by hospitals to cut down the unnecessary procedures and, thus, reduce the healthcare costs thereby, improving the financial performance of the hospitals (Clark & Jones, 2020). Although, the strict application of the best practices and evidence-based care can also be the reason for the rigidity in the clinical decision-making (White & Smith, 2021). This rigidity may limit the development of innovations and the flexibility to customize care to the individual patient needs, thus, it may affect the patient satisfaction and outcomes. Besides that, the changing definition of "best" practices can be a burden on hospital resources, as the time and money spent on training and updating of protocols are needed (Roberts & Johnson, 2023). This is very hard for small hospitals with low budgets. To sum up, while the adoption of best healthcare practices and evidence-based care is usually connected with an improvement in hospital performance, it is imperative to be aware of and tackle the possible disadvantages. Hospitals should work on the way of balancing the advantages of standardized care with the necessity of flexibility and customized patient attention.

H3. Quality based positioning has a significant effect on hospital performance

2.5 Cost-Based Positioning and Performance

Cost-based positioning refers to the strategic approach of leveraging the cost advantages (Saqib, 2021), cost leadership, competitive pricing, optimizing capital and operational costs, cost differentiation, utilizing economies of scope and economies of scale, healthcare cost transparency, value-based care and cost focus (White et al., 2021). By adopting the principles of cost-based strategic positioning, hospitals can enhance their financial sustainability, optimize resource allocation, and ultimately provide increased value to patients and the wider healthcare ecosystem. The cost-based strategic positioning in hospitals is when the hospitals are offering the competitive pricing for the healthcare services while still maintaining the quality of the care

Strategic competitive pricing and strategic cost leadership are two of the most important strategies in the healthcare sector that can greatly affect the performance of the hospitals (Porter, 1985). Strategic competitive pricing entails the setting of prices on the basis of market conditions, competitor pricing, and patient affordability. (Smith & Taylor, 2021) presents that through making healthcare services more accessible, hospitals can boost their patient volume, hence, raising the revenue and market share. Strategic cost leadership aims at becoming the industry's lowest-cost producer without compromising the quality standards (Johnson & Scholes, 2019). This approach can result in a substantial reduction of expenses by means of the proper use of the resources, the economies of scale and the simplification of the activities. The savings can be used to improve patient care, to invest in the latest medical technologies, and to enhance the whole hospital performance (Robinson et al., 2020)

On the one hand, competitive pricing can bring more patients, but on the other hand, it may result in a "race to the bottom," where hospitals keep on cutting the prices to beat their competitors (Brown & Jones, 2022). This can bring financial problems; thus, the quality of care can be compromised. Moreover, patients may think that

the low prices imply the low quality, which affects the hospital's reputation (Lee & Davidson, 2020). Cost leadership can sometimes be the reason of cost-cutting measures that harm the patient care (Williams, 2018). Furthermore, the emphasis on cost cutting may be the reason why the hospital are not able to invest in the new technologies and treatments in the future, hence, the technologies adoption progress stopped and the hospital becomes uncompetitive in the long run (White et al., 2021). The two methodologies that hospitals can use to increase their performance are the cost differentiation and the economies of scale. Both methods have unique benefits and drawbacks that can be a big factor in the way hospital works, finances, and patient care. Price differentiation is a process of providing distinct services or better-quality care which can then be used as a reason for higher prices. This tactic can bring in the patients who are ready to pay for the specialized or the services of a higher quality, thus, the hospital earns more (Smith & Taylor, 2021). Besides, cost differentiation can make a hospital's reputation better and hence, the patients would prefer the hospital for specific treatments or superior care.

Economies of Scope strategy would help to improve the overall performance of the hospital by allowing the different services to share resources, which would reduce the costs and increase efficiency (Porter & Teisberg, 2006). For instance, the hospital that provides the cardiology and oncology services can share the diagnostic equipment, administrative staff, and physical space. On one hand, there is the positive impact of economies of scope as a result of the increased competitiveness which tends to lead to lower prices. On the other hand, the complex management of multiple services may lead to inefficiencies and high administrative costs. Along with that, the broadening of services could even make the hospital lose control over its main competencies that might harms the care quality (Christensen et al., 2009). Cost Focus This strategy is very effective in cutting the operational expenses, which reduce the amount of healthcare for the patients and the overall financial stability of the hospital (Kaplan & Porter, 2011). The other side of the coin is that the emphasis on cost cutting sometimes leads to a decrease in quality of care. The attempt to save costs and the use of cheaper medical supplies may lead to compromised patient safety and satisfaction (Needleman et al., 2011). In addition, acute focus on the expenses could constrain the hospital to invest in innovations and new technologies needed to improve the patient care. Value-based Care Value-based care places the emphasis on delivering optimal care while simultaneously trying to decrease expenses, thus aligning payments with patient outcomes. Such an approach has contributed positively to the performance of hospitals since patients' satisfaction has increased, readmission rates have reduced as well as a culture of continuous improvement is promoted (Porter, 2010). Hospitals that have been successful in providing value-based care can obtain better health outcomes and higher rewards from payers.

H4. Cost based positioning has a significant effect on hospital performance

RESEARCH METHODOLOGY

3.1 Sample size and data

The study targeted a total population of 11,324 staff members drawn from three national referral hospitals in Kenya, namely Kenyatta National Hospital (KNH), Moi Teaching and Referral Hospital (MTRH), and Kenyatta University Teaching, Referral and Research Hospital (KUTRRH). These individuals represented various internal stakeholders across hospital directorates and administrative functions. The population distribution consisted of 6,100 staff members at KNH, 3,820 at MTRH, and 1,404 at KUTRRH (KNH, 2024; MTRH, 2024; KUTRRH, 2024).

The sample size was determined using the formula provided by Cooper and Schindler (2011), which is expressed as:

$$N = N / (1 + N I^2)$$

$$n = \frac{N}{(1 + N(e)^2)}$$

Where: n= Sample size, N= Population size e= Level of Precision.

$$N = \frac{11324}{(1+11324(0.05)^2)}$$

$$n = 386$$

At 95% level of confidence and $P=5\%$, $n = 11324/(1+11384(0.05)^2) \quad n = 386$

Thus, a sample of 386 respondents was determined to be representative of the population at a 95% confidence level and a 5% margin of error.

To ensure equitable representation, the study applied stratified random sampling, where the population was divided into strata based on their respective hospitals. Simple random sampling was then applied within each hospital stratum to select individual respondents. The allocation of the 386 respondents across the three hospitals was done proportionally using Bowley's proportional allocation formula (Dike, 2015), where:

$$R_i = (S_i / T) \times n$$

Where:

- R_i = sample size from hospital i
- S_i = population size of hospital i
- T = total population
- n = total sample size

Based on this, the sample was distributed as follows:

Table 1: Sample size

Hospital	Targeted Population	Sample Size
Kenyatta National Hospital (KNH)	6,100	207
Moi Teaching and Referral Hospital (MTRH)	3,820	131
Kenyatta University Teaching, Referral and Research Hospital (KUTRRH)	1,404	48
Total	11,324	386

Source, Researcher (2025)

This approach ensured that the sample was both statistically sound and representative of the diverse operational and administrative contexts within Kenya's national referral hospital system.

3.2 Measurement of variables

The questionnaire was structured into three main sections: predictor variables and the dependent variable. Responses were collected using a 5-point Likert scale designed to capture the level of agreement with each statement. The scale ranged from 1 to 5, where (1) represented "strongly disagree," (2) "disagree," (3) "neutral," (4) "agree," and (5) "strongly agree." This format was used to ensure consistent and quantifiable feedback from the respondents.

Table 2: Measurement of variables

Variable	Dimension	Indicators/Items	Measurement Source
Strategic Positioning (IV)	Customer Service	Accessibility, Personalization Knowledgeability Patient experience Accountability	WHO Quality of Care Framework; Fatima, et al. (2018).
	Convenience	Location Health Technology Concierge Services Turn-around-time Communication channels	Adapted from WHO Health Systems Responsiveness Survey
	Cost Efficiency	Cost leadership Cost differentiation Cost transparency Economies of Scope Value based care	McKinsey Hospital Efficiency Index (2019); Ojwang et al., 2021
	Quality	Reliability Responsiveness Assurance Empathy Tangibles	SERVQUAL (Parasuraman et al., 1988); adapted for healthcare
Hospital Performance (DV)	Patient Satisfaction	Overall satisfaction, repeat use, recommendation intent	HCAHPS Survey (AHRQ, 2020), W.H.O PATH Model, (2006)
	Operational Efficiency	Bed occupancy rate, average wait time, resource utilization	National Health Information System; Mueni et al., 2019
	Clinical Effectiveness	Treatment accuracy, outcome success rates, readmission rates	Hospital Quality Metrics; Machini et al., 2022
	Safety	Incidence of errors, patient and staff safety incidents	WHO Patient Safety Indicators

Source, Researcher (2025)

3.3 Model specification

The association between the independent variables and dependent variables was assessed using Multiple regression analysis and analysis of variance (ANOVA) to test the overall significance of the regression model and the significance of individual predictor variables.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots\dots\dots \text{Model 1}$$

Where:

Y= Performance

X₁= Customer service positioning

X₂= Convenience-based positioning

X₃= Cost-based positioning

X₄ = Quality-based positioning

DATA ANALYSIS AND PRESENTATION

4.1 Descriptive statistics

The descriptive statistics for the five core variables—Cost-Based Positioning, Quality-Based Positioning, Convenience-Based Positioning, Customer Service Positioning, and Hospital Performance—indicate relatively high average scores across all dimensions, based on responses from 328 participants. Among them, Hospital Performance recorded the highest mean score (M = 3.74), suggesting generally positive perceptions of hospital effectiveness and service delivery. Customer Service Positioning followed closely with a mean of 3.69, highlighting the emphasis placed on patient-centered care and responsiveness. Convenience-Based Positioning (M = 3.67) also scored favorably, reflecting the importance of accessible and streamlined services. Quality-Based and Cost-Based Positioning scored similarly (M = 3.61 and M = 3.60, respectively), indicating balanced attention to both service excellence and cost-efficiency. The relatively low standard deviations, especially for Hospital Performance (SD = 0.042), suggest a strong consensus among respondents and stable responses across the sample, underscoring the consistent implementation of these strategic dimensions in hospital operations.

Table 3: Descriptive statistics results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Cost-Based Positioning	328	1	5	3.6	0.077
Quality-Based Positioning	328	1	5	3.61	0.066
Convenience-Based Positioning	328	1	5	3.67	0.083
Customer Service Positioning	328	1	5	3.69	0.11
Hospital Performance	328	1	5	3.74	0.042

Source: Field data (2025)

4.2 Factor analysis

According to Table 4, the findings elucidate the validity and reliability of the data employed to evaluate strategic positioning, contemporary leadership, and hospital performance through several statistical metrics, including the Kaiser-Meyer-Olkin (KMO) measure, Bartlett's Test of Sphericity, and Cronbach's Alpha. The KMO values for hospital performance dimensions—clinical efficiency (CE), patient satisfaction (PS), operational efficiency (OE), safety (SA), and staff dimension (SD)—ranged from 0.608 to 0.704, all deemed acceptable for factor analysis. Additionally, Bartlett's Test of Sphericity yielded significant p-values (all below 0.05), confirming the data's appropriateness for factor analysis, while Cronbach's Alpha values varied from 0.708 to 0.808, signifying strong internal consistency for these measures. These findings indicate that the measures employed to assess hospital performance consistently reflect essential aspects of hospital quality and efficiency.

Upon analyzing strategic positioning, the KMO values for cost-based positioning (CB), quality-based positioning (QB), convenience-based positioning (CP), and customer-based service positioning (CS) were significantly elevated, ranging from 0.624 to 0.858, with the apex value recorded for customer-based service

positioning (0.864) and convenience-based positioning (0.858). The KMO scores indicate that the data for all dimensions of strategic positioning are very suitable for factor analysis. The findings of Bartlett's Test of Sphericity indicated statistically significant p-values for each dimension ($p < 0.05$), affirming the suitability of the data for factor analysis.

Table 4: Factor analysis summary

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)				Cronbach
Variable	Bartlett's Test of Sphericity	Approx Chi-Square	df	sig	
Hospital performance					
CE: Clinical Efficiency	0.621	23.396	3	0.000	0.708
PS: Patient Satisfaction	0.678	35.665	3	0.000	0.784
OE: Operational Efficiency	0.704	37.938	3	0.000	0.808
SA: Safety	0.608	30.947	3	0.000	0.769
SD: Staff dimension	0.623	29.510	3	0.000	0.734
Strategic positioning					
CB: Cost Based Positioning	0.774	75.491	10	0.000	0.838
QB: Quality based Positioning	0.624	100.057	10	0.000	0.840
CP: Convenience Based Positioning	0.858	101.696	10	0.000	0.887
CS: Customer Based Service Positioning	0.864	84.642	10	0.000	0.861

Source: Field data (2025)

4.3 Test for regression assumptions

In statistical analysis, there are several multiple regression assumptions which should be made before conclusions can be made about the results. Before conducting correlation and regression analyses, the researcher tested several of the presumptions of the regression model. This is because of the potential of Type I or Type II error and an over- or underestimation of significance or the size of the impact. Nevertheless, in case these assumptions are not met, the anticipated results cannot be expected to be reliable, which is why inaccurate conclusions and recommendations may be drawn. Normality, linearity, multicollinearity, and homoscedasticity tests were conducted to ensure that the data met the requirement in this study. Hair et al., (2010) note that the assumptions of regression analysis are critical in ensuring that the results were indeed representative of the sample and in getting the best results.

4.3.1 Normality

In this study, the normality assumption was assessed through visual inspection of the histogram of regression standardized residuals, as recommended by Pallant (2013). The histogram is used to determine whether the residuals (i.e., the differences between the observed and predicted values of the dependent variable) follow a normal distribution, which is a critical assumption in linear regression analysis. As shown in Figure 1, the histogram illustrates that the residuals are approximately symmetrically distributed around zero and follow a bell-shaped curve, closely aligning with the superimposed normal curve. The mean of the residuals is very close to zero ($7.14E-16$), and the standard deviation is approximately 1 (0.991), which supports the normality of the

residuals. There are no major deviations, skewness, or outliers in the distribution. Thus, the shape of the histogram indicates that the normality assumption was reasonably met, supporting the validity of the regression analysis.

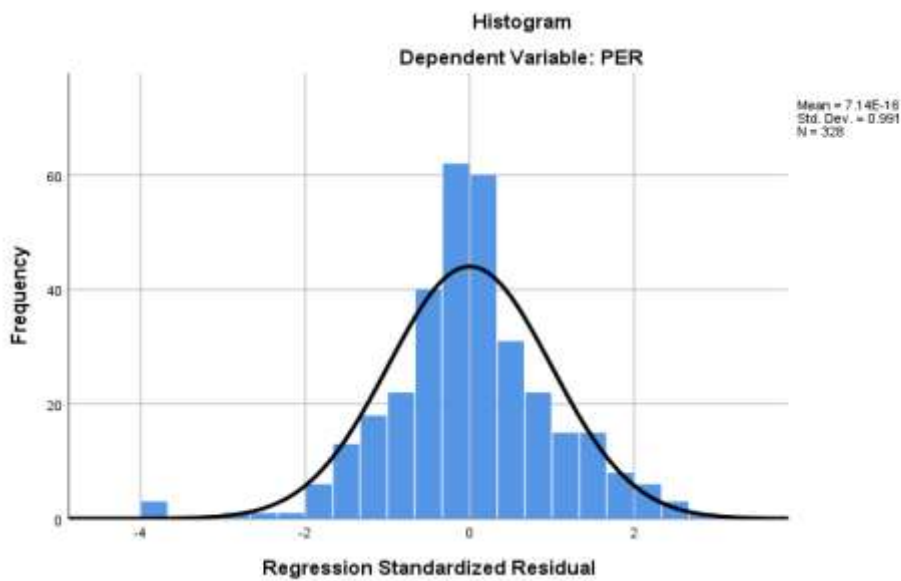


Figure 1: Linearity Test

Source: Research Data, 2025

4.3.2 Multicollinearity

Multicollinearity is a high level of inter-correlation among the independent variables such that the independent outcomes cannot be differentiated (Garson, 2012). This is basically the assumption that the degree of correlation between the study predictors is not very high. Tolerance and VIF were analyzed using regression results of collinearity diagnostics. Garson (2012) suggests that the independent variable must be dropped in the analysis because of multicollinearity when the tolerance is less than the threshold of .20 or VIF greater than 4.0. What are the general rules in case of multicollinearity. Based on Table 5, the tolerance was much higher than .20 and VIF values were less than 4.0, therefore, it is acceptable. These results agree with the recommendation of Garson (2012), Hair, Anderson, Babin, and Black (2010), and Aminu and Shariff (2014) that multicollinearity is not present in this research.

Table 5: Results for Multicollinearity

Model		Collinearity Statistics	
		Tolerance	VIF
	CB	.250	3.993
	QB	.195	5.130
	CP	.209	4.785
	CS	.216	4.638

Source: Researcher, 2025

4.3.4 Homoscedasticity

The assumption of homoscedasticity is that the data distribution is the same over the whole dependent variable's spectrum. Higher errors (residuals) in some parts of the range than in others point to the absence of homoscedasticity. The homoscedasticity assumption must be satisfied for residuals to form an unstructured cluster of points (Garson, 2012). Osborne & Waters (2002), who assert that residuals should range between -2 and/or +2 points, support this as well. The assumption of homoscedasticity seemed to have been satisfied based on the data plot (Figure 2) of standardized residuals vs. standardized expected values, which revealed no noticeable funneling and most residuals falling below the suggested threshold.

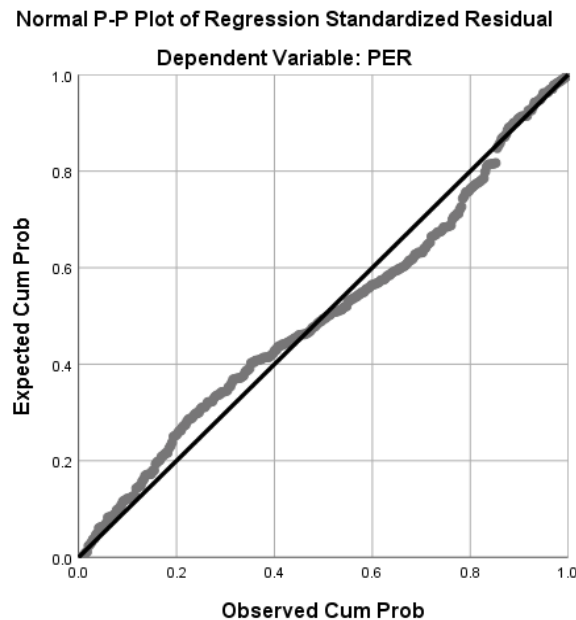


Figure 2: Heteroscedasticity results

Source: Research Data, 2025

4.4 Correlation Analysis

The direction of the linear relationship and the degree of the correlation between research variables are assessed using the Pearson correlation coefficient method. Correlation is a phrase used to describe the relationship between two or more quantitative variables, according to Gogtay and Thatte (2017). It also assesses the amount and intensity of the relationship between the variables as well as the relationship's direction. The coefficient's value, which indicates whether there is a positive or negative association, can range from -1 to +1. In this study, Pearson's correlation was utilized to assess the relationship between the study variables. A moderate to strong positive correlation is found between performance and various positioning strategies such as convenience-based ($r = .639$), quality-based ($r = .693$), and cost-based positioning ($r = .703$), indicating that hospitals that focus on accessibility, quality, and competitive pricing tend to perform better. Customer service positioning also correlates positively ($r = .687$), suggesting that prioritizing patient care and satisfaction enhances performance.

Table 6: Correlation results

		PER	CB	QB	CP	CS
PER	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	328				
CB	Pearson Correlation	.639**	1			
	Sig. (2-tailed)	.000				

	N	328	328			
QB	Pearson Correlation	.693**	.625**	1		
	Sig. (2-tailed)	.000	.000			
	N	328	328	328		
CP	Pearson Correlation	.703**	.513**	.584**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	328	328	328	328	
CS	Pearson Correlation	.687**	.469**	.496**	.616**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	328	328	328	328	328

Source: Research Data, 2025

4.5 Regression results

The purpose of this study was to investigate the direct effect of key hospital positioning strategies—specifically customer service (CS), cost-based (CB), convenience-based (CP), and quality-based (QB) positioning—on hospital performance (PER). The analysis employed a multiple linear regression model to determine how these variables, along with hospital size and age, influence performance outcomes. The regression yielded a high multiple correlation coefficient ($R = 0.890$), indicating a strong relationship between the predictors and hospital performance. Moreover, the coefficient of determination ($R^2 = 0.792$) revealed that 79.2% of the variance in hospital performance could be explained by these strategic variables. The adjusted R^2 of 0.788 further confirmed the model's stability, showing that even after accounting for irrelevant or less impactful variables, the model retained its explanatory strength.

The first variable, cost-based positioning, was assessed under Hypothesis H01, which posited no significant relationship between CB and hospital performance. This hypothesis was rejected based on the statistical output ($\beta = 0.264$, $p = 0.000$), indicating a strong positive relationship. A unit increase in CB positioning contributes to a 26.4% increase in hospital performance. This finding aligns with the literature, which suggests that hospitals that implement effective cost control measures and pricing strategies tend to optimize operational efficiency while maintaining affordability for patients. For example, Lim et al. (2018) found that reducing service costs without compromising quality significantly enhances patient satisfaction and financial outcomes for healthcare institutions. Cost-efficiency thus emerges as a foundational pillar for performance, particularly in competitive healthcare environments.

The second factor, quality-based positioning, was tested under Hypothesis H02. This hypothesis was also rejected, as results indicated a significant positive relationship between QB positioning and hospital performance ($\beta = 0.159$, $p = 0.002$). Improving service quality—through increased responsiveness, empathy, and clinical competence—directly boosts hospital performance by 15.9%. Meesala and Paul (2018) showed that service quality, especially in terms of assurance and reliability, enhances patient trust and loyalty, which in turn drives long-term institutional performance. Similarly, Fatima, Malik, and Shabbir (2018) found that hospitals investing in quality improvement initiatives see measurable gains in patient satisfaction and loyalty. These studies underscore that prioritizing quality does more than improve clinical outcomes—it builds patient relationships that fuel sustainable growth.

Next, convenience-based positioning was explored under Hypothesis H03. The regression analysis rejected the null hypothesis ($\beta = 0.173$, $p = 0.001$), confirming that CP significantly influences hospital performance. A unit increase in convenience-based strategies contributes to a 17.3% increase in hospital performance. Convenience in healthcare includes factors such as geographical proximity, flexible scheduling, minimal wait times, and simplified administrative processes. Research by Oo (n.d.) on Nyein Chan Hospital emphasized that enhanced

convenience contributes significantly to customer satisfaction, particularly when services are structured around patient accessibility. Additionally, Kumar, Bera, and Chakraborty (2017) demonstrated that operational flexibility and convenience lead to better service delivery, which directly correlates with increased patient retention and performance metrics.

Finally, customer-service positioning was addressed under Hypothesis H04. This factor showed the strongest influence on hospital performance ($\beta = 0.299$, $p = 0.000$), suggesting that a unit increase in customer service positioning leads to a 29.9% improvement in performance outcomes. This finding is supported by Padma and Rajendran (2010), who noted that patient interactions with front-line staff—nurses, receptionists, and physicians—play a critical role in shaping patient perceptions of care quality. Moreover, Lee, Lee, and Kang (2012) found that high-performance work systems that emphasize customer service skills, employee motivation, and service climate result in significantly improved patient satisfaction, loyalty, and organizational effectiveness.

The ANOVA results further supported the significance of the overall regression model, with an F-value of 203.383 and a p-value of 0.000. This confirms that the collective impact of the predictors—CS, CB, CP, QB, hospital age, and hospital size—is statistically significant in explaining hospital performance. The regression sum of squares (202.604) compared to the residual sum (53.295) also indicates a substantial portion of variance being explained by the model. These metrics validate that positioning strategies are crucial levers in healthcare management.

Table 7: Regression results

Metric	Value	Metric	Value	Variable	Unstandardized B	Std. Error	Standardized Beta	t	Sig.
R	0.89	Sum of Squares (Regression)	202.604	CB	0.264	0.048	0.281	5.524	0.000
R Square	0.792	df (Regression)	6	QB	0.159	0.05	0.18	3.164	0.002
Adjusted R Square	0.788	Mean Square	33.767	CP	0.173	0.051	0.187	3.375	0.001
Std. Error	0.407	F	203.383	CS	0.299	0.045	0.314	6.63	0.000
Durbin-Watson	1.769	Sig.	0						

Source: Research Data, 2025

CONCLUSION AND RECOMMENDATION

This study examined the relationship between hospital performance and key positioning strategies—namely Customer Service (CS), Cost-Based (CB), Convenience-Based (CP), and Quality-Based (QB) positioning—within healthcare institutions. Using multiple linear regression analysis, the research assessed the individual and combined influence of these variables, alongside hospital size and age, on hospital performance (PER). The findings demonstrated that all four strategic variables had a positive and statistically significant effect on hospital performance, with customer service exhibiting the strongest impact ($\beta = 0.299$). The overall model explained a substantial proportion of the variance in hospital performance ($R^2 = 0.792$), underscoring the strategic importance of service positioning in driving healthcare outcomes. These results highlight that hospitals adopting robust service-focused strategies are more likely to achieve higher levels of operational efficiency, patient satisfaction, and competitive advantage in an evolving healthcare environment.

Based on these data, numerous recommendations are suggested. Hospital administrators and policymakers should promote customer service as a fundamental strategic component. Institutionalizing the training of healthcare professionals in communication, empathy, and patient involvement is essential for improving patient experiences and enhancing hospital reputation. Feedback methods, including patient satisfaction surveys and real-time service monitoring technologies, should be instituted to assess and enhance service delivery in

accordance with patient expectations.

Secondly, cost-based positioning methods must be refined to achieve a balance between affordability and service quality. Hospitals ought to implement cost management frameworks, including activity-based costing and lean management, to minimize waste and improve resource allocation. Financial transparency and regular efficiency audits can ensure that cost-reduction strategies do not undermine the quality of service.

Third, initiatives centered on convenience should be enhanced by augmenting access to healthcare services. This encompasses increasing clinic hours, decentralizing services to underserved regions, optimizing administrative processes, and utilizing telemedicine technologies. These approaches would enhance the accessibility and responsiveness of healthcare organizations, consequently augmenting patient loyalty and operational efficiency. Fourth, sustained investments in quality-oriented positioning are crucial for enduring performance. Quality assurance methods, including ISO accreditation, clinical audits, and adherence to evidence-based norms, must be strictly enforced. Hospitals ought to implement quality improvement frameworks such as Six Sigma or Total Quality Management (TQM) to systematically assess and enhance service standards. Moreover, hospital boards and regulatory authorities ought to implement integrated performance management systems that continuously monitor CS, CB, CP, and QB indicators in real time. Digital health instruments, like Hospital Information Systems (HIS) and Electronic Health Records (EHR), can yield significant insights about service inefficiencies, resource allocation, and patient outcomes. These observations can inform strategic modifications that improve both operational and clinical efficacy. Finally, national health policy organizations, such as health ministries and regulatory agencies, ought to create frameworks and recommendations that assist hospitals in executing evidence-based positioning plans. These entities must guarantee equal access to funds, capacity-building initiatives, and digital infrastructure to facilitate innovation in service delivery. Enhancing institutional governance and matching performance incentives with strategic objectives will be essential for maintaining high-performing healthcare systems.

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