DETERMINANTS OF PERFORMANCE OF PRIVATE HOSPITALS IN NAIROBI COUNTY, KENYA AND MODERATING EFFECT OF GOVERNMENT REGULATIONS

By

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A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF COMMERCE (FINANCE OPTION) AT THE STRATHMORE UNIVERSITY

MAY 2025

DECLARATION

1 declare that this work has not been previously submitted and approved for the award of a degree by this or any other University. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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LIST OF ABBREVIATIONS

BOR	Bed Occupancy Rate
CBOs	Community Based Organizations
CEM	Customer Experience Management
EBMed	Evidence Based Medicine
EBMgt	Evidence Based Management
FBOs	Faith-Based Organisations
GPS	Global Positioning Services
HIS	Health Information Systems
HITs	Health Information Technologies
HMIS	Health Management Information Systems
IoT	Internet of Things
MoH	Ministry of Health
NGO	Non-Governmental Organisation
NHIF	National Hospital Insurance Fund
PPP	Public Private Partnerships
RFID	Radio Frequency Recognition
WHO	World Health Organisation

DEFINITION OF TERMS

Cost Efficiency	refers to an organisation's ability to operate at the highest possible level of profitability while minimizing expenditure (Gisario *et al.*, 2019)
Government Regulations	refer to policies targeting the improvement of the development and application of rules and various tools applied by institutions and entities in the carrying out of their business (Srinivas, Das & Kumar, 2019).
Human Capital	refers to individuals that possess capabilities that typify them and are constant irrespective of their social environment and can be leveraged in exchange of economic resources in the labour market (Matei & Ceche, 2018).
Organisational Performance	the determination of actual output when pitted against the projected output or intended objectives (Doval, 2020).
Private Health Sector	comprising all the individuals and organisations that are neither directly controlled nor owned by government which are involved providing health services (Klinton, 2020).
Quality of Care	a determination of whether or not access to needed and effective proper health structures and processes of care can be provided to individuals by health facilities (Woo *et al.*, 2017).
Technology	technology was derived from the Greek word "Techne" meaning "skill" and "art" and refers to the application of human made tools and techniques to enhance the manner of accomplishing tasks, activities or work (Carroll, 2017).

ABSTRACT

Private hospitals seek to ensure their survival by ensuring that they have optimised their performance relative to their rivals. Many private healthcare facilities in Kenya were constrained from managing long-term ailments such as hypertension due to limitations in self-management support, deficiencies in the healthcare literacy, high cost of care, ineffective referral systems, limited care provider training, and deficient regulatory support. The study sought to establish the determinants of performance of private hospitals in Nairobi County, Kenya. Its specific objectives included: to determine the influence of cost efficiency; quality of care, human capital, and technology on the performance of private hospitals in Nairobi County, Kenya. It will also examine the moderating effect of government regulations on the performance of private hospitals in Nairobi County, Kenya. The study was supported by the Evidence Based Management Theory, and the Attribution Theory. A descriptive design was selected for this study since it facilitated the articulation of the attributes of the study participants. The study's target population was five private hospitals in Nairobi County which comprised the unit of analysis. More specifically, the study involved 200 respondents from the five private hospitals which comprised the study's unit of observation. The study collected the primary data using questionnaires which was developed from the empirical research and administered to the sample population. It used a five-point Likert scale to enable the development of the questionnaire to use in combination with standard deviation and mean, to further enhance the description of the data. The Statistical Package for Social Sciences was then used to conduct descriptive and inferential analysis. The presentation of the results was captured through the use of graphs and tables. The Pearson Correlation analysis indicated that all the predictor variables were positively and significantly correlated with the outcome variable. The predictor variable that was the strongest correlation with the dependent variable was technology followed by government regulations, cost efficiency, quality of care, and human capital. The regression model demonstrated a good fitness of fit. The ANOVA statistics revealed that there are both significant and statistically significant relationships between the predictor variables and the outcome variable. The study recommended that the Government should ensure adequate participation of all the stakeholders including those in the private healthcare sector in the formulation of policies and standards of healthcare so as to come up with policies that are representative of all possible issues of concern across the board and get the buy-in of all key stakeholders. there are few studies that have addressed the moderating effect of government regulations on the determinants of performance of private hospitals, which is conceptual gap that has been addressed by this study.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Organisations seek to ensure their survival by ensuring that they have optimised their performance relative to their rivals (Farida & Setiawan, 2022). Organisational performance is a ubiquitous term that has several meanings including: the determination of actual output when pitted against the projected output or intended objectives (Doval, 2020); how successful an organisation is in meeting its objectives (Elena-Iuliana & Maria, 2016); or the measurement of how well the organisation has been able to meet the desires of its stakeholders (Demeke & Tao, 2020). Richard *et al.* (2009) explained that organisational performance needs to be measured in order to fulfil a number of objectives. Firstly, it facilitates the identification of areas that require improvement and the formulation of strategies on how to actualise the improvement. Secondly, it provides a means through which the effectiveness of organisational strategies can be determined and the associated adjustments made accordingly. Thirdly, it acts as a foundation for making more informed decisions. Fourthly, it shows that the organisation is accountable. Finally, it enables the benchmarking with industrial peers (Murali et al., 2017).

Kenya is classified as a low-middle-income economy and is experiencing significant epidemiological and demographic transitions. Associated with these transitions, there has been a growing demand for healthcare services in Kenya. Private health service providers in Kenya are located in urban areas and also facilitate health service delivery for the urban populations (Nyamai, Owuori & Ngui, 2024). Informal settlements are characterized by poor sanitation, high levels of air and water pollution, and overcrowding. Maternal mortality is also significantly higher in informal settlements with corresponding poorly serviced health centres resulting in overcrowding at public health centres (Abdi, 2024). The expansion of healthcare facilities and providers in Kenya has significantly outpaced that of comparable sectors, driven by increasing demand resulting from rapid population growth. Given the evolving healthcare landscape and the limitations of public healthcare infrastructure, there is a growing need to examine the dynamics of the private health sector, particularly its role in complementing public healthcare delivery. Private hospitals play a critical role in bridging service delivery gaps by absorbing patient overflow, contributing to health

insurance uptake, and influencing the quality of care through varied service stipulations and organizational efficiencies. This interplay is especially relevant in developing countries, where constrained public resources necessitate strategic integration of private healthcare providers (Nyamai, Owuori, & Ngui, 2024).

In any economy, the health sector is vital as it directly influences public well-being. It is typically categorized into public healthcare, managed by the government, and private healthcare, operated by non-governmental entities. Klinton (2020) defines the private healthcare sector as comprising individuals and institutions that, while not state-owned, contribute to health service delivery. This sector includes private hospitals, diagnostic centers, pharmaceutical companies, and educational institutions that provide healthcare training and services.

The World Health Organization (2020) further elaborates that the private health sector encompasses NGO or faith-based hospitals, private hospitals, private clinics/doctors, private pharmacies, and other NGO or faith-based operations such as community health workers, outreach services and clinics. The study highlights that private hospital ownership in Europe varies, with predominantly private ownership (60%) in countries such as Belgium, Germany, Netherlands, Norway, and Switzerland; mixed ownership (40-60%) in Austria, France, Italy, Luxembourg, Portugal, and Spain; mixed ownership (20-40%) in the Czech Republic, Estonia, Finland, Latvia, and Poland; and predominantly public ownership (20%) in Denmark, Iceland, Ireland, Lithuania, Slovenia, Sweden, and the United Kingdom.

1.1.4 Private Hospitals in Nairobi

The primary regulator of private hospitals in Kenya is the Kenya Health Professionals Oversight Authority (KHPOA), a body that was established under the Health Act, 2017, and mandated to regulate and oversee the activities of health professionals, including those in private hospitals (Republic of Kenya, 2017). According to Africa Health Business (2021), the Kenyan health sector comprises 9,696 health facilities, where 4,616 are publicly owned, 3,696 are in the commercial private sector, and 1,384 belong to Faith-Based Organizations (FBOs), Non-Governmental Organizations (NGOs) and Community-Based Organizations (CBOs). Their distribution indicates that 37.8% are controlled by the private sector while 42.9% are owned by the public sector. Kenya has several private hospitals offering healthcare services. Some of the well-known facilities, and

those included in this study include Aga Khan University Hospital, Karen Hospital, and Nairobi South Hospital. Others are Guru Nanak Ramgharia Sikh Hospital, Familycare Medical Centre, and St. Mary's Mission Hospital. Additionally, hospitals such as Mater Hospital, Melchizedek Hospital, and Parklands Ambulatory Surgical Centre provide essential medical care. Nairobi Equator Hospital, Lions Sightfirst Eye Hospital, and Madina Nursing Home also serve various patient needs. Other notable institutions include M.P. Shah Hospital, Nairobi Women's Hospital, and Metropolitan Hospital. Furthermore, Nairobi West Hospital, Coptic Hospital, and Gertrude's Garden Children's Hospital contribute to the country's healthcare sector. Completing the list are Jamaa Hospital, Avenue Hospital, South B Hospital, Chiromo Lane Medical Centre, New Langata Medical Centre, Nairobi Hospital, and Mariakani Cottage Hospital. The current study focused on Nairobi South Hospital, St. Mary's Mission Hospital, Avenue Hospital, Nairobi Women's Hospital, and Nairobi West Hospital. The current study targeted five private hospitals in Nairobi County which were chosen purposively owing to the familiarity of the researcher with the five hospitals.

The under-financing of the health sector from the central government in Kenya has resulted in dependency on donors, leading to inadequate healthcare for the large percentage of the population that rely on government health facilities and forced a choice on whether to pay for expensive private healthcare or use cheap but inadequate service provided by the government health facilities where the vast majority of Kenyans are forced to seek for their healthcare needs (Nyamai, Owuori & Ngui, 2024).

Yet the population is ever-growing, and the Kenyan government continues to refuse to fund development to the health sector adequately or appreciate the welfare of their healthcare work force which has been struggling under heavy workload for many years. In 2004 a new occupational safety and health act was passed, yet over 20 years later the Kenyans nurses and doctors are still pleading with the government to implement it fully (Kroke and Ogbuoji, 2024). Previous studies have noted the inequitable concentration of nongovernmental health facilities in urban areas such as Nairobi County compared to few facilities in poor rural areas. Furthermore, majority of these facilities are foreign run by the private sector (Nyamai, Owuori & Ngui, 2024). With many cases of suspected and confirmed cases of c-covid in foreign corporate hotels and the government's lack

of concern for the local Kenyan poor workers, many nurses are now threatened by retaliation from their employers if they raise concerns about preclusive safety measures.

Given the high level of competition amongst private hospitals in Nairobi, there is a high emphasis on high quality of service and, as such, the hospitals have adopted market segmentation in accordance with the affluence of the clientele, with the top private hospitals such as Nairobi Hospital, MP Shah, Karen Hospital and Agah Khan University Hospital targeting the richest clients while others settle for the upper middle or lower middle class clients (Kambaga *et al.*, 2023). Kelvin and Morrisson (2023) posited that the top private hospitals in Nairobi have incorporated the latest technology including big data capabilities which has ensured greater responsiveness, efficiency and cost effectiveness thanks to the advanced technical competencies of Nairobi that feature extensive Wifi connectivity thanks to the fibre optic network of cables in the city. Njoroge (2018) maintained that amongst the most effective aspects of technology that have been integrated into the operations of private hospitals is the health management information systems (HMIS).

The study seeks to establish the determinants of performance of private hospitals in Nairobi County. These hospitals will include Aga Khan University Hospital, Karen Hospital, and Nairobi South Hospital, Guru Nanak Ramgharia Sikh Hospital, Familycare Medical Centre, St. Mary's Mission Hospital, Mater Hospital, Melchizedek Hospital, Parklands Ambulatory Surgical Centre, Nairobi Equator Hospital, Lions Sightfirst Eye Hospital, Madina Nursing Home, M.P. Shah Hospital, Nairobi Women's Hospital, Metropolitan Hospital, Nairobi West Hospital, Coptic Hospital, Gertrude's Garden Children's Hospital, Jamaa Hospital, Avenue Hospital, South B Hospital, Chiromo Lane Medical Centre, New Langata Medical Centre, Nairobi Hospital, and Mariakani Cottage Hospital. It will endeavour to address the deficiencies in the existing body of knowledge on the performance of private hospitals. It will shed new insights in the variables of the study including cost efficiency, quality of care, human capital, hospital size and technology.

1.2 Problem Statement

The performance of private health facilities in Kenya continues to elicit significant concern among policymakers, healthcare practitioners, and the public due to disparities in quality, access, and cost. Despite the critical role of private hospitals in complementing public healthcare infrastructure,

their performance has been inconsistent and inadequately documented. Moturi et al. (2022) found that service provision, quality of care, and household socioeconomic factors significantly influence the utilization and performance of private health facilities. Alarmingly, approximately 47% of Kenyan households in the poorest income quartile rely on private facilities, while an estimated 11% of households incur catastrophic healthcare expenses annually, with 1.48 million people experiencing poverty due to out-of-pocket expenditures. These statistics underscore an urgent need to interrogate the effectiveness, efficiency, and equity of private hospital performance in Kenya.

A fundamental challenge lies in the inequitable distribution and affordability of private healthcare services. Ongarora et al. (2019) established that the majority of private health facilities in Nairobi remain inaccessible to low-income earners due to high treatment costs and significant variations in drug pricing. In such settings, patients are often forced to opt for generic medications, given that innovator drugs can be 50% to 90% more expensive. Compounding this challenge is the concentration of private health facilities in urban counties, 71% of for-profit facilities are located in just 16 out of 47 counties, with 738 in Nairobi alone, resulting in significant geographic disparities in healthcare access (Moturi et al., 2022).

Further, while previous studies have investigated selected determinants of hospital performance such as service quality (Nderitu, 2016) and strategic planning (Gioko & Njuguna, 2019), many are narrow in scope and lack a holistic conceptualization of performance determinants. Others focus on public hospitals (Odhiambo, 2014; Mwihia, 2020), making their findings inapplicable to private institutions due to divergent organizational structures and operational mandates. Moreover, there exists a critical gap in the empirical exploration of how government regulations moderate the relationship between key performance determinants, such as cost efficiency, quality of care, human capital, and technology, and the overall performance of private hospitals. The existing literature, including that of Muthaka et al. (2004), is either outdated or fails to capture the nuanced regulatory dynamics influencing contemporary private healthcare systems. This study therefore seeks to bridge these gaps by systematically examining the multifaceted determinants of performance in private hospitals in Nairobi County and assessing the moderating effect of government regulations within this context.

1.3 Research Objectives

1.3.1 Main Objective

To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

1.3.2 Specific Objectives

i. To determine the influence of cost efficiency on the organisational performance of private hospitals in Nairobi County, Kenya.
ii. To examine the influence of quality of care on the organisational performance of private hospitals in Nairobi County, Kenya.
iii. To establish the influence of human capital on the organisational performance of private hospitals in Nairobi County, Kenya.
iv. To investigate the influence of technology on the organisational performance of private hospitals in Nairobi County, Kenya.
v. To investigate the moderating effect of government regulations on the organisational performance of private hospitals in Nairobi County, Kenya.

1.4 Research Questions

i. What is the influence of cost efficiency on the organisational performance of private hospitals in Nairobi County, Kenya?
ii. How influential is the quality of care on the organisational performance of private hospitals in Nairobi County, Kenya?
iii. What is the influence of human capital on the organisational performance of private hospitals in Nairobi County, Kenya?
iv. How influential is technology on the organisational performance of private hospitals in Nairobi County, Kenya?
v. What is the moderating effect of government regulations on the organisational performance of private hospitals in Nairobi County, Kenya?

1.5 Scope of the Study

The study aimed to investigate five selected private hospitals to provide an in-depth understanding of how elements such as cost efficiency, quality of care, human capital, and technological advancements affect hospital performance. The research also examines the role of government regulations in moderating these influences by focusing on public health policies, safety standards in healthcare, and policing of healthcare quality. The geographical scope of the study was limited to Nairobi County, chosen due to its high concentration of private healthcare facilities and its representation of both high-end and mid-level private hospitals. The study also collected data from approximately 200 healthcare professionals, including doctors, nurses, administrative staff, and management personnel within these hospitals. Additionally, the temporal scope covers a six-month period, from February 2024 to July 2024, ensuring that the data reflects current healthcare trends and operational challenges.

1.6 Significance of the Study

1.6.1 Policy Makers

This study will be significant to first, the MoH, as the regulatory authority, will find the study's findings valuable, particularly in understanding the determinants of performance considering the growing role of private hospitals in the country.

1.6.2 Industry Players

Second, the findings of the study are anticipated to serve as a useful reference for private hospital administrators, highlighting the most feasible determinants of performance, including cost efficiency, quality of care, human capital, and technology. Third, the results will be of importance to healthcare professionals in general, given that the study variables are among the most significant in healthcare management.

1.6.3 Researchers and Scholars

Lastly, the study will address identified gaps in the body of knowledge, making it valuable to researchers and scholars interested in healthcare management in general and private healthcare specifically.

1.7 Chapter Summary

This chapter introduced the various concepts of the study and provided some background information on each of the concepts, then articulated the problem statement which captured the main issues that have justified the conduct of the current study. The scope of the study focused on the parameters that defined the study including the location, target population, research variables, sampling and period of study. Finally, the significance of the study explained those that stand to benefit from the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature, addressing key elements. The theoretical review explores relevant theories, specifically evidence-based management theory and attribution theory. In the empirical review, previous research will be discussed concerning the study's variables, which include the independent variables (cost efficiency, quality of care, human capital, and technology), the moderating variable (government regulations), and the dependent variable (performance of private hospitals). The section on research gaps identifies the discrepancies between the studies reviewed in literature and the current study. The conceptual framework is also outlined.

2.2 Theoretical Review

A theory is a belief about how a phenomenon works (Abend, 2008) or an explanation about how things are the way they are (Stewart *et al.*, 2011). A theoretical review provides a framework that guides the development of theory-based research by applying a clear and comprehensible description of specific phenomena (Grant & Osanloo, 2016).

2.2.1 Attribution Theory

The Attribution Theory was originally proposed by Heider (1958) who posited that in trying to resolve an issue people seek to comprehend the reasons behind the occurrence of the situation; Martinko and Gardner (1982) added that the theory enables the assessment of where responsibility lies for a given outcome; while Weiner (1995) felt that it led to the appraisal of the individual characteristics of those involved. Palmeiri and Peterson (2009) explained that the Attribution Theory can be assigned to the healthcare profession since physicians, nurses and other hospital employees tend to be blamed by management or suffer severe consequences of erroneous managerial perceptions of events. Additionally, the fact that physicians are usually not hospital employees which nurses and other clinicians are, means that misattributions are typically suffered by clinicians whenever errors and adverse events occur during the delivery of healthcare.

Drach-Zahavy and Somech (2006) averred that the attribution theory offers a basis for understanding how enhanced performance in hospitals can be attributed to improved level of professionalism on the part of healthcare superiors which pushes them to be more supportive and motivational to their subordinates rather than helping behaviors. Harvey and Martinko (2009) established that attributions can either be internal, such as the error of a physician in misdiagnosing a patent; or external such as defective laboratory results. Thus, when individuals make internal attributions, they acknowledge their shame and guilt as a manifestation of self-focused negative emotions, while external attributions manifest in external focused negative emotions such as resentment and anger.

The Attribution Theory is consistent with the study variables as follows. Firstly, the determinants of performance of private hospitals are an acknowledgement by the management of the attributions of improved performance such that lack of cost efficiency, poor quality of care and deficient human capital are internal attributions of poor performance. Secondly, poor adaptation to new technology is an external attribution to poor performance. Thirdly, deficiencies in the government regulations can also contribute towards poor performance thereby acting as external attribution.

2.2.2 Evidence Based Management Theory

Evidence Based Management (EBMgt) Theory, which was originally proposed by Tranfield, Denyer and Smart (2003), held that knowledge is attained through the use of a variety sources of evidence of a scientific nature as well as empirical findings. EBMgt involves overtly setting aside generally accepted conventions and established opinions and turning instead to the application of critical thinking and optimally available evidence as a basis for making decisions (Barends *et al.*, 2014). As an offshoot of EBMgt, Evidence Based Medicine (EBMed) involves the meticulous, unequivocal and prudent application of prevalent best evidence in decision making regarding the care of individual patients (Straus *et al.*, 2011).

Tranfield *et al.* (2003) established that EBMgt has been encumbered by the availability of often contradictory evidence both in medicine and management which was resolved by the development of the systematic review process that sought to neutralize perceived biases amongst other issues in evidence. Systematic reviews offer pre-appraised evidence that is both relevant and of high quality that can be confidently used to facilitate more informed decision making by health practitioners.

Janati *et al.* (2018) affirmed that in order for healthcare managers to be better hospital administrators they need to be cognizant of all the available evidence through the integration of appropriate information management systems; which requires a higher level of specialized training in management. Indeed, EBMgt endows hospital managers with the ability to discern the prevailing gaps between knowledge and practice so as to enable them make more informed decisions.

The EBMgt Theory is aligned with the study variables in a number of ways. Firstly, through the specialized training that hospital administrators receive, they are more competent in carrying out cost efficiency, quality of care, and adoption of technology. Secondly, the enhanced managerial and subordinate competencies further improve the human capital of the hospital. Thirdly, EBMgt espouses many characteristics of rigorous research in healthcare is sought by government regulators.

2.2.3 Public Interest Theory of Regulation

This theory, which was proposed by Posner (1974) and Stigler (1971), holds that regulation targets the correction of market failures and the promotion of general welfare. The theory's main assumption is that governments act in the best interest of the public through the enactment and implementation of policies that address concerns such as externalities, monopolies, and information asymmetry. Pigou (1938) asserted that the public interest theory of regulation can be applied both prescriptively by directing the actions that governments should take, and descriptively by articulating the actual actions undertaken by the governments, particularly in democratic economies.

The theory has attracted a number of criticisms. Firstly, the majority of market failures can be addressed by markets and private orderings without the need of either government interventions or regulation (Shleifer, 2005). Secondly, in instances where there are market failures, conflicts amongst market participants can be addressed through private litigation (Shleifer, 2005). Thirdly, the incompetence and corruption of governments negates any benefit that can accrue from government regulation should markets and courts be unable to offer the remedies needed (Shleifer, 2005).

This theory is mainly aligned with the moderating variable of government regulations since it seeks to explain how government regulations within the health sector are used to address inefficiencies amongst the private hospitals especially in relation to public health policies, safety standards in healthcare, and policing of healthcare quality. By so doing, government regulations can address public interests.

2.3. Relationship between Theories, The Conceptual Framework, and Objectives

In this study, three theories underpin the conceptual framework: Attribution Theory, Evidence-Based Management (EBMgt) Theory, and the Public Interest Theory of Regulation. Each theory offers a distinct lens for understanding the relationship between the determinants of private hospital performance and the moderating role of government regulation.

Attribution Theory, as posited by Heider (1958) and further developed by Weiner (1995), posits that individuals interpret outcomes based on perceived internal or external causes. In the context of private hospitals, managers attribute success or failure to internal factors such as cost efficiency, quality of care, human capital, and technology, or to external factors like regulatory environments. For example, inadequate performance may be attributed internally to staff inefficiencies or externally to regulatory constraints. This theory aligns with the conceptual framework by explaining how perceptions of causality influence managerial responses to performance outcomes (Palmeiri & Peterson, 2009; Harvey & Martinko, 2009).

Evidence-Based Management Theory, advanced by Tranfield et al. (2003) and supported by Barends et al. (2014), emphasizes the integration of the best available evidence into managerial decision-making. It supports the conceptual framework by justifying the inclusion of measurable determinants such as quality of care and technology, as they are grounded in empirical evidence. Hospital managers who adopt EBMgt practices are more likely to leverage data-driven interventions to enhance performance, thereby aligning organizational practices with proven strategies (Straus et al., 2011). EBMgt also underscores the importance of training and professional development, thereby reinforcing the role of human capital in organizational success.

The Public Interest Theory of Regulation, articulated by Posner (1974) and Stigler (1971), provides the foundation for understanding the moderating role of government regulation in the study's

conceptual model. It posits that regulations are designed to correct market failures and promote societal welfare. In this context, effective regulations can enhance hospital performance by ensuring standardization, protecting patients, and incentivizing efficiency (Pigou, 1938; Shleifer, 2005). Conversely, overly rigid regulations may suppress innovation and financial sustainability. This theoretical perspective supports the inclusion of government regulation as a moderating variable that shapes the interaction between hospital performance determinants and outcomes. Together, these theories offer a comprehensive rationale for the study's conceptual framework, integrating internal, external, and regulatory dimensions of private hospital performance.

2.4. Conceptual Literature

2.4.1. Organisational Performance of Private Hospitals

Organisational performance of private hospitals entails the comparison between the actual output of a private hospital and the pre-determined objectives and goals, and features both financial and non-financial metrics (Abubakar & Wainaina, 2019). Morgan et al. (2016) examined the performance of private sector health care. Their study found that patient characteristics, public and private sector structures, and sector regulation influenced the delivery of the types of healthcare services together with the outcomes. Enhancing private sector performance necessitates interventions targeting the sector as a whole rather than individual providers. The study underscored the intrinsic linkage between private sector performance and public sector structure and performance, indicating that optimizing private health sector benefits requires a regulatory response encompassing the entire health sector. The study exhibited contextual gaps due to the lack of institutional context.

The first indicator of performance is patient readmission rates. Upadhyay *et al.* (2019) studied the influence readmission rates have on hospital financial performance in Washington hospitals. The study established that higher patient readmission resulted in increased revenues for hospitals and reduced costs associated costly treatments associated with unnecessary readmissions. This finding has supported the significance of patient readmission rates as an indicator of performance.

The second indicator of performance is bed occupancy rate. Bosque-Mercader and Siciliani (2023) investigated the association between bed occupancy rates and hospital quality in the English

National Health Service. The study found that low bed occupancy rates were symptomatic of operational inefficiencies owing to underutilisation; while higher bed occupancy rates were also indicators of a health system that is overwhelmed that may lead to the incidence of undesirable practices such as premature discharges, staff overload, and overcrowding. This finding confirmed the suitability of bed occupancy as an indicator of performance. The study was focused on hospital quality rather than performance and bed occupancy rather than on general determinants of performance which were conceptual gaps, while the generalised institutional context was a contextual gap. Siyoto and Tule (2019) indicated that the ideal Bed Occupancy Rate (BOR) value was 60-85%, and that low BORs require managerial intervention to enhance efficiency by initiating hospital resource evaluation and planning as well as system approach, market and utility analyses. This finding confirmed the suitability of bed occupancy as an indicator of performance. The main knowledge gaps identified were the specific focus on BORs rather than on general determinants of performance which was a conceptual gap while the focus on one public hospital represented a contextual gap.

The third indicator of performance is length of stay. In a study on variables affecting length of hospital stay Buttigieg *et al.* (2018) established that determinants of hospital length of stay included skill of the nursing care, recovery of physical health, relief from pain, recovery from distress and anxiety, and doctor's clinical experience, all of which influenced the level of patient satisfaction since they speak to the reputation of the hospital. This signified that length of hospital stay plays an importance role in expressing patient satisfaction. The study only focused on hospital length of stay rather than on general determinants of performance which was a conceptual gap while the use of a scoping review research design was a methodological gap. Onditi (2022) carried out a study on the factors affecting length of stay at accident and emergency department in a teaching and referral hospital in Nairobi. The study affirmed that the determinants of length of stay in hospital were the adequacy of staff numbers per shift, level of efficiency at diagnosis stations, availability of a resident emergency physician, and continuous medical evaluation on emergency care. This signified that length of hospital stay plays an importance role in expressing patient satisfaction.

Organizational performance, as a broad concept, has been examined extensively in various sectors. Richard et al. (2009) highlighted that measuring organizational performance serves multiple

purposes, including identifying improvement areas and enhancing decision-making processes. Murali et al. (2017) further noted that benchmarking performance enables organizations to evaluate their achievements relative to peers, thus fostering competitive advantage. Additionally, Doval (2020) defined organizational performance as the alignment of actual outcomes with predetermined objectives, underscoring its role in strategic management. In the hospital context, Upadhyay et al. (2019) explored how patient readmission rates influence hospital financial performance, concluding that higher readmissions often correlate with elevated costs and reduced efficiency. Similarly, Bosque-Mercader and Siciliani (2023) investigated the impact of bed occupancy rates on healthcare quality in the English NHS, finding that both underutilization and overcrowding signify inefficiencies. Buttigieg et al. (2018) examined the determinants of hospital length of stay, emphasizing its significance in shaping patient satisfaction and overall hospital performance.

2.4.2 Determinants of Performance of Private Hospitals

In order for organisations to determine how well they are performing; they need to utilise performance measurement tools. Ana-Maria *et al.* (2010) identified a number of modern instruments for measuring organisational performance including: the Balanced Scorecard, which was introduced by Robert Kaplan and David Norton in the early '90s, sought to provide organisations with the possibility to ensuring enhanced clarity of strategies and vision, and their conversion into action by focusing on the specific needs of each category of stakeholder; the Deming model, which was proposed by Edwards Deming in 1986, involved a complete overhaul of the conventional approach focusing on any changes that happen at every phase of the production process and the identification of the underlying reasons for variances as well as the resolution of these variances so as to ensure the reduction of defects and continuous improvement of quality; and the Baldrige Model, which was introduced by Malcom Baldrige in 1995, focused on the extraction of performance measurement standards from business strategy and the provision of factual data and information pertaining to major processes, productivity and outcomes.

Before focusing specifically on hospitals, it is important to understand the broader determinants of organizational performance across sectors. Key drivers include strategic planning, effective leadership, organizational structure, culture, innovation capacity, and the ability to adapt to

environmental changes (Elena-Iuliana & Maria, 2016). Additionally, employee competencies, customer satisfaction, financial management, and operational efficiency play crucial roles in shaping performance outcomes (Demeke & Tao, 2020). External factors such as market dynamics, technological advancements, and regulatory frameworks also significantly influence how organizations perform. These determinants provide a foundational understanding for assessing performance in specialized sectors like healthcare and, more specifically, private hospitals.

Determinants of private hospital performance include various factors such as market dynamics, organisational structure, quality of care, resource allocation, patient satisfaction, organisational culture, the level of technology, training and development, data analytics, and the level of profitability (Asbu et al., 2020). As far as this study is concerned, the determinants of private hospital performance which will be examined include hospital readmission rates, bed occupancy rates, and length of stay.

Hospitals in general and private hospitals in particular have a number of key stakeholders including patients (the end users of healthcare services); employees (the hospital staff including doctors and nurses); suppliers (the vendors who supply critical essentials including medical equipment, oxygen cylinders and protective gear); the government (representatives of the ministry in charge of health and regulators); board of directors; pharmacists; caterers; labour unions; local residents from the neighbourhood; local business community; the media; other hospitals; and political pressure groups (Ramachandran, 2019). In the unique circumstances of PPP models of healthcare service delivery, there are more stakeholders to consider including the public partners, NGO sub-contractors, the finance ministry of the government (Khan & Puthussery, 2019).

There are a number of determinants of private hospital performance. The first one is hospital readmission rates. According to a study by Foroutan *et al.* (2022) that was conducted between January 2010 and March 2021, patients with risky conditions such as heart failure exhibited different levels of readmission across the world with an estimated 13.2% of 1.5 million individuals at risk being readmitted in US private hospitals within 30 days and 35.7% were readmitted within a 1-year period. Muruiki *et al.* (2021) examined the associated factors of hospital readmission rates in county hospitals in Kenya and established that there was an average readmission rate of 10.2% between March and June 2019 while the associated factors included comorbidity (26.83%),

provision of incorrect drug dosages (29.26%), and common ailments such as pneumonia, meningitis and gastroenteritis (63.4%). Connon *et al.* (2021) studied incidence and predictors of hospital readmission in children presenting with severe anaemia in Uganda and Malawi over a 180-day period and found that 18% were readmitted.

The second determinant of private hospital performance is bed occupancy rates. In a study conducted by the OECD (2021), it was established that in 2021 there was an average bed occupancy rate of 69.8% across the 28 OECD countries with the rate increasing to 85% in three of the countries, namely: Canada, Israel and Ireland. Aloh *et al.* (2020) investigated the hospital occupancy rate in hospitals in Southeast Nigeria and established that over a period of 6 years between 2011 and 2016, the average bed occupancy rate in the region was 42.14% which was way below the expected standard of 80-85%. Barasa *et al.* (2020) conducted an assessment of the hospital surge capacity in Kenyan health system in the face of COVID-19 pandemic and determined that there was a bed occupancy rate of 24% in general hospitals owing to resource constraints particularly in the ICU.

The third determinant of private hospital performance is length of stay. Zhao *et al.* (2020) examined trends in hospital admission rates and associated direct healthcare costs in Brazil between 2000 and 2015 and found that there was a reduction in the average length of hospital stay in hospitals of 0.04 days/year from the year 2000 such that the average length of hospital stay in 2015 was 5 days. The study also established that the most common reasons for admission were circulatory diseases with children and the elderly being most susceptible. Sarfo *et al.* (2017) investigated the average length of stay of patients in the medical wards at the Cape Coast Teaching Hospital in Ghana during the first half of 2015 and established that the average length of stay was between 4.5 and 7.4 days with the majority of patients (32%) falling within the 65-89 year old group, more females (57%) admitted, and the majority of patients being married (56%). Ogolla (2021) conducted a study on duration of hospital stay post-discharge and associated factors in children with malignancies age 0 to 14 years at Kenyatta National Hospital, Kenya between July 2019 and June 2020 and found that the duration of hospital stay ranged between 1 day and 42 days with a median of 12 days.

Nderitu (2016) established that service quality is one of the most critical determinants of performance of private hospitals in Kenya and identified tangibility, assurance, responsiveness and empathy as the most important indicators of service quality. Accordingly, the study recommended that employees of private hospitals undergo training in these aspects of service quality. This was limited by the fact that it only focused on service quality as a determinant of performance thereby ignoring many other factors and that it was situated in Mombasa County whose unique characteristics may not apply to other geographical regions. Davoud *et al.* (2013) found that as far as patients in private hospitals in Tehran were concerned, the most important aspect of performance was the level of experience and skill of the doctors followed by the level of care and consideration of the staff, accessibility of the doctors after receiving treatment, and doctors' recommendations. The study focused on only the experience and skill of the doctors as determinants of performance which is also a conceptual gap. Gioko and Njuguna (2019) affirmed that in order for private hospitals in Kenya to perform optimally, the management need to have a clear vision and direction about where they see organisations going by establishing achievable goals that are translatable into financial targets. The implementation of the goals calls for the right blend of capital and human resources. The study was focused on strategic planning practices as determinants of the performance of private hospitals leaving out many other factors thereby exposing a conceptual gap.

Matsuma *et al.* (2017) determined that some of the private hospitals in Mombasa County, Kenya experienced diminished performance owing to weak correlations between organisational structure, human resources and the adequacy of resources in general. Additionally, the hospitals were also unable to carry out effective monitoring and evaluation which has also hampered their performance. This study had conceptual gaps since it focused on the three determinants of performance to the exclusion of any other factors. Abubakar and Wainaina (2019) found that private hospitals in Kilifi County, Kenya suffered from high staff turnover due to the inability to offer competitive terms of service for the staff which led to poor organisational efficiency and loss of critical knowledge. This study overlooked many other determinants of performance and focused on staff turnover which was a conceptual gap. Additionally, the choice of Kilifi County limited the generalisability of the findings of the study.

Morgan et al. (2016) examined the performance of private sector health care. Their study found that patient characteristics, public and private sector structures, and sector regulation influenced the delivery of the types of health services together with the outcomes. The interaction of these factors, along with the size, objectives, and technical competence of private providers, shaped sector performance in different contexts. Enhancing private sector performance necessitates interventions targeting the sector as a whole rather than individual providers. The study underscored the intrinsic linkage between private sector performance and public sector structure and performance, indicating that optimizing private health sector benefits requires a regulatory response encompassing the entire health sector. The study exhibited contextual gaps due to the lack of institutional context.

Adesanya *et al.* (2012) explored the responsiveness of private and public hospitals in Lagos, Nigeria. The researchers applied a cross-sectional, quantitative survey issuing questionnaires to 520 healthcare users in Lagos, Nigeria. According to the results, there was a higher level of satisfaction among the private hospital users with the choice of healthcare provider than their public hospital counterparts due to the latter's capacity deficiencies. This study had contextual gaps given the expanded scope of both private and public hospitals; methodological gaps given the choice of research design; and conceptual gaps given the focus on responsiveness as a specific aspect of performance. Maphumulo and Bhengo (2019) used empirical literature review of computer-assisted data bases and bibliographies including Cumulative Index to Nursing and Allied Health Literature, EBSCOhost, Google, Medline, Google Scholar and ScienceDirect. Seventy-four articles were examined on problems relating to quality care delivery and strategies employed in the improvement of healthcare in South Africa. The results showed that despite the initiation, adaptation, modification and testing of several quality improvement programmes, there has been little impact on the delivery of the requisite level of quality service. The study had methodological gaps due to the choice of research design; and conceptual gaps given the specific focus on quality as a measure of performance.

A study was conducted by Bwana (2022) on efficiency determinants in Tanzanian private hospitals. The study's target population was medical staff from 17 private hospitals and collected the annual reports from these hospitals for the period between 2002 and 2013. It applied the Data envelopment analysis non-parametric approach to conduct the measurement of hospitals'

efficiency. According to the findings, the use of the Public Private Partnerships (PPP) model has been successful in ensuring the improvement of the efficiency of private hospitals owing to the sharing of resources. The study had methodological gaps given the choice of research design; contextual gaps given the use of the PPP model; and conceptual gaps since it focused on efficiency only as an indicator of performance.

The performance of private health facilities in Kenya as found by Moturi *et al.* (2022) is determined by service provision, quality of care, and the socioeconomic considerations of households, with an increasing number of households (47%) in the poorest quartile of Kenyans using private facilities; and an estimated 11% of Kenyan households incurring catastrophic healthcare expenses and 1.48 million experiencing debilitating impoverishment on an annual basis owing to out-of-pocket healthcare expenses. Additionally, Gatome-Munyua *et al.* (2015) established that most private health facilities below level 3 experienced poor quality of service with those at level 2 scoring an average approval rating of 41%, those at level 3 scoring an average of 45% while those at level 4 had an approval rating of 68% mainly due to superior resource capacity. However, this superior performance came at a cost with the average level four private hospital charging up to three times for the average in-patient visitation than the average level three private hospital.

2.4.3. Government Regulations

Government regulations refer to the legal frameworks, standards, and policies established by authorities to ensure that organizational activities meet public expectations related to safety, quality, and accountability. In the healthcare sector, particularly among private hospitals, regulations serve as tools to standardize service delivery, enforce ethical practice, and promote equitable access. In Kenya, the Health Act of 2017 provides the legal basis for regulating private hospitals, establishing mechanisms such as the Kenya Health Professionals Oversight Authority (KHPOA) to license professionals and facilities (Republic of Kenya, 2017).

Conceptually, government regulation can be categorized into three dimensions: public health policies, safety standards, and quality enforcement. These can be measured through indicators such as the existence and implementation of policies on universal healthcare, compliance with clinical

and safety protocols, and the regularity and scope of inspections or audits (Yousefinezhadi et al., 2017; Guerrini et al., 2018).

As a moderating variable, government regulation shapes how internal organizational factors influence performance. For instance, regulatory mandates on electronic health records can enhance the effectiveness of technology by streamlining workflows and reducing errors (Alolayyan et al., 2020). Similarly, patient safety regulations can reinforce the role of quality care in improving patient satisfaction and outcomes (Prates et al., 2021). However, if regulatory compliance costs are high or enforcement is inconsistent, the positive impact of cost efficiency or human capital investment may be weakened. Thus, regulation can either strengthen or suppress the relationships between performance determinants and organizational outcomes, depending on its design and execution (Subiyakto & Sebastian, 2020). Understanding this interplay is essential in evaluating hospital performance within a regulated health system.

2.5. Empirical Review

The section systematically assesses existing literature that seeks to answer the research questions.

2.5.1 Cost Efficiency and Organisational Performance

Cost efficiency is a critical determinant of hospital performance (Moses et al., 2021). Private hospitals in developing countries are generally high-cost facilities. This is partially due to the inadequate number of health facilities in the public sector (Zeng et al., 2022). Such a situation exacerbates the demand for private medical treatment. Demand far exceeds supply, leading many private medical institutions to maximize their profits. Consequently, this kills the humanistic care of professional patients at these private health facilities. The main challenge of such facilities is cost efficiency. Efficient, profitable management of private hospitals in the outlying countries can be challenging.

The first indicator of cost efficiency is the level of price offering. The price is defined as the determined charges by a seller for a product or service in order to facilitate a commercial exchange with a buyer; while the price offering is the determined final price that an organsiation is willing

to accept from buyers in the marketplace (Baines *et al.*, 2017). A study by Appida *et al.* (2019) established that there is a moderately significant and negative correlation between price and the patient's choice of private hospital; and that private hospitals are increasingly turning hotel pricing strategies where there are flexible prices on the basis of what the patient is paying for with the highest prices going for the deluxe product offering featuring accommodation in the top of the range wards, five star hotel quality three course meals, and other hospitality components.

Mwangi (2015) examined the influence marketing strategies had on the private hospital's performance in Nairobi County, Kenya. It was determined that private hospitals tended to charge high prices owing to the high costs involved in providing health services, and some of the more high-end private hospitals resorted to niche pricing where they targeted the more affluent customers. This finding exhibits consistency with the current study's first objective. The focus on marketing strategies rather than general determinants of performance was the main point of divergence and represents a knowledge gap that will be addressed by this study.

The second indicator of cost efficiency is the value proposition of services. Hassan (2012) referred to value proposition as an obvious promise that an organization makes to its customers regarding the bundled benefits that it anticipates to deliver; or a formal written statement that explains the manner in which the organization will generate enhanced customer-oriented interactions that will convince them to consumer more of the product or service. Gorski *et al.* (2016) found that the principle mHealth value proposition is the reduction of costs through the provision of a viable alternative to the costly travels to hospitals or clinics by removing the need for face-to-face appointments, offering doctor hotlines, electronic access to information by local medical professionals to doctors, and the use of self-screening technologies. The focus on mHealth projects specifically as well as on value propositions are points of divergence from this study which is focused on determinants of performance of private hospitals in general thereby demonstrating a knowledge gap. These findings are aligned with the present study objectives related to technology, cost efficiency, human capital, and quality of care.

Press *et al.* (2015) examined the insights into in-patients with poor vision by focusing on a high value proposition and found that hospitals seek to enhance the value proposition of their services by integrating health care payment systems that led to the reduction of errors. This finding exhibits

consistency with the current study especially on the objective relating to the quality of care issued. The more specific focus on inpatients with poor vision as well as high value propositions makes this study too narrow in its treatment of hospital performance which is a gap that will be addressed here.

The third indicator of cost efficiency is associated customer benefits. Worlu *et al.* (2016) carried out a study on effective customer experience management (CEM) in health-care sector of Nigeria. It was discovered that, through the integration of CEM, health facilities in developing nations are able to ensure customer loyalty by offering discounts for returning customers as part of customer loyalty programs as discounts credits for those customers who have referred other patients to the health facility. This finding correlates strongly with the present study's specific objectives related to quality of care, technology and human capital. The narrow focus on CEM and the different geographical context of Nigeria are two points of divergence that will be addressed in this study.

2.5.2 Quality of Care and Organisational Performance

The quality of healthcare has been recognized as a pivotal determinant influencing the performance of hospitals, and overall health systems. A hospital that provides better quality care is expected to achieve better health status outcomes, a higher level of patient satisfaction, and consequently a better reputation in its community (Zeng et al., 2022). In the context of the worldwide trend towards providing quality care to all hospital patients, a focus shift from increasing outputs to maintaining higher efficiency under certain inputs has characterized health policy debates. Indeed, the measurement and analysis of quality care in healthcare services have been central concerns of hospital management in developed countries, and they also potentially offer valuable implications for the health systems in developing countries. It is argued that hospitals can improve quality of care by adhering to clinical guidelines and standards, which will, in turn, generate optimal patient outcomes. Ensuring safe healthcare effectively represents the achievement of optimal patient outcomes first. A focus on patient safety ultimately includes the whole range of activities to prevent and control risks in care delivery, besides hygiene and protection against infections. Quality of care is a determination of whether or not access to needed and effective proper health structures and processes of care can be provided to individuals by health facilities (Woo et al., 2017).

The first indicator of quality of care is the level of responsiveness to patient needs. A study on hospital responsiveness and its effect on overall patient satisfaction in Iran by Kashkoli *et al.* (2017) found that hospitals are supposed to be in-tune with the needs and expectations of patients so that they can establish mechanisms for quickly responding to them so as to lead to improved customer satisfaction. This finding is aligned with the quality-of-care objective of the present study. Njuguna *et al.* (2019) focused on the influence of patients' rights charter on health systems responsiveness in selected counties in Kenya. The findings indicated that primary healthcare facilities were committed to upholding the requirements of the patients' rights charter which was responsible for enhancing the responsiveness of the leadership and governance of the health systems.

The second indicator of quality of care is the level of patient safety. Prates *et al.* (2021) assessed the safety culture of patients in a private general hospital in Brazil and determined that private hospitals have been more successful at integrating a patient safety culture due to the generally higher level of resource investment in training of staff in safety, and the commitment of the supervisors to promoting patient safety. This is well aligned with the quality-of-care objective of this study particularly as it relates to private hospitals. A study was conducted by Almansour *et al*. (2023) on the hospital culture of patient safety in a Saudi Arabian private hospital. The study determined that the key determinants of patient safety culture were managerial support for patient safety, team work within units, and organisational learning – continuous improvement. This finding provides a foundation for establishing the determinants of patient safety in the present study. The main gaps in the knowledge were the Saudi Arabian geographical context and the narrower focus on hospital culture of patient safety.

The third indicator of quality of care is adherence to standard protocols. Oh and Choi (2019) examined the factors influencing the adherence of nurses to standard precautions in South Korea hospital settings. The study found that the most critical determinants included the knowledge of standard practices and protocols, training in standard protocols, nurses' attitude towards standard practices and protocols, and administrative support. This is consistent with the present study in terms of its focus on the enhancement of quality of care through improved understanding of standard practices and protocols. The main gaps in the knowledge were the South Korean geographical context and the narrower focus on adherence of nurses to standard precautions. A

study by Meyer *et al.* (2017) found that the country's medical industry has institutionalised several measures aimed at enhancing adherence to standard protocols including the instigation of Medicine Procurement Units in provinces to improve supply chain management, the establishment and policing of Standard Treatment Guidelines, and enhanced concentration on the reduction of antimicrobial resistance. These findings are aligned with the present study's specific objective of quality of care especially the standard protocols.

2.5.3 Human Capital and Organisational Performance

Available literature reveals that the performance of an organization is determined by the competencies of the work force (Atieno, 2018). In healthcare, personnel are the primary means by which services are offered and as such, qualified personnel are needed for quality care. Furthermore, quality care cannot be delivered in the absence skilled personnel that in situation presents diagnosed illnesses accurately. Training of workers aims at empowering the workforce with demand driven knowledge, skills, attitude and ethical practice. There is a post training gap as where trained personnel do not get employed or get employed much later. Exposing the trained to the field during training through attachment is one way to make the students employable which is useful for the policy makers and practitioners. Health care training institutions and the industry are expected to use the dropout survey results in counselling the students on the identified dropout factors. Human Capital refers to individuals that possess capabilities that typify them and are constant irrespective of their social environment and can be leveraged in exchange of economic resources in the labour market (Matei & Ceche, 2018).

The first indicator of human capital is the level of motivation. Nyaboga and Muathe (2022) conducted a study on motivation and the performance of health workers in Kenya's public hospitals. The study determined that healthcare personnel in public hospitals are principally motivated by good pay, career advancement, job recognition, and conditions in the workplace, all of which led to enhanced employee performance. This finding correlates strongly with the present study's specific objective of establishing the influence human capital had on performance. The main knowledge gap in this study was the focus on public hospitals rather than private.

The second indicator of human capital is the level of productivity. Owino *et al.* (2019) established that the most effective performance management systems in referral hospitals were those that focus

on a holistic perspective of employee productivity where aspects such as planning, feedback and rewards rather than on only singular aspects such as performance appraisals. This finding sets the tone for determining the strength of the correlation between productivity as a component of human capital and performance. The identified knowledge gaps were the focus on performance management systems and employee productivity rather than on more generalized determinants of performance, as well as the institutional context of county referral hospitals rather than private hospitals. Kandie and Chepkilot (2022) found that one of the most effective means through which private hospitals were able to enhance employee productivity was by integrating policies that addressed time management practices as part of work scheduling and prioritization. This finding correlates strongly with the present study's specific objective of establishing the influence of human capital on performance. The main knowledge gaps were the focus on work scheduling and employee performance rather than on general determinants of performance, as well as the geographical context of Uasin-Gishu County rather than Nairobi County.

The third indicator of human capital is the level of training. A study was conducted by Diab and Ivelia (2018) established that in recognition of the importance of training in the enhancement of the performance of health workers, the hospital allocated adequate resources for conducting training; however, the study also found that many of the trainings were dominated by the more senior staff such as ward managers leaving out subordinate staff. This finding correlates strongly with the present study's specific objective of establishing the influence of human capital on performance. The primary knowledge gaps identified were the narrow focus on training and the geographical context of Kakamega County.

2.5.4 Technology and Organisational Performance

Technology was derived from the Greek word "Techne" meaning "skill" and "art" and refers to the application of human made tools and techniques to enhance the manner of accomplishing tasks, activities or work (Carroll, 2017). The first indicator of technology is the effectiveness of health information systems. A study by Orang'i *et al.* (2019) established that despite the integration of health information systems (HIS), the use of healthcare medical technology as well as the adoption of interoperability policies, much more needs to be done in order to optimize the use of HIS such as the training of the staff and the enhancement of the adaptability of the hospital architecture. The

knowledge gaps include the focus on HIS rather than on general determinants of performance. Mwaniki (2017) determined that public health facilities in Meru County have installed several systems on record keeping, disease management, financial management and human resource management which have enhanced service delivery. However, the study also found that patients' health records should be provided on a timely basis to health personnel. The knowledge gaps were the narrowed focus on HIS and service delivery rather than on general determinants of performance, as well as the different geographical context of Meru County.

The second indicator of technology is the level of error reduction. A study by Alolayyan *et al.* (2020) found that HITs reduced medical errors which is critical for the avoidance of litigation costs provided the health facility has allowed access to complete patient data. This finding on HITs reflects the prioritization by hospitals on technology enhancement as a determinant of performance. The identified knowledge gaps are the focused treatment of HITs and the different geographical context of Saudi Arabia. Gathungu (2018) established that records digitalization by private hospitals in the two counties has reduced diagnosis and prescription errors and led to a reduction of error-related deaths. This is aligned strongly with the present study's objective of influence of technology on performance. The main knowledge gaps are the focus on digitization of medical records rather than general determinants of performance.

The third indicator of technology is the alignment of technology with organizational strategies. Muathe *et al.* (2019) determined that the acceptance of technology by the management of hospitals is one of the most importance outcomes of positive user perceptions which acted as a moderator of the association between information technology integration and performance. This is aligned strongly with the present study's objective of influence technology had on performance. The main knowledge gaps were the focus on user perception and information technology, as well as the institutional context of public hospitals. Similarly, Naidu and Alicia (2019) discovered that for planning purposes, the incorporation of technology into the vision and strategy of a health organisation enables the success of the implementation of the technology owing to closer linkages between the technology and the organisational objectives. There is a definite linkage between these findings and the present study's objective of the influence of technology on performance.

2.5.5 The Moderating Effect of Government Regulations on Organisational Performance

The operations of private hospitals in Kenya are regulated through the Health Act of 2017 which seeks to establish a unified health system, ensure quality of care, and regulate healthcare services (WHO, 2020). The primary thrust of this legislation is the application of a robust governance of the health system in a more holistic manner where both public and private sector healthcare concerns are addressed to enhance healthcare outcomes under universal health coverage (WHO, 2020).

Performance of hospitals specifically in developing countries has attracted attention in recent years (Atieno, 2018). Like its neighbors, Kenya is also witnessing a growing concern about the performance of its hospitals in the wake of imposed liberalization policies by the government. Although measures to improve hospital performance can be traced, following a rapid increase of private hospitals within the health care industry, not much is documented on the performance of hospitals in Kenya, especially private hospitals. The hospital sector is an intensive, highly regulated industry facing numerous political and organizational constraints since the past two decades. Regulations play a critical role in governing the complex, highly technical and risky sector of healthcare delivery, yet are often criticized for restricting the autonomy and creativity of hospitals while doing little to contain costs. Even though rules are intended to insure appropriate quality and access and limit monopoly power, it is possible that the regulatory behavior actually cause the adverse effect. On the contrary, some supportive regulations can lead to increased competition, efficiency gains and institutional adaptability, and thereby increase variety in organizational innovation and diversification of activity.

The first indicator of government regulations is public health policies. Guerrini *et al.* (2018) explored determinants in a competitive environment by focusing on hospital efficiency in public versus private hospitals. The study discovered that given the increased level of competition in private hospitals in India, they have been compelled to ensure high levels of performance including high standards of compliance to healthcare standards through the integration of public health policies. This indicates that the integration of public health policies has facilitated improved performance levels as envisioned by the present study. The key knowledge gaps are the focus on

hospital efficiency and the different geographical context of Italy. Prang *et al.* (2018) determined that given the advent of the internet, patients have easy access to information pertaining to government public health policies in developed countries such as Australia, thus there is a heightened level of expectations by patients regarding the standard of healthcare in private hospitals which has compelled these hospitals to ensure compliance accordingly. This finding demonstrated the strength of government regulations as a moderator of private hospitals' performance. The identified knowledge gaps were the focus on public performance reporting and the different geographic context.

The second indicator of government regulations is the safety standards in healthcare. Yousefinezhadi *et al.* (2017) conducted an analysis of hospital accreditation policy in Iran. The study affirmed that whilst there was extensive involvement of stakeholders in the healthcare industry in the establishment and implementation of safety standards in the country's health facilities, many players in the industry were adversely affected by lack of managerial commitment, deficient physician involvement, and resource constraints. This finding has demonstrated the strength of government regulations as a moderator of the performance of private hospitals. This study failed to examine the general determinants of performance and it was carried out in a different geographical context. Blass *et al.* (2017) carried out a study on measuring environmental performance in hospitals and posited that many hospitals involved in the study lacked a formalised environmental strategy which has left them vulnerable to some environmental hazards. This finding has indicated the strength of government regulations as a moderator of the performance of private hospitals since the lack of regulations governing environmental hazards has hampered performance. This study only focused on environmental performance rather than on general performance and the institutional context was general hospitals rather than on private hospitals.

The third indicator of government regulations is policing of healthcare quality. Subiyakto and Sebastian (2020) ascertained that hospitals in urban areas of Indonesia had been compelled by the pressure from increasingly knowledgeable patients to improve the quality of their healthcare, additionally, the Government had become more actively involved policing the implementation of quality standards. However, owing to resource constraints the Government was unable to do the same for hospitals in the rural areas. This finding has indicated the strength of government regulations as a moderator of private hospitals' performance since the lack of policies on the

implementation of quality standards has hampered performance of hospitals in rural areas. The knowledge gaps in this study include the focus on service quality performance rather than on general determinants of performance; and the different geographical contexts of Indonesia.

2.6 Gaps in Literature

Whilst Appida *et al*. (2019) covered pricing as a component of cost, its narrow focus left a huge knowledge gap for this study to fill given its more generalized focus on determinants of performance. Mwangi (2015) focused on marketing strategies rather than general determinants of performance was the main point of divergence and represents a knowledge gap that will be addressed by this study. Gorski *et al.* (2016) focused on mHealth projects specifically as well as on value propositions which are points of divergence from this study which is focused on determinants of performance of private hospitals in general thereby demonstrating a knowledge gap. Press *et al.* (2015) had a more specific focus on inpatients with poor vision as well as high value propositions making this study too narrow in its treatment of hospital performance which is a gap that will be addressed here.

Kashkoli *et al.* (2017) focused on a different geographical location of Iran and the narrower focus on hospital responsiveness and patient satisfaction were the main points of divergence and gaps in the knowledge base that will be addressed by this study. The specific nature of the study variables in Njuguna *et al.* (2019) was a clear point of divergence that needs to be addressed by this study. Prates *et al.* (2021) focused on patient safety culture as the independent variable component and the geographical context of Brazil which have exposed knowledge gaps that will be addressed by this study. The main gaps in the knowledge in Alamansour *et al.* (2023) were the Saudi Arabian geographical context and the narrower focus on hospital culture of patient safety.

Nyaboga and Muathe (2022) focused on public hospitals rather than private. Okanga and Kamara (2017) had the narrowed focus on staff motivation and the institutional context of Thika level 5 hospital which is a public hospital. Owino *et al.* (2019) focused on performance management systems and employee productivity rather than on more generalized determinants of performance, as well as the institutional context of county referral hospitals rather than private hospitals. Kandie and Chepkilot (2022) focused on work scheduling and employee performance rather than on general determinants of performance, as well as the geographical context of Uasin-Gishu County

rather than Nairobi County. Diab and Ajlouni (2015) had specific focus on training and employee performance rather than on general determinants of performance, as well as the geographical context of Jordan. Orang'i, *et al.* (2019) focused on HIS rather than on general determinants of performance. Mwaniki (2017) had a narrowed focus on HIS and service delivery rather than on general determinants of performance, as well as the different geographical context of Meru County.

As far as the two theories are concerned, there were a number of gaps that need to be incorporated into the theories. The attribution theory can only be applied to the performance of hospitals in an indirect manner since it was originally proposed for general management situations. Thus, a more comprehensive linkage between the theory and hospital performance is needed. The EBMgt, whilst being more aligned with the medical profession, struggles to gain acceptance by practitioners owing to its negligence of generally accepted conventions and established opinions.

The summary of the literature review is captured in Table 2.1.

Table 2. 1: Summary of the Research Gaps

Study	Focus of Study	Findings	Research Gap	Focus of Current Study
Appida et al. (2019)	The influence of price on patient's choice of private hospitals in Mombasa County, Kenya	established that there is a moderately significant and negative correlation between price and the patient's choice of private hospital; and that private hospitals are increasingly turning hotel pricing strategies where there are flexible prices on the basis of what the patient is paying for with the highest prices going for the deluxe product offering featuring accommodation in the top of the range wards, five star hotel quality three course meals, and other hospitality components.	Whilst this research article covered pricing as a component of cost, its narrow focus left a huge knowledge gap for this study to fill given its more generalized focus on determinants of performance.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Mwangi (2015)	The influence of marketing strategies on the performance of private hospitals in Nairobi County, Kenya.	The study determined that private hospitals tended to charge high prices owing to the high costs involved in the provision of health services, and some of the more high-end private hospitals resorted to niche pricing where they targeted the more affluent customers. This finding is consistent with the first specific objective of the present study.	The focus on marketing strategies rather than general determinants of performance was the main point of divergence and represents a knowledge gap that will be addressed by this study.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

Gorski et al. (2016)	on value propositions of mHealth projects	Found that the principle mHealth value proposition is the reduction of costs through the provision of a viable alternative to costly travel to clinics or hospitals by removing the need for face-to-face appointments, offering doctor hotlines, electronic access to information by local medical professionals to doctors, and the use of self-screening technologies. These findings are aligned with the present study objectives related to technology, cost efficiency, human capital, and quality of care.	The focus on mHealth projects specifically as well as on value propositions are points of divergence from this study which is focused on determinants of performance of private hospitals in general thereby demonstrating a knowledge gap.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Kashkoli et al. (2017)	Hospital responsiveness and its effect on overall patient satisfaction in Iran	found that hospitals are supposed to be in-tune with the needs and expectations of patients so that they can establish mechanisms for quickly responding to them so as to lead to improved customer satisfaction. This finding is aligned with the quality of care objective of the present study.	The different geographical location of Iran and the narrower focus on hospital responsiveness and patient satisfaction were the main points of divergence and gaps in the knowledge base that will be addressed by this study.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Njuguna et al. (2019)	the influence of patients' rights charter on health systems responsiveness in selected counties in Kenya.	The findings indicated that primary healthcare facilities were committed to upholding the requirements of the patients' rights charter which was responsible for enhancing the	The specific nature of the study variables was a clear point of divergence that needs to be addressed by this study.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

		responsiveness of the leadership and governance of the health systems. Given that responsiveness is a critical indicator of quality of care as envisioned by the present study, it is clear that this is a point of convergence with the present study.		
Prates et al. (2021)	evaluated patient safety culture in a private general hospital in Brazil	Determined that private hospitals have been more successful at integrating a culture of patient safety due to the generally higher level of resource investment in training of staff in safety, and the commitment of the supervisors to promoting patient safety. This is well aligned with the quality of care objective of this study particularly as it relates to private hospitals.	The two primary points divergence were the focus on patient safety culture as the independent variable component and the geographical context of Brazil which have exposed knowledge gaps that will be addressed by this study.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Nyaboga and Muathe (2022)	Conducted a study on motivation and health workers' performance in public hospitals in Kenya.	The study determined that healthcare personnel in public hospitals are principally motivated by good pay, career advancement, job recognition, and conditions in the workplace, all of which lead to enhanced employee performance. This finding correlates strongly with the present study's specific objective of establishing the	The main knowledge gap in this study was the focus on public hospitals rather than private.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

		influence of human capital on performance.		
Okanga and Kamara (2017)	Investigated the influence of staff motivation on the performance of Thika level 5 hospital in Kenya.	The study established that job satisfaction and employee reward systems were the most popular motivators and tended to result in improved employee performance as measured by the average success rate per employee, and average number of patients' complaints. This finding aligns well with the present study's specific objective of establishing the influence of human capital on performance.	The main knowledge gaps were the narrowed focus on staff motivation and the institutional context of Thika level 5 hospital which is a public hospital.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Owino et al. (2019)	The influence of performance management systems on employee productivity in county referral hospitals of Kiambu County	Established that the most effective performance management systems in referral hospitals were those that focus on a holistic perspective of employee productivity where aspects such as planning, feedback and rewards rather than on only singular aspects such as performance appraisals. This finding sets the tone for determining the strength of the correlation between productivity as a component of human capital and performance.	The identified knowledge gaps were the focus on performance management systems and employee productivity rather than on more generalized determinants of performance, as well as the institutional context of county referral hospitals rather than private hospitals.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Orang'i et al. (2019)	Effect of healthcare information systems on	Established that despite the integration of health information	The knowledge gaps include the focus on HIS rather than	To establish the determinants of

	service delivery in private hospitals in Nairobi County, Kenya	systems (HIS), the use of healthcare medical technology as well as the adoption of interoperability policies, much more needs to be done in order to optimize the use of HIS such as the training of the staff and the enhancement of the adaptability of the hospital architecture. This finding is strongly correlated with the present study's objective of the influence of technology on performance of private hospitals.	on general determinants of performance.	performance of private hospitals in Nairobi County, Kenya.
Alolayyan et al. (2020)	on health information technologies (HITs) and hospital performance the role of health information quality in teaching hospitals.	Found that HITs enable the reduction of medical errors which is critical for the avoidance of litigation costs provided the health facility has enabled access to complete patient information. This finding on HITs reflects the prioritization by hospitals on technology enhancement as a determinant of performance.	The identified knowledge gaps are the focused treatment of HITs and the different geographical context of Saudi Arabia.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Muathe *et al.* (2019)	investigated the mediating role of user perception on the relationship between information technology integration and performance of selected	Determined that the acceptance of technology by the management of hospitals is one of the most importance outcomes of positive user perceptions which acts as a moderator of the relationship between information technology	The main knowledge gaps were the focus on user perception and information technology, as well as the institutional context of public hospitals.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

	public hospitals in Kenya	integration and performance. This is aligned strongly with the present study's objective of influence of technology on performance.		
Asbu et al. (2020)	Determinants of Hospital Efficiency: insights from the literature.	Established that there is no conclusive evidence that private hospitals, which tend to be smaller than public ones, are more efficient and perform better than their public counterparts. However, the study also found that based on a case by case assessment, it was apparent that smaller private hospitals were able to offer services faster than larger public hospitals owing to the fewer patients that the former have to attend to.	This study lacked a geographical context making it difficult to contextualize the findings.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Onyancha (2022)	The determinants of technical efficiency of public hospitals	affirmed that there was no correlation between either the hospital size when measured by the number of bed capacity or the catchment population and their technical efficiency. This confirmed the findings of Ali *et al.* (2017) and Oyieke (2021).	The main gaps in the study included the focus on public hospitals and the different geographical context of Kiambu rather than Nairobi.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Hirji et al. (2019)	Investigated the impact of hospital size on national trends and outcomes.	and determined that larger hospitals with their deeper resources were able to provide more specialized care for some of the difficult terminal conditions when compared to	The focus on national trends and outcomes rather than on organisational performance represented a conceptual gap.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

		smaller hospitals, thus leading to referrals from the latter to the former. Indeed, the larger hospitals have established a bigger name and reputation than smaller ones therefore influencing patients' choice of facility.		
Guerrini et al. (2018)	Explored determinants in a competitive environment by focusing on hospital efficiency in public versus private hospitals.	The study found that given the increased level of competition in private hospitals in India, they have been compelled to ensure high levels of performance including high standards of compliance to healthcare standards through the integration of public health policies. This indicates that the integration of public health policies has facilitated improved performance levels as envisioned by the present study.	The key knowledge gaps are the focus on hospital efficiency and the different geographical context of Italy.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.
Yousefinezhadi et al. (2017)	conducted an analysis of hospital accreditation policy in Iran.	The study affirmed that whilst there was extensive involvement of stakeholders in the healthcare industry in the establishment and implementation of safety standards in the country's health facilities, many players in the industry were adversely affected by lack of managerial commitment, deficient physician involvement, and resource	This study failed to examine the general determinants of performance and it was carried out in a different geographical context.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

		constraints. This finding has demonstrated the strength of government regulations as a moderator of the performance of private hospitals.		
Subiyakto and Sebastian (2020)	examined the government reform on healthcare facilities from the standpoint of service quality performance.	The study ascertained that hospitals in urban areas of Indonesia had been compelled by the pressure from increasingly knowledgeable patients to improve the quality of their healthcare, additionally, the Government had become more actively involved policing the implementation of quality standards. However, owing to resource constraints the Government was unable to do the same for hospitals in the rural areas. This finding has indicated the strength of government regulations as a moderator of the performance of private hospitals since the lack of policies on the implementation of quality standards has hampered performance of hospitals in rural areas.	The knowledge gaps in this study include the focus on service quality performance rather than on general determinants of performance; and the different geographical contexts of Indonesia.	To establish the determinants of performance of private hospitals in Nairobi County, Kenya.

Source: Author (2024)

2.7 Conceptual Framework

According to Ravitch and Riggan (2016), this particular framework establishes a foundational structure for identifying what is significant in a particular research study, thus facilitating the responses to the research questions (Ravitch & Riggan, 2016). Similarly, Adom et al. (2018) stated that it also ensures a systematic connection between concepts, empirical literature, and key theories, thereby supporting the articulation of the researcher's intended knowledge.

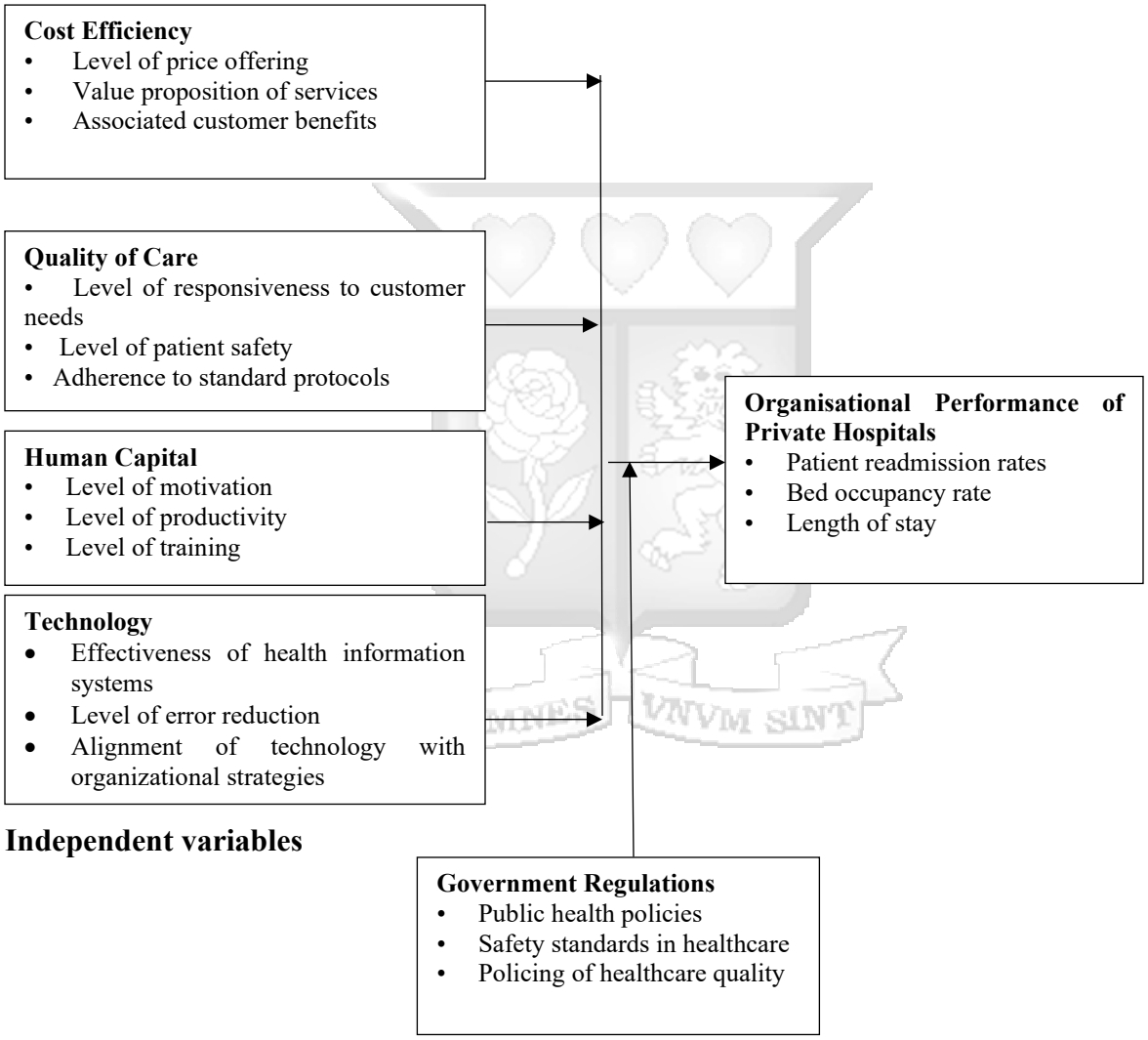

Figure 2. 1: Conceptual Framework

Source: Author 2024

2.7.1 Operationalisation of Variables

Operationalization is the process where research constructs and concepts are defined clearly, together with the procedures put in place to measure the constructs and concepts (Rao and Reddy, 2013). This is presented in Table 2.1 below.

Table 2. 2: Operationalisation of Variables, developed by Researcher.

Variable	Variable Type	Indicators	Measurement Scale	Sources
Cost Efficiency	Independent Variable	• Level of price offering	Ordinal	Appida et al. (2019); Gorski et al. (2016); Worlu et al. (2016)
		• Value proposition of services	Ordinal	
		• Associated customer benefits	Ordinal	
Quality of Care	Independent Variable	• Level of responsiveness to customer needs	Ordinal	Kashkoli et al. (2017); Prates et al. (2021); Oh and Choi (2019)
		• Level of patient safety	Ordinal	
		• Adherence to standard protocols	Ordinal	
Human Capital	Independent Variable	• Level of motivation	Ordinal	Nyaboga and Muathe (2022); Owino et al. (2019); Diab and Ajlouni (2015)
		• Level of productivity	Ordinal	
		• Level of training	Ordinal	
Technology	Independent Variable	• Effectiveness of health information systems	Ordinal	Orang'i et al. (2019); Alolayyan et al. (2020); Muathe et al. (2019)
		• Level of error reduction	Ordinal	
		• Alignment of technology with organizational strategies	Ordinal	
Hospital Size	Control Variable	• Number of beds	Ordinal	Asbu et al. (2020); Onyancha (2022); Hirji et al. (2019)
		• Number of patients attended to	Ordinal	
		• Net patient revenue	Ordinal	
Government Regulations	Moderating Variable	• Public health policies	Ordinal	Guerrini et al. (2018) Yousefinezhadi et al. (2017); Subiyakto and Sebastian (2020);
		• Safety standards in healthcare	Ordinal	
		• Policing of healthcare quality	Ordinal	

Organisational Performance of Private Hospitals	Dependent Variable	• Patient readmission rates	Ordinal	Upadhyay et al. (2019); Bosque-Mercader and Siciliani (2023); Buttigieg et al. (2018)
		• Bed occupancy rate	Ordinal	
		• Length of stay	Ordinal	

2.8 Chapter Summary

The chapter covered the theoretical framework then the empirical review of the study which featured the past studies conducted on the study variables. The chapter then discussed the research gap which demonstrated the points of divergence between the reviewed literature and the current study. Additionally, the conceptual framework showed the relationships amongst the study variables was illustrated. Finally, the summary of the reviewed literature was outlined.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The section describes different chapters of the research methodology pertaining the study including the research design, target population and sampling design, research quality, data analysis, and ethical considerations to be used in the current study.

3.2 Research Philosophy

Žukauskas et al. (2018) referred to research philosophy as the basis of the research that incorporates the acknowledged research strategy, formulation of the problem, data collection, processing and analysis. Saunders et al. (2011) explained that the selection of the most appropriate philosophy for business and management research is reliant upon the understanding of ontological assumptions (those related to the reality that researchers encounter during the course of the study); epistemological assumptions (these relate to assumptions pertaining to suitable, usable and genuine knowledge base of a piece of research); and axiological assumptions (these relate to role that ethics and values play in the process of research). Given that this research sought to understand the determinants of organisational performance, it applied a positivist philosophy since it sought to generate explanatory associations or causal relationships that result in better forecasting and control of the research phenomenon as explained by Park et al. (2020).

3.3 Research Design

Akhtar (2016) referred to research design as a plan set for accomplishing the objective of a research design and offers answers to the inquiries. The research design can be categorised into exploratory, descriptive, action research, longitudinal, experimental, cross-sectional, causal, cohort research and case study research designs (Pawar, 2020). The current study followed a descriptive research design as it facilitated the articulation of the attributes of the study participants since, according to Manjunatha (2019), it sought to shed more light on current issues or concerns through data collection in a manner that ensures the articulation of the study phenomenon more comprehensively.

3.4 Population of Study and Sampling Design

This is the entire grouping of units that provides the basis for making suggestions about the data of the survey (Lavrakas, 2008). The current study targeted five private hospitals in Nairobi County which were chosen purposively owing to the familiarity of the researcher with the five hospitals. More specifically, 200 participants were involved from the selected hospitals, who were also chosen purposively on the basis of the various categories of staff in private hospitals. This comprised the unit of observation. This is represented in Table 3.1.

Table 3. 1: Target Population of the Study

Hospital	Category of participants	Number of participants
Nairobi South Hospital	Doctors	5
	Registrars	4
	Residents	4
	Nurses	12
	Clinical Assistants	5
	Non-clinical Staff	10
St. Mary's Mission Hospital	Doctors	5
	Registrars	4
	Residents	4
	Nurses	12
	Clinical Assistants	5
	Non-clinical Staff	10
Avenue Hospital	Doctors	5
	Registrars	4
	Residents	4
	Nurses	12
	Clinical Assistants	5
	Non-clinical Staff	10
Nairobi Women's Hospital	Doctors	5
	Registrars	4
	Residents	4
	Nurses	12
	Clinical Assistants	5
	Non-clinical Staff	10
Nairobi West Hospital	Doctors	5

Registrars	4
Residents	4
Nurses	12
Clinical Assistants	5
Non-clinical Staff	10
TOTAL	200

Source: Human Resource departments from the various hospitals

The target population of this study comprises healthcare professionals working in private hospitals within Nairobi County, including clinical staff (doctors, nurses), administrative personnel, and hospital management. Although the sampling frame identified 25 registered private hospitals in Nairobi (as per Appendix 4), the study focused on only five facilities. This purposive narrowing was driven by logistical, financial, and time constraints associated with surveying all 25 institutions. The selected hospitals were chosen based on their diverse service levels, bed capacities, and patient volumes to ensure representativeness of the broader private healthcare sector in Nairobi. From each of the five hospitals, 40 respondents were sampled, leading to a total of 200 respondents. This number was determined using stratified random sampling, ensuring representation across various cadres of hospital staff while maintaining manageability of data collection and analysis. The sample size was also guided by prior similar studies and the Cochran formula for finite populations (Dalén, 1986).

For an infinite population, no = (Z^2* p.q)/e2

Where n_0 = required sample size for an infinite population

Z = Z-score (e.g., 1.96 for 95% confidence level)

p = estimated proportion of the population with the attribute (use 0.5 if unknown)

q = 1 – p, and

e = desired level of precision (margin of error, 0.05 for ±5%).

This gives

Sample n = (1.96^2 *0.5*0.5)/0.05^2 = 310.16

Since we are dealing with a finite population, the formula is adjusted as follows:

Sample n = n_o/ (1+ (n_o-1)/N, where N is the estimated total population, which is estimated at 700

= 310.16/1 + (310.16-1)/700 = 200.024 ≈200

3.5 Sampling Design

A sample size is defined by Shieh (2010) as the number of items picked from the general target population of a study. Kothari (2004) noted that it is typically impractical to carry out research on every item within a population, especially when the population is large, unless it is small. As a result, researchers typically focus on a sample, which represents a subset of the population. A sample frame, as defined by Lewis-Beck et al. (2004), is a list that helps define the population of interest and outlines the elements that the sample can be picked from. Contextually, the sample frame was drawn from five private hospitals in the county of Nairobi.

The sampling technique refers to the process by which researchers select a manageable subset of individuals, items, or subjects from the entire population. Researchers such as Taherdoost (2016) identifies two primary sampling methods, that is non-probability and probability sampling. Several techniques fall under probability sampling, they include stratified random sampling, cluster sampling, systematic sampling, and multistage sampling. Alvi (2016) affirmed that probability sampling techniques offer several advantages, including a higher likelihood of obtaining a more representative sample, as each item has an equal chance of being picked, which reduces bias and enhances the ability to generalize findings to the broader population. However, these techniques also have drawbacks, such as higher costs associated with developing the samples and the need for greater expertise and knowledge in the subject matter.

Non-probability sampling techniques include: judgement or purposive sampling, convenience sampling, snowballing sampling, and quota sampling (Taherdoost, 2016). Sharma (2017) highlighted that non-probability sampling techniques are typically less costly than probability techniques; however, they tend to be more susceptible to bias and offer less potential for

generalization. The current study adopted a purposive sampling technique since the researcher leveraged professional experience to identify and select hospital staff across five hospitals, in line with the recommendations of Singh and Masuku (2014).

3.5.1. Justifying the Sampling design

The decision to include respondents from different positions across the selected private hospitals was intentional and grounded in the study's aim to capture a holistic understanding of hospital performance from multiple functional perspectives. Organizational performance in healthcare settings is influenced by a range of interrelated factors, clinical, administrative, and strategic, which are best understood through insights from diverse roles. While aligning the study to uniform positions across all hospitals could offer ease of reference, it would risk omitting critical context-specific insights unique to each institutional structure. Since private hospitals differ in size, hierarchy, and operational models, applying a rigid, uniform respondent profile across all facilities could compromise the richness and representativeness of the data. Therefore, a stratified purposive approach was employed to ensure inclusion of key decision-makers and staff members with relevant knowledge and experience concerning performance determinants, consistent with the study's objectives.

3.6 Data Collection Methods

Instruments of data collection, as defined by Canals (2017), are techniques or tools employed by a researcher to collect relevant data on the research participants. The choice of instruments depends on the type of data to be gathered, that is, whether it is primary data (collected for the very first time by the researcher) or secondary data (based on previously conducted research). The study collected primary data using a structured questionnaire that was developed from the empirical research and administered to the sample population.

Given that the target population were members of the private hospital, the researcher administered the questionnaires physically with the aid of research assistants. The researcher handed out the letter of introduction informing the respondents (doctors, nurses, clinicians etc) about the nature of the study and sought verbal consent before administering the questionnaire. This data collection

exercise took two weeks. The access to these hospitals was granted by hospital administration upon prior contact requesting for permissions to conduct the study.

A questionnaire is an instrument designed to collect relevant data for analysis in experiments, survey research, and other observational methods. The construction of a questionnaire is driven by the primary objective of acquiring responses from participants, particularly their conclusions or opinions regarding the variables identified for the study. The questions within the questionnaire are carefully formulated to ensure accuracy, often using structured formats (Acharya, 2010).

For this study, the questionnaire was organized as follows: Section A contained the background information of the participants. Section B contained six structured questions aimed at examining the link between the dependent variable and the first independent variable. The relationship between the subsequent independent variables and dependent variables was examined in sections C, D and E. Section F also has six question that address the moderating variable, with the subsequent section G including six questions evaluating different aspects of the dependent variable. The questionnaire contained a five-point Likert scale to facilitate coding in SPSS; 1 representing strongly agree, 2 representing disagree, 3 representing neutral, 4 representing agree and 5 representing strongly agree.

3.7 Research Quality

Cooper and Schindler (2014) stated that research quality include various procedures implemented to ensure adherence to the set standards of the collection of data and analysis, ultimately ensuring the fulfilment of the study's objectives. This is explained in the subsequent sections. Some of these procedures involved obtaining approval from National Commission for Science, Technology, and Innovation (NACOSTI) to conduct the study.

3.8 Pilot Tests

The pilot test is a small study of a proposed research instrument which aims to evaluate its effectiveness for measuring or manipulating the target research elements (Van Teijlingen and Hundley, 2002). Research instruments include survey questionnaire, measurement scales, interview guidelines, stimuli set, pictorial aids, human resource manuals or other tools used in data collection. The purpose of a pilot test is to identify problems with the design and validity of the

research instrument (Arain et al., 2010). The pilot test results can be used in refining research instruments to improve reliability, validity, and contextual applicability. Feedback from the pilot test process can be used to refine the survey questionnaire, ensure that the questions are clear and to ensure the concepts are measured effectively. The researcher can refine the question framing until rhyme appears so that the respondents give answers quickly that save interview time. Adjusting the base according to the variable scale is also required so that the range of answers is broader. Following Perneger et al.'s (2015) recommendations, the current study involves 10% of the target population, amounting to 20 participants who were not part of the study population.

3.8.1 Validity Tests

The Validity Tests subsection discusses evaluating the research instruments to measure what they intended to measure. A number of routes of assessment of content, construct, and criterion-related validity are presented (Kimberlin & Winterstein, 2008). These include conducting expert reviews and employing a range of statistical analyses. Discussion of the empirical outcomes of these tests is fundamental for enhancing the credibility of the findings, and for inferring any theoretical implications that arise. Limitations regarding the ethics approval deadline are noted concerning validation and finalisation of the instruments. Particular interests mentioning findings that may be affected by the initial lack of basic evidence for the validity of the measures, and how, in spite of these limitations, enough evidence is provided to have reasonable confidence in the validity and reliability of the tools (Drost, 2011). The Validity Tests subsection provides a crucial methodological foundation for the research instruments. The validity of the instruments takes on added significance in the light of the separate literature that speaks to the effects of varying definitions of the performance constructs on empirical results.

The current study established content validity through the expertise of the supervisor, while criterion-related validity was ensured by providing each participant equal opportunities to respond to all questions without bias. Construct validity was assessed using exploratory component factor analysis, with a threshold of 0.5 adopted for factor loading values, in accordance with the guidelines of Beaver et al. (2019). The results of the construct validity tests are presented in Table 3.2. The findings indicated that all responses had extractions exceeding the 0.5 threshold,

suggesting an acceptable level of dissimilarity between the statements, thereby supporting the inclusion of all items in the instrument.

Table 3. 2: Construct Validity Results

Communalities

	Initial	Extraction
The hospital has turned to hotel pricing strategies where there are flexible prices on the basis of what the patient is paying for.	1.000	.758
The hospital has tended to charge high prices owing to the high costs involved in the provision of health services.	1.000	.909
The hospital has introduced mHealth whose value proposition is the reduction of costs through the provision of a viable alternative to costly travel to clinics or hospitals by removing the need for face-to-face appointments.	1.000	.971
The hospital sought to enhance the value proposition of its services by integrating health care payment systems that led to the reduction of errors.	1.000	.972
The hospital has been able to ensure customer loyalty by offering discounts for returning customers.	1.000	.946
The hospital has adopted cost leadership strategy whose effectiveness was borne out by the positive feedback from the customers that the services on offer were commensurate with the cost.	1.000	.916
The hospital is in-tune with the needs and expectations of patients so it has established mechanisms for quickly responding to them which has led to improved customer satisfaction.	1.000	.908
The hospital is committed to upholding the requirements of the patients' rights charter which has been responsible for enhancing the responsiveness of the leadership and governance of the health systems.	1.000	.946
The hospital has been more successful at integrating a culture of patient safety due to the generally higher level of resource investment in training of staff in safety.	1.000	.947
One of the key determinants of patient safety culture at the hospital is managerial support for patient safety.	1.000	.948

One of the most critical determinants of nurses' adherence to standard precautions is the knowledge of standard practices and protocols.	1.000	.832
The hospital has institutionalised several measures aimed at enhancing adherence to standard protocols including the policing of Standard Treatment Guidelines.	1.000	.925
The healthcare personnel in the hospitals are principally motivated by good pay.	1.000	.918
Job satisfaction and employee reward systems were the most popular motivators and tended to result in improved employee performance.	1.000	.918
The most effective performance management systems at the hospital were those that focus on a holistic perspective of employee productivity.	1.000	.867
Employee productivity was enhanced by integrating policies that addressed time management practices as part of work scheduling and prioritization.	1.000	.794
The most important aspect of training programs at the hospital was the quality of medical services.	1.000	.911
Many of the trainings at the hospital were dominated by the more senior staff such as ward managers leaving out subordinate staff.	1.000	.988
Despite the integration of health information systems (HIS), the use of healthcare medical technology as well as the adoption of interoperability policies, much more needs to be done in order to optimize the use of HIS such as the training of the staff	1.000	.936
The hospital has installed record keeping systems which have enhanced service delivery.	1.000	.885
HITs have enabled the reduction of medical errors which is critical for the avoidance of litigation costs provided the health facility has enabled access to complete patient information.	1.000	.910
The digitization of records by the hospital has reduced diagnosis and prescription errors and led to a reduction of error-related deaths.	1.000	.956

The acceptance of technology by the management of the hospital is one of the most importance outcomes of positive user perceptions.	1.000	.920
The incorporation of technology into the vision and strategy of the hospital has enabled the success of the implementation of the technology.	1.000	.937
Given the increased level of competition in private hospitals, the hospital has been compelled to ensure high levels of performance including high standards of compliance to healthcare standards.	1.000	.916
Given the advent of the internet, patients have easy access to information pertaining to government public health policies.	1.000	.931
Whilst there was extensive involvement of stakeholders in the healthcare industry in the establishment and implementation of safety standards there is a deficient level of physician involvement at the hospital.	1.000	.794
The hospital lacked a formalised environmental strategy which has left them vulnerable to some environmental hazards.	1.000	.822
Hospitals in urban areas have been compelled by the pressure from increasingly knowledgeable patients to improve the quality of their healthcare, additionally, the Government had become more actively involved policing the implementation of quality standard.	1.000	.887
Higher patient readmission resulted in increased revenues for the hospital and reduced costs associated costly treatments associated with unnecessary readmissions.	1.000	.914
A reduction in the rate of readmissions is an indicator of successful curative programs in the hospital.	1.000	.864
Low bed occupancy rates (BORs) are symptomatic of operational inefficiencies owing to underutilisation; while higher bed occupancy rates are also indicators of a health system that is overwhelmed that may lead to the incidence of undesirable practices suc	1.000	.864
Low BORs require managerial intervention to enhance efficiency by initiating hospital resource evaluation and planning.	1.000	.799

One of the determinants of hospital length of stay is the skill of the nursing care.	1.000	.931
One of the determinants of length of stay in hospital were the adequacy of staff numbers per shift.	1.000	.874

Extraction Method: Principal Component Analysis.

3.7.2 Reliability Tests

Reliability is the consistency, stability, dependability, and equivalence of the research instruments over time. The consistency and stability of the research instruments of data collection, administration and scoring of data and research model are determined by testing the research instruments twice using the Cronbach's test (Tavakol & Dennick, 2011). The coefficient ranges between 0 to 1, where 0 signifies low reliability and 1 signifies high reliability. For this study, a Cronbach's alpha of 0.7 was utilized, as recommended by Taber (2018).

The results indicated in Table 3.2 that each variable had a Cronbach's alpha score exceeding the 0.7 threshold, demonstrating acceptable levels of internal consistency. These findings are consistent with those of Jaber and Nashwan (2022), who reported Cronbach's alpha scores of 0.90, 0.78, 0.70, 0.69, and 0.73 for various measures of hospital performance, further supporting the reliability of the measures used in this study.

Table 3. 3: Reliability Test Results

Variable	Cronbach's Alpha	N of Items
Combined	0.745	35
Cost Efficiency	0.739	6
Quality of Care	0.708	6
Human Capital	0.722	6
Technology	0.766	6
Government Regulations	0.715	5
Performance	0.713	6

3.8 Data Analysis

Data analysis is the mechanism through which accumulated data is reduced into a controllable size then summarised, explores patterns, and applies methods that are statistical in nature. According to Ibrahim (2015), it can be categorised into two; qualitative and quantitative. The SPSS (version 22) was then used to carry out descriptive and inferential analysis. The presentation of the results was then captured through the use of graphs and tables. DeLong *et al.* (1988) prescribed the Pearson's bivariate correlation (r) model based on regression analysis as follows which was used to conduct the study's analysis:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where;

Y = Performance
X_1 = Cost Efficiency
X_2 = Quality of Care
X_3 = Human Capital
X_4 = Technology
X_5 = Government Regulations
ε = the error term
β_0 = the constant term

The above formula can be interpreted as follows: changes in X_1, X_2, X_3, X_4 and X_5 will influence the value of Y. The beta coefficients measure the magnitude of change in Y as a result of a unit change in any of the independent variables (X_{1-4}) and a unit change in the moderating variable X_5. The constant term is the value of Y when the independent variables are equal to zero.

3.8.1. Testing for Moderation

Government regulation is hypothesized as a moderator of the relationship between key determinants, such as cost efficiency, quality of care, human capital, and technology, and organizational performance of private hospitals. To demonstrate this process, a few variables can

be used to demonstrate this process. The relationship between Technology (X) and Organizational Performance (Y), moderated by Government Regulation (W).

The first step was to center X and W to reduce multicollinearity.

$X_{centered} = X1 - \mu_x$, $W_{centered} = W - \mu_w$, where μ is the mean or average score.

The next step was the creation of an interaction term as follows: $X1W = X_{centered} * W_{centered}$

This is done for the rest of the independent variables.

The next step as to run the following regression;

$Y=\beta_1 Xi+\beta_2 W+\beta_3 XW+ e$

The decision rule here is as follows: if β_3 (interaction term) is significant, then the conclusion is that moderation exists.

3.9 Ethical Considerations

Ethical issues in research involved informed consent, which ensures that individuals provide consent knowingly, voluntarily, and intelligently; beneficence, which involves the commitment to do no harm to participants; respect for anonymity, which involves safeguarding an individual's identity; confidentiality, which refers to the protection of sensitive information; respect for privacy, which grants individuals the right to regulate what information is shared; concern for vulnerable populations; and the ethical obligation to avoid interviewing minors without the explicit consent of their parents or guardians (Akaranga & Makau, 2016). Furthermore, ethical research demands that studies be conducted competently.

In the current study, voluntary consent was obtained from all participants prior to their involvement. Additionally, commitment to doing no mental or physical was upheld and so were the principles of confidentiality and anonymity. Privacy was also upheld throughout the process.

3.10 Chapter Summary

This section detailed the different components of the research methodology that the study applied. The chapter finished off with a discussion on the data collection methods, research quality, data analysis, diagnostic tests, and ethical considerations.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This section shows the findings of the study, aimed to identify the determinants of performance in private hospitals in Nairobi County, Kenya. The research findings encompass general information about the results, diagnostic test outcomes, demographic data, as well as both descriptive and inferential statistics.

4.2 Response Rate

The study administered a total of 200 questionnaires but only 155 were responded to, representing a response rate of 77.5% which was well above the 60-70% threshold recommended by Morton *et al.* (2012) for social research studies.

Table 4. 1: Response Rate

	Number	Percentage
Questionnaires that were responded to	155	77.5%
Questionnaires that were not responded to	45	22.5%
Total Number of Questionnaires	200	100%

4.3 Demographic Characteristics of the Respondents

4.3.1 Gender Distribution of Respondents

The respondents were categorized in accordance with their gender and the results are presented in Figure 4.1. According to the results, out of 155 respondents, 90 were male while 65 were female, representing 58.1% and 41.9%, respectively. This is an indication that although there were more males than females in the industry, there was a fairly good gender diversity amongst the private hospitals which corroborated the findings of Kimungui and Nyang'au (2021).

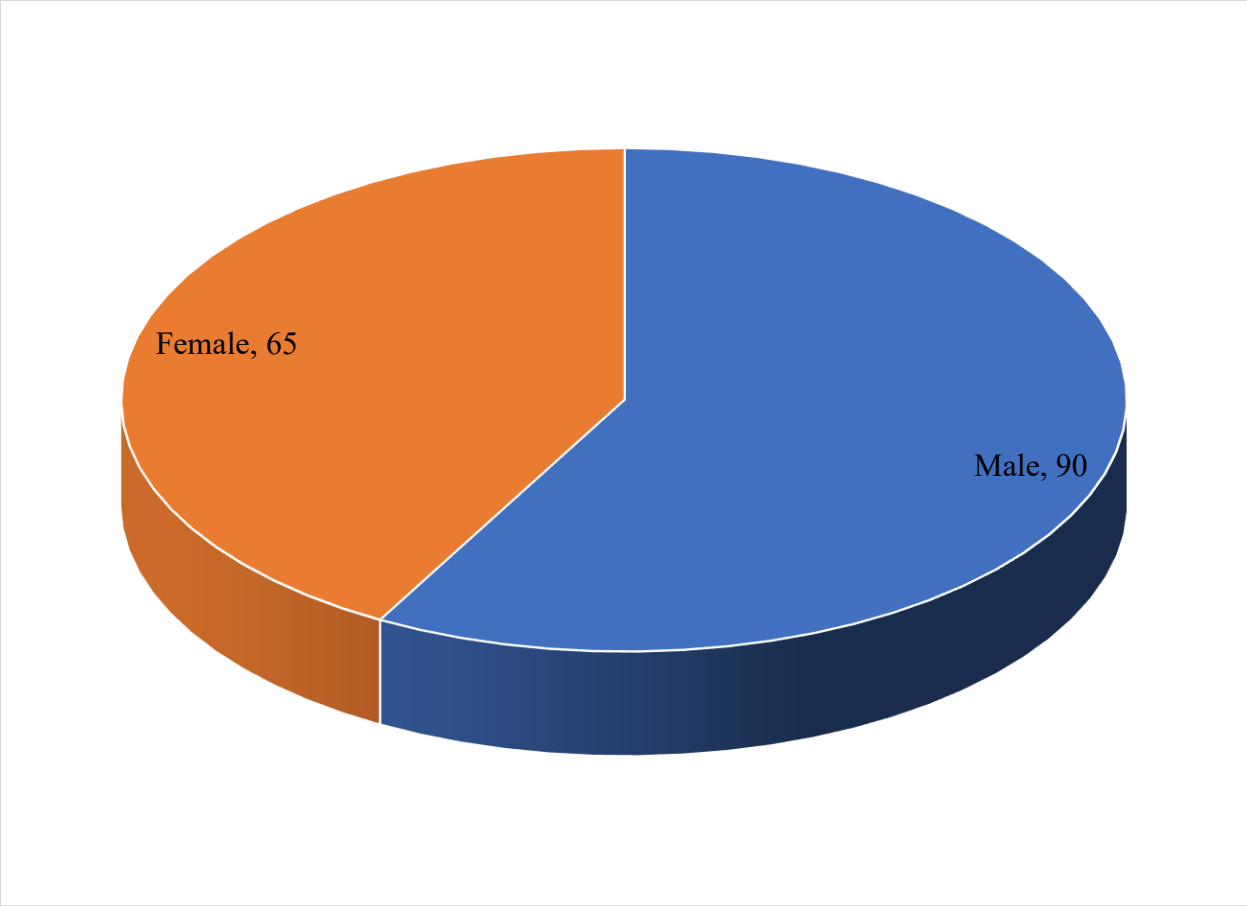

Figure 4. 1: Gender Distribution of Respondents

4.3.2 Category of Respondents

The second categorization of the respondents was in terms of their category. The results of this categorization are captured in Figure 4.2. The results indicated that out of 155 respondents, 7 were doctors, 42 were nurses, 1 was a resident, 10 were clinical assistants, while 95 were non-clinical staff, representing 4.5%, 27.1%, 0.6%, 6.5%, and 61.3%, respectively. This showed that a majority of respondents were non-clinical staff since these were the largest category of staff in the hospitals and were the most available in terms of their work schedules.

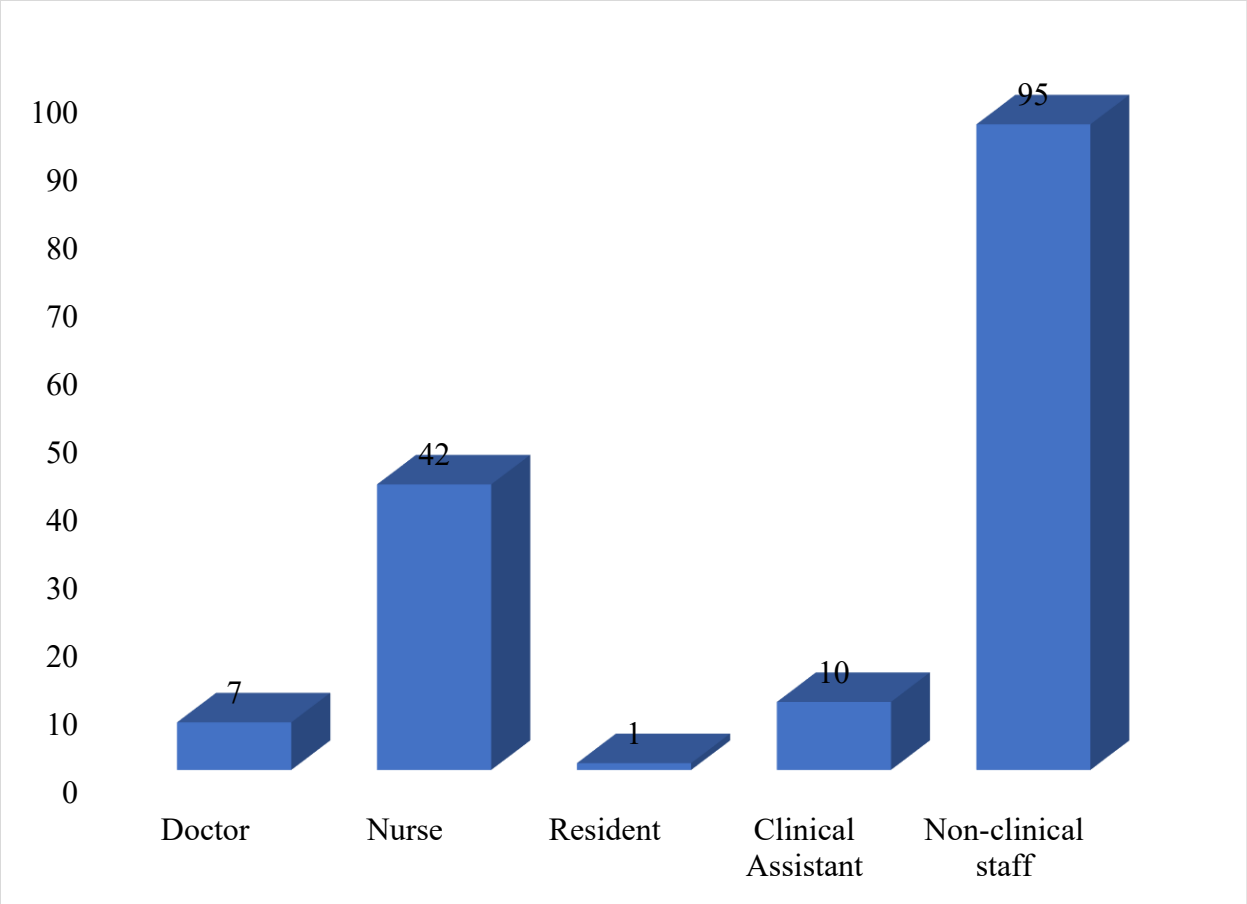

Figure 4. 2: Category of Respondents

4.3.3 Duration of Employment of Respondents

The third categorization of the respondents was as per their duration of employment. The results, which are presented in Figure 4.3 showed that out of 155 respondents, 7 had worked for less than 1 year; 63 for 1-5 years; 38 for 6-10 years; and 47 for over 10 years, representing 4.5%, 40.6%, 24.5%, and 30.3%, respectively. This indicated that there was a fairly high level of staff retention and a high level of staff experience in Kenya's private hospitals, which was consistent with the findings of Kinya (2018).

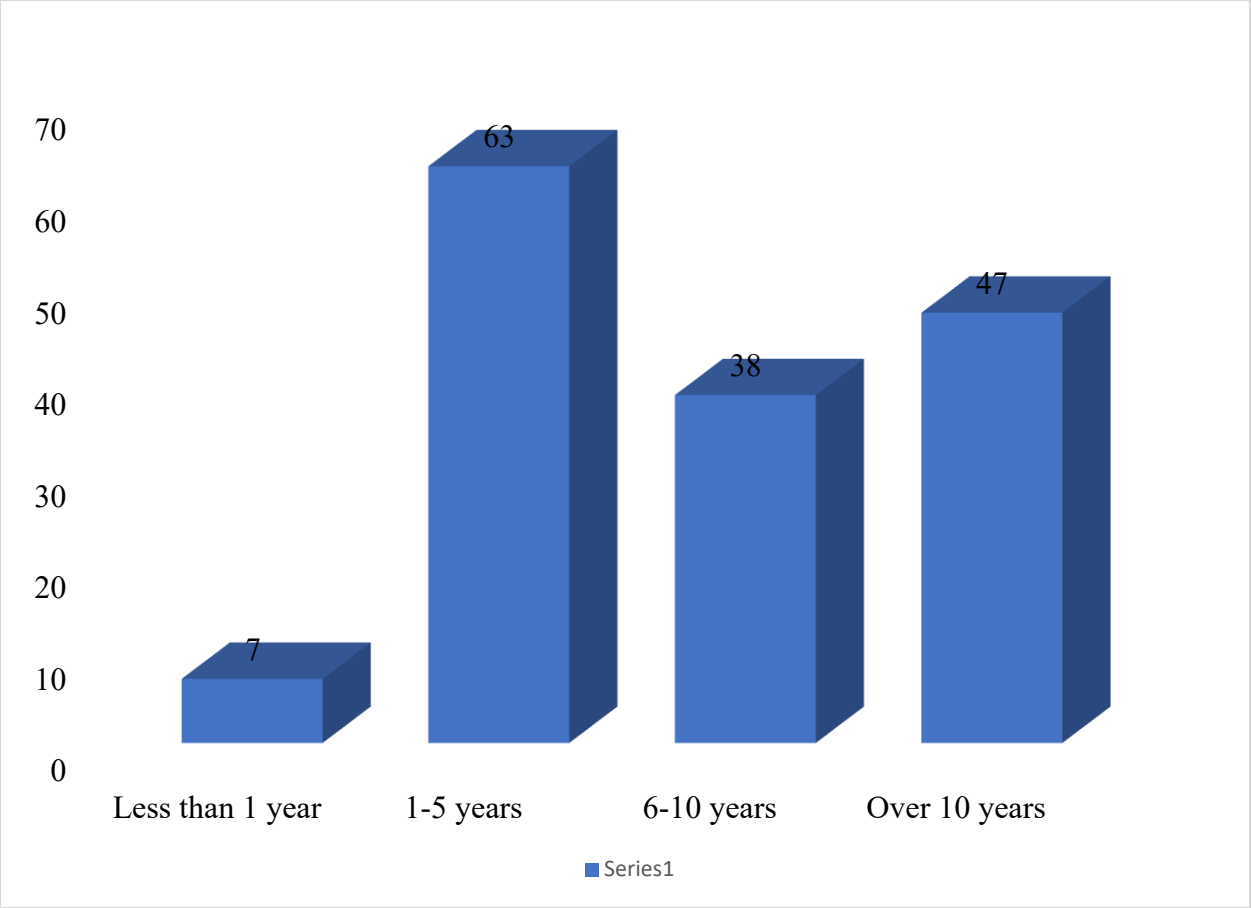

Figure 4. 3: Duration of Employment of Respondents

4.3.4 Age Distribution of Respondents

The fourth categorization of the respondents in accordance with their age. Findings revealed that 40 out of the 150 participants were 20-30 years old, 93 were 31-40 years old, 20 were 41-50 years old, and 2 were 51-60 years old, representing 25.8%, 60%, 12.9%, and 1.3%, respectively. This is an indicator that most of the respondents were 31-40 years of age which is most active period of a professional.

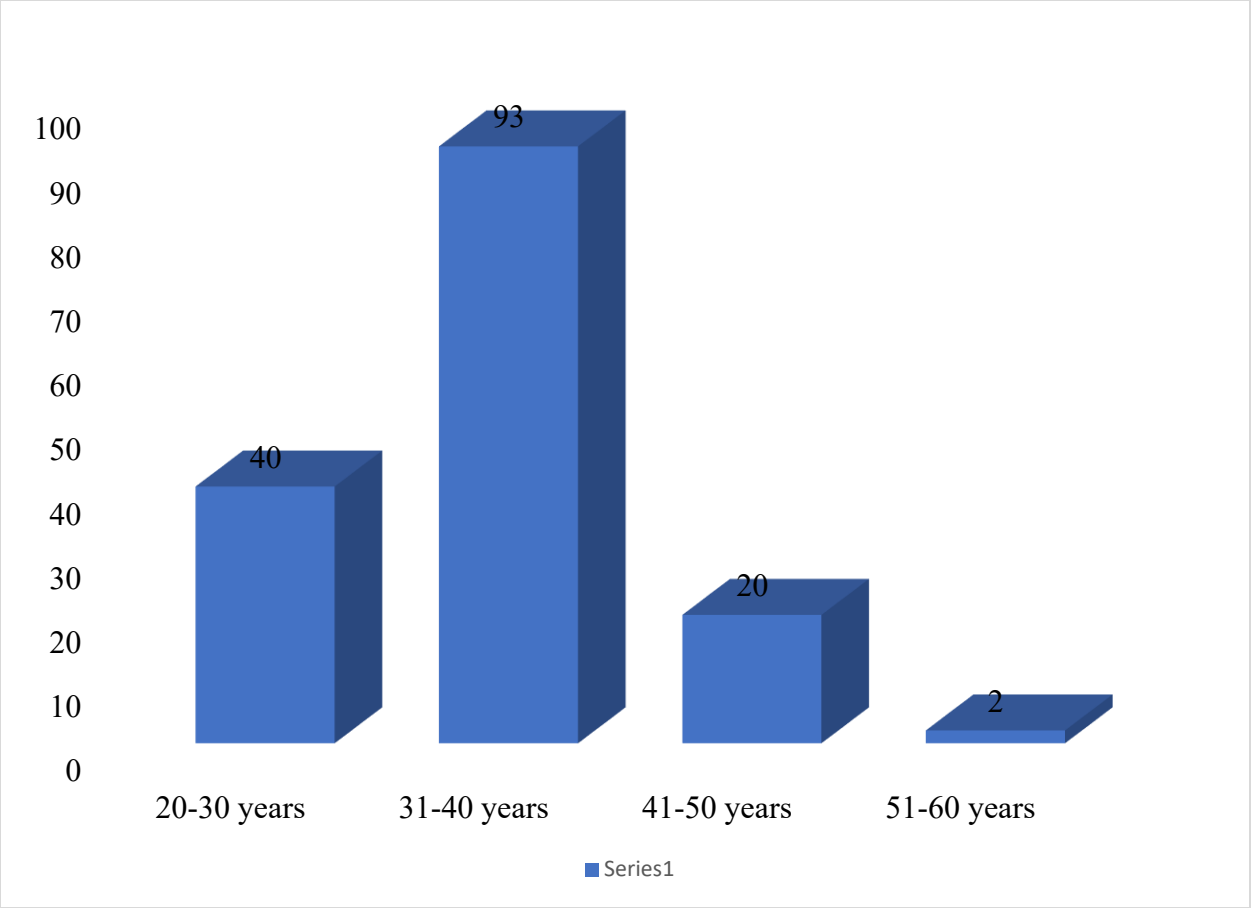

Figure 4. 4: Age Distribution of Respondents

4.3.5 Distribution by Highest Level of Education

The final categorization was according to the participants' highest level of education. The results, which are captured in Figure 4.5, show that 23 out of the 155 participants had attained tertiary college education, 55 had undergraduate education, while 77 had postgraduate education, representing 14.8%, 35.5%, and 49.7%, respectively. This indicates that most of the employees in private hospitals were highly qualified for their jobs.

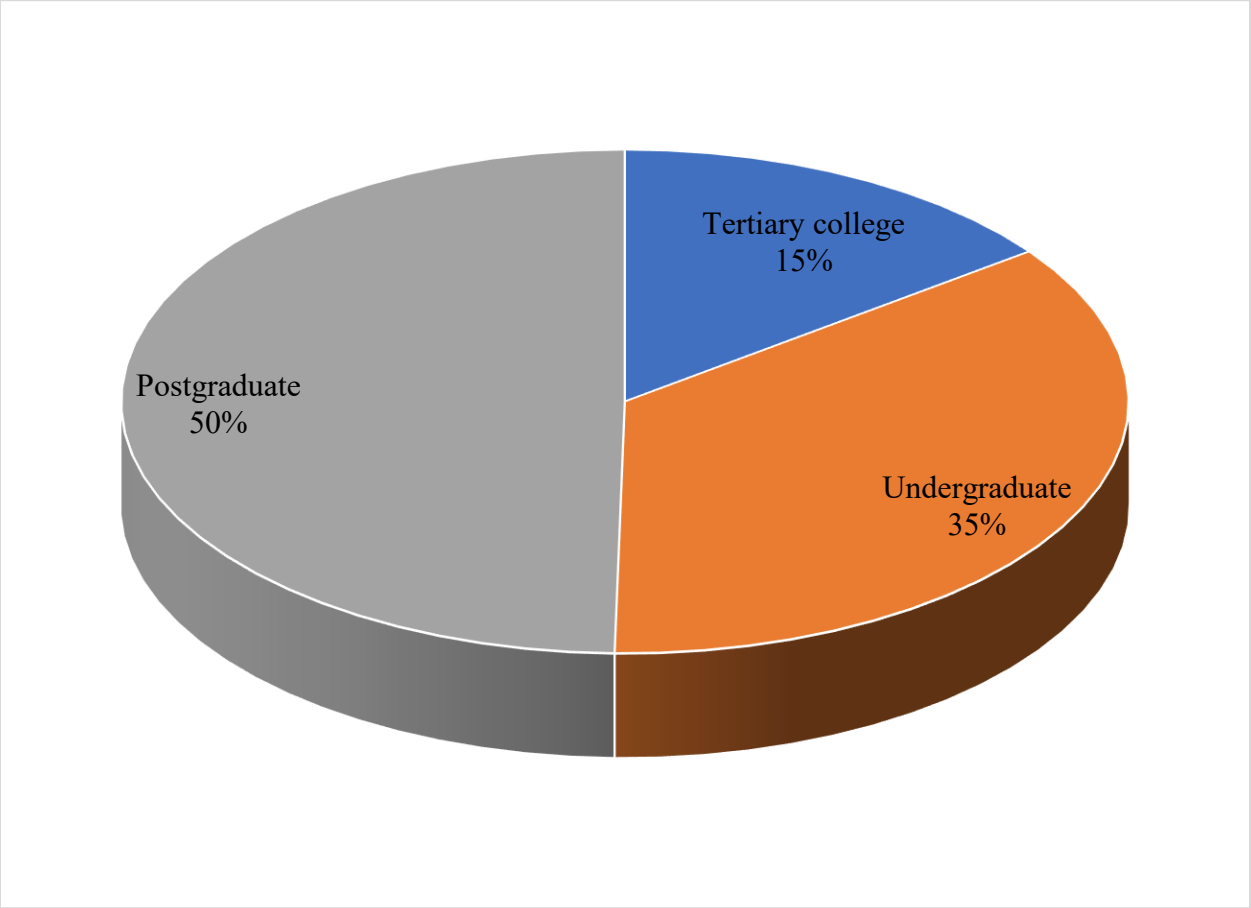

Figure 4. 5: Highest Level of Education of the Respondents

4.4 Descriptive Statistics

The descriptive statistical results are presented and discussed in the sections below.

4.4.1 Cost Efficiency and Performance of Private Hospitals

The descriptive statistical analysis of cost efficiency within private hospitals is presented in Table 4.2. Findings indicate that most of respondents (M = 3.1226; SD = 1.23969) agreed with the assertion that the hospital has implemented hotel pricing strategies, utilizing flexible pricing models contingent on the services utilized by the patient. This was aligned with the research findings of Appida et al. (2019). Additionally, a majority of participants (M = 3.7290; SD =

1.11838) agreed that hospitals impose elevated pricing structures due to the substantial costs associated with healthcare service provision.

Furthermore, most of respondents (M = 3.4903; SD = 1.12451) concurred that the hospital has integrated mobile health (mHealth) solutions, thereby minimizing the necessity for in-person consultations. This corroborated the findings of Gorski et al. (2016). Moreover, the vast majority of respondents (M = 3.9935; SD = 0.86412) affirmed that the hospital has sought to enhance the value proposition of its services through the integration of advanced healthcare payment systems, resulting in a substantial reduction in transactional errors.

Regarding customer loyalty strategies, most of respondents (M = 3.0258; SD = 1.21649) agreed with the assertion that the hospital ensures customer retention through the provision of discounts for repeat patients. Lastly, the majority of respondents (M = 3.7355; SD = 0.86848) agreed that the hospital has adopted a cost leadership strategy, with its efficacy corroborated by positive customer feedback affirming that the services rendered are commensurate with the costs incurred.

Table 4. 2: Descriptive Statistics of Cost Efficiency

	Mean	Std. Deviation
The hospital has turned to hotel pricing strategies where there are flexible prices on the basis of what the patient is paying for.	3.1	1.2
The hospital has tended to charge high prices owing to the high costs involved in the provision of health services.	3.7	1.1
The hospital has introduced mHealth whose value proposition is the reduction of costs through the provision of a viable alternative to costly travel to clinics or hospitals by removing the need for face-to-face appointments.	3.5	1.12
The hospital sought to enhance the value proposition of its services by integrating health care payment systems that led to the reduction of errors.	3.99	.8
The hospital has been able to ensure customer loyalty by offering discounts for returning customers.	3.02	1.2
The hospital has adopted cost leadership strategy whose effectiveness was borne out by the positive feedback from the customers that the services on offer were commensurate with the cost.	3.7	.9
Overall Scores	3.5	1.07

4.4.2 Quality of Care and Performance of Private Hospitals

Empirical evidence from the study reveals that the vast majority of participants (M = 4.3806; SD = 0.58411) agreed that the hospital proactively aligns its operations with patient expectations, facilitating expeditious responses that enhance customer satisfaction. Additionally, most of respondents (M = 4.0516; SD = 1.02434) affirmed that the hospital diligently adheres to the stipulations outlined in the Patients' Rights Charter, a practice that has been instrumental in fostering responsive leadership and governance within the healthcare system.

The study further demonstrated that most of participants (M = 4.1613; SD = 0.71608) endorsed the assertion that the hospital has successfully cultivated a culture of patient safety through substantial resource allocations dedicated to staff training in safety protocols. Similarly, most of respondents (M = 4.0968; SD = 0.71871) agreed that managerial support is a critical determinant of patient safety culture within the institution.

Furthermore, the vast majority of respondents (M = 4.5419; SD = 0.56106) strongly affirmed that nurses' adherence to standard precautions is contingent upon their comprehensive knowledge of best practices and institutional protocols. Finally, most of participants (M = 4.3419; SD = 0.48935) acknowledged that the hospital has institutionalized a robust framework for standard protocol compliance, including the stringent enforcement of Standard Treatment Guidelines.

Table 4. 3: Descriptive Statistics of Quality of Care

	Mean	Std. Deviation
The hospital is in-tune with the needs and expectations of patients so it has established mechanisms for quickly responding to them which has led to improved customer satisfaction.	4.3	.58
The hospital is committed to upholding the requirements of the patients' rights charter which has been responsible for enhancing the responsiveness of the leadership and governance of the health systems.	4.0	1.02
The hospital has been more successful at integrating a culture of patient safety due to the generally higher level of resource investment in training of staff in safety.	4.2	.71
One of the key determinants of patient safety culture at the hospital is managerial support for patient safety.	4.09	.71
One of the most critical determinants of nurses' adherence to standard precautions is the knowledge of standard practices and protocols.	4.5	.56
The hospital has institutionalised several measures aimed at enhancing adherence to standard protocols including the policing of Standard Treatment Guidelines.	4.3	.48
Overall Scores	4.2	.68

4.4.3 Human Capital and Performance of Private Hospitals

The descriptive statistical analysis of human capital within private hospitals is encapsulated in Table 4.4. The results indicate that a moderate majority of participants (M = 3.3290; SD = 1.02634) agreed with the assertion that healthcare personnel derive their primary motivation from competitive remuneration. Furthermore, most of respondents (M = 3.7226; SD = 1.102634) acknowledged that job satisfaction and employee reward mechanisms serve as the most influential motivators, significantly enhancing workforce performance.

Additionally, the majority of participants (M = 4.2968; SD = 0.76595) affirmed that the most effective performance management systems within private hospitals adopt a comprehensive, holistic perspective on employee productivity. Moreover, most of the participants (M = 3.8774; SD = 0.61724) concurred that integrating time management policies within work scheduling and prioritization frameworks substantially improves employee productivity.

An overwhelming majority of respondents (M = 4.2000; SD = 0.55127) acknowledged that the paramount objective of training programs within private hospitals is the enhancement of medical service quality. Conversely, a marginal majority of participants (M = 3.2774; SD = 1.14265) agreed with the notion that hospital training programs are predominantly attended by senior personnel, such as ward managers, thereby marginalizing subordinate staff.

Table 4. 4: Descriptive Statistics of Human Capital

	Mean	Std. Deviation
The healthcare personnel in the hospitals are principally motivated by good pay.	3.32	1.02
Job satisfaction and employee reward systems were the most popular motivators and tended to result in improved employee performance.	3.72	1.10
The most effective performance management systems at the hospital were those that focus on a holistic perspective of employee productivity.	4.29	.76
Employee productivity was enhanced by integrating policies that addressed time management practices as part of work scheduling and prioritization.	3.8	.61
The most important aspect of training programs at the hospital was the quality of medical services.	4.2	.55
Many of the trainings at the hospital were dominated by the more senior staff such as ward managers leaving out subordinate staff.	3.27	1.14
Overall Scores	3.78	0.86

4.4.4 Technology and Performance of Private Hospitals

The descriptive statistical findings pertaining to the role of technology in hospital performance are presented in Table 4.5. The data revealed that the vast majority of respondents (M = 4.3226; SD = 0.55754) agreed that, despite the incorporation of health information systems (HIS), medical technology, and interoperability policies, further optimization is required, particularly through staff training initiatives. Additionally, most of respondents (M = 0.40645; SD = 0.77020) acknowledged that the implementation of structured record-keeping systems has substantially enhanced service delivery.

Furthermore, most of the respondents (M = 3.8129; SD = 0.99209) concurred that the adoption of health information technologies (HITs) has effectively minimized medical errors, which, in turn,

mitigates litigation costs, provided that comprehensive patient records remain accessible. Moreover, the majority of respondents (M = 4.1355; SD = 0.89789) acknowledged that record digitization within hospitals has significantly curtailed diagnostic and prescription errors, consequently reducing mortality attributable to medical inaccuracies.

Additionally, most of participants (M = 4.4258; SD = 0.78085) affirmed that managerial acceptance of technological advancements constitutes a critical determinant of user perception. Similarly, majority of respondents (M = 4.1871; SD = 0.73667) endorsed the view that embedding technology within the hospital's strategic vision has significantly facilitated its successful implementation.

Table 4. 5: Descriptive Statistics of Technology

	Mean	Std. Deviation
Despite the integration of health information systems (HIS), the use of healthcare medical technology as well as the adoption of interoperability policies, much more needs to be done in order to optimize the use of HIS such as the training of the staff	4.3	.55
The hospital has installed record keeping systems which have enhanced service delivery.	4.06	.77
HITs have enabled the reduction of medical errors which is critical for the avoidance of litigation costs provided the health facility has enabled access to complete patient information.	3.81	.99
The digitization of records by the hospital has reduced diagnosis and prescription errors and led to a reduction of error-related deaths.	4.13	.89
The acceptance of technology by the management of the hospital is one of the most importance outcomes of positive user perceptions.	4.42	.78
The incorporation of technology into the vision and strategy of the hospital has enabled the success of the implementation of the technology.	4.18	.73
Overall Scores	4.15	.78

4.4.5 Moderating Effect of Government Regulations on the Performance of Private Hospitals

The statistical analysis of government regulations as a moderating variable influencing hospital performance is summarized in Table 4.6. The findings reveal that the vast majority of respondents (M = 4.2323; SD = 0.85902) agreed that intensified competition among private hospitals necessitates adherence to stringent healthcare standards, thereby fostering performance optimization. Additionally, most of participants (M = 3.8645; SD = 0.96751) acknowledged that, with the advent of the internet, patients have greater access to government public health policies.

Furthermore, a marginal majority of respondents (M = 3.5935; SD = 0.85049) expressed agreement with the assertion that, despite the extensive involvement of stakeholders in shaping healthcare safety standards, there remains a conspicuous deficiency in physician engagement. Additionally, most of participants (M = 3.4839; SD = 1.24502) acknowledged that the absence of a formalized environmental strategy renders hospitals vulnerable to environmental hazards. Moreover, the majority of respondents (M = 3.7226; SD = 0.97058) concurred that governmental oversight has intensified in monitoring the implementation of healthcare quality standards.

Table 4. 6: Descriptive Statistics of Government Regulations

	Mean	Std. Deviation
Given the increased level of competition in private hospitals, the hospital has been compelled to ensure high levels of performance including high standards of compliance to healthcare standards.	4.2323	.85902
Given the advent of the internet, patients have easy access to information pertaining to government public health policies.	3.86	.96
Whilst there was extensive involvement of stakeholders in the healthcare industry in the establishment and implementation of safety standards there is a deficient level of physician involvement at the hospital.	3.59	.85
The hospital lacked a formalised environmental strategy which has left them vulnerable to some environmental hazards.	3.48	1.24
Hospitals in urban areas have been compelled by the pressure from increasingly knowledgeable patients to improve the quality of their healthcare, additionally, the Government had become more actively involved policing the implementation of quality standards	3.72	.97
Overall Scores	3.77	.97

4.4.6 Performance of Private Hospitals

The statistical findings regarding hospital performance are encapsulated in Table 4.7. The results demonstrate that a marginal majority of respondents (M = 3.3677; SD = 0.96712) agreed that elevated patient readmission rates contribute to increased hospital revenues while concurrently mitigating costs associated with unnecessary readmissions. Furthermore, most of participants (M = 4.4323; SD = 0.72988) affirmed that declining readmission rates serve as a key indicator of successful curative interventions.

Additionally, the majority of respondents (M = 3.6000; SD = 1.02944) acknowledged that low bed occupancy rates (BORs) signify operational inefficiencies, whereas excessively high BORs

indicate systemic strain, potentially leading to premature discharges. Furthermore, most of the respondents (M = 4.0516; SD = 0.65260) agreed that managerial interventions are imperative in optimizing hospital resource allocation to address low BORs. The results also reveal that most of participants (M = 4.0516; SD = 1.07385) acknowledged the pivotal role of nursing competency in determining hospital length of stay. Finally, most of respondents (M = 3.5419; SD = 1.01443) agreed that staffing adequacy per shift is a determinant of patient hospitalization duration.

Table 4. 7: Descriptive Statistics of Performance

	Mean	Std. Deviation
Higher patient readmission resulted in increased revenues for the hospital and reduced costs associated costly treatments associated with unnecessary readmissions.	3.36	.96
A reduction in the rate of readmissions is an indicator of successful curative programs in the hospital.	4.43	.72
Low bed occupancy rates (BORs) are symptomatic of operational inefficiencies owing to under-utilisation; while higher bed occupancy rates are also indicators of a health system that is overwhelmed that may lead to the incidence of undesirable practices such as premature discharges.	3.6	1.02
Low BORs require managerial intervention to enhance efficiency by initiating hospital resource evaluation and planning.	4.05	.65
One of the determinants of hospital length of stay is the skill of the nursing care.	4.05	1.07
One of the determinants of length of stay in hospital were the adequacy of staff numbers per shift.	3.54	1.01
Overall Scores	3.84	.91

4.5 Diagnostic Test Results

4.5.1 Multicollinearity Test Results

The findings indicate that the Variance Inflation Factors (VIFs) for the five independent variables—Cost Efficiency, Quality of Care, Human Capital, Technology, and Government Regulations—were greater than 1 but less than 10, it can be concluded that there is no issue of multicollinearity. This suggests that there existed no strong correlation between the independent and the dependent variables. Therefore, each independent variable remains statistically significant and contributes meaningfully to the model when included.

Table 4. 8: Multicollinearity Test Results

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Cost Efficiency	.510	1.608
	Quality of Care	.832	1.202
	Human Capital	.732	1.412
	Technology	.483	2.068
	Government Regulations	.655	1.527

a. Dependent Variable: Performance

4.5.2 Normality Test Results

Given that the pilot study's sample size was only 20, the Shapiro-Wilk test was applied instead of the Kolmogorov-Smirnov test. The results indicated that the p-values for Cost Efficiency were 0.004 and 0.001, suggesting statistical significance and, therefore, that the data for Cost Efficiency was not normally distributed. Similarly, the p-value for Quality of Care was 0.001, indicating a non-normal distribution and statistical significance. For Human Capital, the p-values were 0.000 and 0.008, also indicating statistical significance and non-normality. The p-values for Technology were 0.001, 0.015, and 0.024, all showing a non-normal distribution and statistical significance. Lastly, the p-values for Government Regulations were 0.001, 0.005, and 0.016, which similarly

indicated statistical significance and non-normality. Thus, all the variables in the pilot study were found to be statistically significant and not normally distributed.

Table 4. 9: Normality Test Results

Tests of Normality[a]

		Kolmogorov-Smirnov[b]			Shapiro-Wilk		
Cost Efficiency		Statistic	df	Sig.	Statistic	df	Sig.
Performance	Agree	.346	11	.001	.774	11	.004
	Strongly agree	.407	6	.002	.640	6	.001

a. Performance is constant when Cost Efficiency = Neutral. It has been omitted.

b. Lilliefors Significance Correction

Tests of Normality[a,b]

		Kolmogorov-Smirnov[c]			Shapiro-Wilk		
Quality of Care		Statistic	df	Sig.	Statistic	df	Sig.
Performance	Strongly agree	.295	15	.001	.761	15	.001

a. Performance is constant when Quality of Care = Neutral. It has been omitted.

b. Performance is constant when Quality of Care = Agree. It has been omitted.

c. Lilliefors Significance Correction

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Human Capital		Statistic	df	Sig.	Statistic	df	Sig.
Performance	Agree	.471	9	.000	.536	9	.000
	Strongly agree	.333	9	.005	.763	9	.008

a. Lilliefors Significance Correction

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Technology		Statistic	df	Sig.	Statistic	df	Sig.

	Neutral	.441	4		.630	4	.001
	Agree	.272	10	.035	.802	10	.015
Performance	Strongly agree	.307	4		.729	4	.024

a. Lilliefors Significance Correction

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Government Regulations		Statistic	df	Sig.	Statistic	df	Sig.
	Neutral	.415	4		.624	4	.001
	Agree	.227	10	.004	.800	10	.005
Performance	Strongly agree	.304	4		.714	4	.016

a. Lilliefors Significance Correction

4.5.3 Linearity Test Results

According to the results in Table 4.10, the level of significance for the association between each of the independent variables and Performance was greater than 0.05 indicating the lack of a linear relationship.

Table 4. 10: Linearity Test Results

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Performance * Cost Efficiency	Between Groups	(Combined)	1.030	2	.515	1.555	.243
		Linearity	.970	1	.970	2.929	.108
		Deviation from Linearity	.060	1	.060	.181	.676

	Within Groups		4.970	18	.331		
	Total		6.000	19			
Performance * Quality of Care	Between Groups	(Combined)	.400	2	.200	.536	.596
		Linearity	.348	1	.348	.932	.350
		Deviation from Linearity	.052	1	.052	.140	.714
	Within Groups		5.600	18	.373		
	Total		6.000	19			
Performance * Human Capital	Between Groups	(Combined)	.222	1	.222	.615	.444
		Deviation from Linearity	.025	1	.025	.064	.804
	Within Groups		5.778	18	.361		
	Total		6.000	19			
Performance * Technology	Between Groups	(Combined)	.150	2	.075	.192	.827
		Linearity	.125	1	.125	.321	.580
		Deviation from Linearity	.025	1	.025	.064	.804
	Within Groups		5.850	18	.390		
	Total		6.000	19			
Performance * Government Regulations	Between Groups	(Combined)	.150	2	.075	.192	.827
		Linearity	.125	1	.125	.321	.580
		Deviation from Linearity	.025	1	.025	.064	.804
	Within Groups		5.850	18	.390		
	Total		6.000	19			

4.5.4 Heteroscedasticity Test Results

The findings relating to the Heteroscedasticity Test are shown in Table 4.11. According to the results, using the Breusch Pagan test, it can be observed that the p-value was 0.217 which is above 0.05 indicating that it is not statistically significant and confirming the absence of heteroscedasticity. This means that the standard errors that are in the output table of the regression are reliable.

Table 4. 11: Heteroscedasticity Test Results

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.601	4	.650	1.575	.217[b]
	Residual	6.192	15	.413		
	Total	8.793	19			

a. Dependent Variable: sqres

b. Predictors: (Constant), Government Regulations, Cost Efficiency, Quality of Care, Human Capital, Technology

4.6 Inferential Statistics

4.6.1 Correlation Analysis

The results pertaining to the Pearson correlation coefficients for this study are presented in Table 4.12. Results reveal that all independent variables (Cost Efficiency, Quality of Care, Human Capital, and Technology) exhibited positive correlations with the dependent variable (Performance), with correlation values of r = 0.386, r = 0.212, r = 0.101, and r = 0.468, respectively. Additionally, the moderating variable (Government Regulations) demonstrated a positive correlation of r = 0.408 with Performance. The p-values for all the variables were ≤ 0.05, indicating statistically significant relationships between each of these variables and the dependent variable, as supported by the findings of Di Leo and Sardanelli (2020).

Table 4. 12: Pearson Correlation Coefficients

Correlations

		CE	QC	HC	Tech	GR	Perf
CE	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	155					
QC	Pearson Correlation	.430**	1				
	Sig. (2-tailed)	.000					
	N	155	155				
HC	Pearson Correlation	.296**	.166*	1			
	Sig. (2-tailed)	.000	.039				
	N	155	155	155			
Tech	Pearson Correlation	.477**	.183*	.115	1		
	Sig. (2-tailed)	.000	.023	.153			
	N	155	155	155	155		
GR	Pearson Correlation	.044	.396**	.102	.271**	1	
	Sig. (2-tailed)	.585	.000	.207	.001		
	N	155	155	155	155	155	
Perf	Pearson Correlation	.386**	.212**	.101	.468**	.408**	1
	Sig. (2-tailed)	.000	.008	.210	.000	.000	
	N	155	155	155	155	155	155

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

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

Key: CE - Cost Efficiency; QC - Quality of Care; HC - Human Capital; Tech - Technology; GR - Government Regulations; Perf - Performance

4.6.2 Multiple Regression Analysis

4.6.2.1 Overall Multiple Regression Analaysis

The multiple regression model summary of determinants of performance is captured in Table 4.13. According to the statistics, the R Square value of multiple regression model is 0.657 or 65.7% indicating that 65.7% of the variation in performance was due to the four determinants of performance.

Table 4. 13: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.807[a]	.657	.637	.55032

a. Predictors: (Constant), Technology, Human Capital, Quality of Care, Cost Efficiency

The second component of the multiple regression analysis is the Analysis of Variance (ANOVA) which is a statistical technique used in identifying significant differences in the means of three or more groups (Gelman, 2005). According to the findings, the calculated F-value (Fcal) at a 5% significance level is 12.966, which exceeds the critical F-value (Fcrit) of 2.45. This suggests a significant relationship between the Determinants of Performance and Performance. Additionally, the p-value of 0.000 indicates that the model is statistically significant at the 95% confidence interval. Therefore, this result confirms that the model is statistically significant in explaining the determinants of performance in private hospitals.

Table 4. 14: ANOVA Statistics

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.707	4	3.927	12.966	.000[b]
	Residual	45.429	150	.303		
	Total	61.135	154			

a. Dependent Variable: Performance

b. Predictors: (Constant), Technology, Human Capital, Quality of Care, Cost Efficiency

The final component of the multiple regression analysis is the Beta Coefficient analysis. These coefficients measure the magnitude of change in a predictor variable and its effect on the outcome variable, assuming all other predictor variables remain constant. The results of the Beta coefficients for the determinants of performance are presented below. The values of the constants and coefficients facilitate the formulation of the following multiple regression model:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon = 1.636 + 0.151X_1 + 0.078X_2 + 0.014X_3 + 0.340X_4 + 0.389X_5 + 0.658$$

The regression equation indicates that when the predictor variables are set to zero, the value of Performance is 1.636, representing the constant. Furthermore, a unit increase in Cost Efficiency, Quality of Care, Human Capital, Technology, and Government Regulations is associated with increases in Performance of 0.151, 0.078, 0.014, 0.340, and 0.389, respectively. The p-values for all the determinants of performance were below 0.05, suggesting that each of these variables has a statistically significant relationship with Performance.

Table 4. 15: Beta Coefficients

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.636	.658		2.488	.014
	Cost Efficiency	.151	.074	.184	2.051	.012
	Quality of Care	.078	.092	.067	.854	.004
	Human Capital	.014	.146	.007	.095	.005
	Technology	.340	.074	.368	4.599	.000
	Government Regulations	.389	.402	.385	5.853	.000

a. Dependent Variable: Performance

4.6.2.2 Cost Efficiency and Performance

The multiple regression model summary of cost efficiency is captured in Table 4.16. According to the results, the R Square value of multiple regression model is 0.149 or 14.9% indicating that 14.9% of the variation in performance was as a result of cost efficiency.

Table 4. 16: Model Summary – Cost Efficiency

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.386[a]	.149	.144	.58303

a. Predictors: (Constant), Cost Efficiency

The results of the ANOVA of Cost Efficiency are presented in Table 4.17. According to the results, the calculated value F_{cal} at 5% level of significance is equivalent to 26.852, which is greater than the F critical value (F_{crit}) of 2.45 indicating that there is a significant relationship between Cost Efficiency and Performance. Given that the p-value of 0.000 is less than 0.05 the model is statistically significant ay 95% confidence interval and that the variations in the equation are important. This is an indicator that the model is statistically significant in explaining the determinants of performance of private hospitals. This demonstrates the goodness of fit of the model.

Table 4. 17: ANOVA – Cost Efficiency

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.128	1	9.128	26.852	.000[b]
	Residual	52.008	153	.340		
	Total	61.135	154			

a. Dependent Variable: Performance

b. Predictors: (Constant), Cost Efficiency

The results of the Beta Coefficients of Cost Efficiency are shown in Table 4.18. The values of the constants and coefficients enabled the generation of the following multiple regression model:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon = 2.775 + 0.317\ X_1 + 0.220$$

According to the equation, taking the predicator variable to be zero, Performance is a constant equivalent to 2.775. Additionally, a unit increase in Cost Efficiency will lead to a 0.317 increase in Performance. The p-value for the Cost Efficiency was below 0.05, which indicates that there was a statistically significant relationship with Performance.

Table 4. 18: Beta Coefficients – Cost Efficiency

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.775	.220		12.598	.000
	Cost Efficiency	.317	.061	.386	5.182	.000

a. Dependent Variable: Performance

4.6.2.3 Quality of Care and Performance

The multiple regression model summary of Quality of Care is captured in Table 4.19. According to the results, the R Square value of multiple regression model is 0.245 or 24.5% indicating that 24.5% of the variation in performance was as a result of Quality of Care.

Table 4. 19: Model Summary – Quality of Care

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.412[a]	.245	.239	.61774

a. Predictors: (Constant), Quality of Care

The results of the ANOVA of Quality of Care are presented in Table 4.20. According to the results, the calculated value F_{cal} at 5% level of significance is equivalent to 7.209, which is greater than the F critical value (F_{crit}) of 2.45 indicating that there is a significant relationship between Quality of Care and Performance. Given that the p-value of 0.008 is less than 0.05 the model is statistically significant at 95% confidence interval and that the variations in the equation are important. This is an indicator that the model is statistically significant in explaining the determinants of performance of private hospitals. This demonstrates the goodness of fit of the model.

Table 4. 20: ANOVA – Quality of Care

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.751	1	2.751	7.209	.008[b]
	Residual	58.385	153	.382		
	Total	61.135	154			

a. Dependent Variable: Performance

b. Predictors: (Constant), Quality of Care

The results of the Beta Coefficients of Quality of Care are shown in Table 4.21. The values of the constants and coefficients enabled the generation of the following multiple regression model:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon = 2.820 + 0.249\ X_1 + 0.402$$

According to the equation, taking the predicator variable to be zero, Performance is a constant equivalent to 2.820. Additionally, a unit increase in Quality of Care will lead to a 0.249 increase in Performance. The p-value for the Quality of Care was below 0.05, which indicates that there was a statistically significant relationship with Performance.

Table 4. 21: Beta Coefficients – Quality of Care

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.820	.402		7.022	.000
	Quality of Care	.249	.093	.212	2.685	.008

a. Dependent Variable: Performance

4.6.2.4 Human Capital and Performance

The multiple regression model summary of Human Capital is captured in Table 4.22. According to the results, the R Square value of multiple regression model is 0.110 or 11.0% indicating that 11% of the variation in performance was as a result of Human Capital.

Table 4. 22: Model Summary – Human Capital

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.201[a]	.110	.104	.62888

a. Predictors: (Constant), Human Capital

The results of the ANOVA of Human Capital are presented in Table 4.23. According to the results, the calculated value F_{cal} at 5% level of significance is equivalent to 1.582, which is less than the F critical value (F_{crit}) of 2.45 indicating that there was no significant relationship between Human Capital and Performance. Given that the p-value of 0.210 is greater than 0.05 the model is not statistically significant at 95% confidence interval and that the variations in the equation are important. This is an indicator that the model is not statistically significant in explaining the performance of private hospitals. This demonstrates the lack of goodness of fit of the model.

Table 4. 23: ANOVA – Human Capital

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.626	1	.626	1.582	.210[b]
	Residual	60.510	153	.395		
	Total	61.135	154			

a. Dependent Variable: Performance

b. Predictors: (Constant), Human Capital

The results of the Beta Coefficients of Human Capital are shown in Table 4.24. The values of the constants and coefficients enabled the generation of the following multiple regression model:

$Y = \beta_0 + \beta_1 X_1 + \varepsilon = 3.099 + 0.200\ X_1 + 0.631$

According to the equation, taking the predicator variable to be zero, Performance is a constant equivalent to 3.099. Additionally, a unit increase in Human Capital will lead to a 0.200 increase in Performance. The p-value for the Human Capital was above 0.05, which indicates that there no statistically significant relationship with Performance.

Table 4. 24: Beta Coefficients – Human Capital

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.099	.631		4.912	.000
	Human Capital	.200	.159	.101	1.258	.210

a. Dependent Variable: Performance

4.6.2.5 Technology and Performance

The multiple regression model summary of Technology is captured in Table 4.25. According to the results, the R Square value of multiple regression model is 0.219 or 21.9% indicating that 21.9% of the variation in performance was as a result of Technology.

Table 4. 25: Model Summary – Technology

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.468[a]	.219	.214	.55874

a. Predictors: (Constant), Technology

The results of the ANOVA of Technology are presented in Table 4.26. According to the results, the calculated value F_{cal} at 5% level of significance is equivalent to 42.826, which is greater than the F critical value (F_{crit}) of 2.45 indicating that there was a significant relationship between Technology and Performance. Given that the p-value of 0.000 is less than 0.05 the model is statistically significant at 95% confidence interval and that the variations in the equation are important. This is an indicator that the model is statistically significant in explaining the performance of private hospitals. This demonstrates the goodness of fit of the model.

Table 4. 26: ANOVA – Technology

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.370	1	13.370	42.826	.000[b]
	Residual	47.766	153	.312		
	Total	61.135	154			

a. Dependent Variable: Performance

b. Predictors: (Constant), Technology

The results of the Beta Coefficients of Technology are shown in Table 4.27. The values of the constants and coefficients enabled the generation of the following multiple regression model:

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon = 2.062 + 0.432\ X_1 + 0.283$$

According to the equation, taking the predicator variable to be zero, Performance is a constant equivalent to 2.062. Additionally, a unit increase in Technology will lead to a 0.432 increase in Performance. The p-value for the Technology was less than 0.05, which indicates that there a statistically significant relationship with Performance.

Table 4. 27: Beta Coefficients – Technology

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.062	.283		7.287	.000
	Technology	.432	.066	.468	6.544	.000

a. Dependent Variable: Performance

4.7. Moderating Effect of Government Regulations

The moderator of the relationship between key determinants, such as cost efficiency, quality of care, human capital, and technology, and organizational performance of private hospitals is government regulation. To demonstrate this process, a few variables can be used to demonstrate this process. The relationship between Technology (X) and Organizational Performance (Y), moderated by Government Regulation (W).

The first step was to center Xi (the independent variables) and W to reduce multicollinearity.

$X1_{centered} = X1 - \mu_{x1}$, $W_{centered} = W - \mu_w$, where μ is the mean or average score.

This is repeated for the rest of the independent variables as follows;

$X2_{centered} = X2 - \mu_{x2}$, $W_{centered} = W - \mu_w$, where μ is the mean or average score.

$X3_{centered} = X3 - \mu_{x3}$, $W_{centered} = W - \mu_w$, where μ is the mean or average score.

$X4_{centered} = X4 - \mu_{x4}$, $W_{centered} = W - \mu_w$, where μ is the mean or average score.

Where;

X_1 = Cost Efficiency

X_2 = Quality of Care

X_3 = Human Capital

X_4 = Technology

W= Government Regulations

The next step was the creation of an interaction term as follows: $X1W = X_{centered} * W_{centered}$

This is done for the rest of the independent variables.

The next step as to run the following regression;

$Y=\beta_1X1+ \beta_2X2+ \beta_3X3+ \beta_4X4+\beta_5W+\beta_6X1W+ \beta_7X2W+ \beta_8X3W+ \beta_9X4W+e$

The decision rule here is as follows: if β_6X1W, β_7X2W, β_8X3W, β_9X4W (interaction terms) are significant, then the conclusion is that moderation exists.

As shown in table 4.28, the independent variables plus the moderator explain 65.1% of performance as shown by R square = 0.651.

Table 4.29: Model Summary-Moderation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.807[a]	.651	.629	.3385215

a. Predictors: (Constant), X4W, X2W, G.Reg (W), CE(X1), Tech (X4), X1W, QC(X2), HC(X3), X3W

For the ANOVA, F (9, 145) = 30.070, $p < 0.05$, indicating that the model can significantly predict performance.

Table 4.30: ANOVA-moderation

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.014	9	3.446	30.070	.000[b]

	Residual	16.617	145	.115
	Total	47.630	154	

a. Dependent Variable: Perf

b. Predictors: (Constant), X4W, X2W, G.Reg (W), CE(X1), Tech (X4), X1W, QC(X2), HC(X3), X3W

In table 4.31, the interpretation focuses on the interaction terms (β_6X1W, β_7X2W, β_8X3W, β_9X4W). All the interaction terms, except X2W (B= -.079, p >0.05) and X3W (B=-.264, p <0.05), showed statistical significance. This means that government regulation does not moderate the relationship between quality of care and performance, as well as the relationship between human capital and performance in private hospitals. However, government regulation moderates the relationship between the independent variables cost efficiency and technology, and performance (p <0.05).

Table 4.31: Coefficients-Moderation

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.216	.446		-.483	.630
	CE(X1)	.240	.056	.272	4.256	.000
	QC(X2)	-.041	.093	-.026	-.434	.050
	HC(X3)	.133	.119	.076	1.116	.006
	Tech (X4)	.164	.059	.170	2.777	.006
	G.Reg (W)	.574	.054	.604	10.651	.000
	X1W	-.576	.127	-.308	-4.528	.000
	X2W	-.079	.204	-.024	-.389	.698
	X3W	-.264	.211	-.087	-1.251	.213

X4W	.507	.113	.260	4.480	.000

a. Dependent Variable: Perf

4.8 Chapter Summary

The chapter presented the findings of the study. These included the response rate, demographic characteristics, descriptive analyses, diagnostic test results, and inferential analyses. The descriptive analyses featured the mean and standard deviations while the inferential analyses featured the correlation analysis and regression analysis.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study's findings then a discussion of the resulting conclusions. It also outlines the recommendations derived from these conclusions and offers suggestions for future research. Additionally, this chapter addresses the implications of the study and highlights its limitations.

5.2 Summary of Results

The results indicated a positive and significant correlation between the overall determinants of performance and the performance of the private hospitals, supporting the results of Appida et al. (2019), Njuguna et al. (2019), Nyaboga and Muathe (2022), and Orang'i et al. (2019).

Regarding the first objective, the findings revealed a positive and significant relationship between cost efficiency and hospital performance, corroborating the findings of Gorski et al. (2016), Worlu et al. (2016), and Press et al. (2015).

Regarding the second objective, findings indicated a positively significant relationship between quality of care and the performance of private hospitals, aligning with the results of Kashkoli et al. (2017), Prates et al. (2021), and Oh and Choi (2019).

Regarding the third objective, the findings demonstrated a positive and significant relationship between human capital and hospital performance, validating the conclusions of Okanga and Kamara (2017), Owino et al. (2019), and Kandie and Chepkilot (2022).

Regarding the fourth objective, results revealed a positively significant relationship between technology and hospital performance, supporting the research of Mwaniki (2017), Alolayyan et al. (2020), and Gathungu (2018).

Regarding the fifth objective, results revealed that government regulations positively and significantly have a moderating effect on hospital performance, which aligns with the results of Guerrini et al. (2018), Prang et al. (2018), and Yousefinezhadi et al. (2017).

5.3 Discussion of Results

5.3.1 Cost Efficiency and Performance of Private Hospitals

A positive correlation was discovered between cost efficiency and performance of private hospitals indicating that cost efficiency can improve private hospitals' performance in Nairobi County, Kenya. The implication is that private hospitals which adopted cost efficiency were likely to improve their performance. By leveraging on cost efficiency, private hospitals can ensure the improvement of their performance. This study revealed strong links with the Attribution Theory since cost efficiency stemmed from an acknowledgement by the management that the enhancement of cost efficiency will improve performance.

The hospitals have turned to hotel pricing strategies where there are flexible prices on the basis of what the patient is paying for. The hospitals have been able to ensure customer loyalty by offering discounts for returning customers. The hospitals sought to enhance the value proposition of their services by integrating health care payment systems that led to the reduction of errors. The hospitals have adopted cost leadership strategy whose effectiveness was borne out by the positive feedback from the customers that the services on offer were commensurate with the cost. These findings exhibited consistency with Gorski *et al.* (2016), Worlu *et al.* (2016), and Press *et al.* (2015).

5.3.2 Quality of Care and Performance of Private Hospitals

The study established a positive correlation between quality of care and private hospitals' performance indicating that quality of care can enhance performance. This implies that private hospitals which have integrated high quality of care tend to experience improved performance. By exploiting quality of care, private hospitals can enhance their performance. Findings revealed definite linkages with the Evidence-Based Management Theory since evidence of improved hospital outcomes as a result of the integration of quality of care reinforce the business case for focus on improved quality of care.

The hospitals are in-tune with the needs and expectations of patients so they have established mechanisms for quickly responding to them which has led to improved customer satisfaction. The hospitals are committed to upholding the requirements of the patients' rights charter which has been responsible for enhancing the responsiveness of the leadership and governance of the health systems. The hospitals have been more successful at integrating a culture of patient safety due to the generally higher level of resource investment in training of staff in safety. One of the key determinants of patient safety culture at the hospitals is managerial support for patient safety. One of the most critical determinants of nurses' adherence to standard precautions is the knowledge of standard practices and protocols. The hospitals have institutionalised several measures aimed at enhancing adherence to standard protocols including the policing of Standard Treatment Guidelines. These findings corroborated Kashkoli *et al.* (2017) Oh and Choi (2019) and Prates *et al.* (2021). However, they were inconsistent with the findings of Walcott-Bryant *et al.* (2021).

5.3.3 Human Capital and Performance of Private Hospitals

The study established a positively significant relationship between human capital and performance. The implication is that private hospitals which had invested adequately in human capital were able to improve their performance. By leveraging on human capital, private hospitals can improve their performance. The study established a strong link with both the Attribution Theory and the Evidence Based Management Theory since strong evidence of improved performance stemming from human capital provides a solid foundation for more investment in human capital.

The healthcare personnel in the hospitals are principally motivated by good pay. Job satisfaction and employee reward systems were the most popular motivators and tended to result in improved employee performance. The most effective performance management systems at the hospitals were those that focus on a holistic perspective of employee productivity. Employee productivity was enhanced by integrating policies that addressed time management practices as part of work scheduling and prioritization. The most important aspect of training programs at the hospitals was the quality of medical services. Many of the trainings at the hospitals were dominated by the more senior staff such as ward managers leaving out subordinate staff. These findings were consistent with Okanga and Kamara (2017), Owino *et al*. (2019), and Kandie and Chepkilot (2022). However,

they contrasted with the findings of Gai and Omuya (2024), Nyawira *et al.* (2022), and Muthigah *et al.* (2022).

5.3.4 Technology and Performance of Private Hospitals

The study determined a positively significant relationship between technology and performance. The implication is that private hospitals which had invested in technology were able to improve their performance. By leveraging on technology, private hospitals can enhance their performance. Findings revealed a strong link with both the Attribution Theory and the Evidence Based Management Theory since strong evidence of improved performance stemming from technology provides a solid foundation for more investment in technology.

Despite the integration of HIS, the use of healthcare medical technology as well as the adoption of interoperability policies, much more needs to be done in order to optimize the use of HIS such as the training of the staff. The hospitals have installed record keeping systems which have enhanced service delivery. HITs have enabled the reduction of medical errors which is critical for the avoidance of litigation costs provided the health facilities have enabled access to complete patient information. The digitization of records by the hospitals has reduced diagnosis and prescription errors and led to a reduction of error-related deaths. The acceptance of technology by the management of the hospitals is one of the most importance outcomes of positive user perceptions. The incorporation of technology into the vision and strategy of the hospital has enabled the success of the implementation of the technology. This validated the findings of Mwaniki (2017), Alolayyan *et al*. (2020), and Gathungu (2018). However, they contradict the findings of Walcott-Bryant *et al.* (2021), Odhiambo *et al.* (2023), and Ooko and Omwega (2015).

5.3.5 Moderating Effect of Government Regulations on the Performance of Private Hospitals

The study found a positively significant relationship between government regulations and the performance of private hospitals. The implication is that private hospitals which had complied with government regulations were likely to experience improved performance. By leveraging on compliance with government regulations, private hospitals can improve their performance. Findings reveal a strong link with both the Attribution Theory and the Evidence Based

Management Theory since strong evidence of improved performance stemming from compliance with government regulations provides a solid foundation for more investment in government regulatory compliance.

Given the increased level of competition in private hospitals, the hospitals have been compelled to ensure high levels of performance including high standards of compliance to healthcare standards. Following the advent of the internet, patients have easy access to information pertaining to government public health policies. Whilst there was extensive involvement of stakeholders in the healthcare industry in the establishment and implementation of safety standards there is a deficient level of physician involvement at the hospitals. The hospitals lacked a formalised environmental strategy which has left them vulnerable to some environmental hazards. The hospitals lacked a formalised environmental strategy which has left them vulnerable to some environmental hazards. The Government had become more actively involved policing the implementation of quality standards. This validated results of Guerrini *et al.* (2018), Prang *et al.* (2018), and Yousefinezhadi *et al.* (2017). However, the findings contradicted Masefield *et al.* (2021), Nkanata (2015), and Walcott-Bryant (2021).

5.4. Relating Primary Findings to Theory and Empirical literature

The study's findings on the determinants of performance of private hospitals in Nairobi County are strongly anchored in the theoretical framework and show both convergence and divergence with existing empirical studies. First, the finding that cost efficiency significantly affects performance aligns with Attribution Theory, which suggests internal factors like financial prudence are central to outcome attribution (Harvey & Martinko, 2009). Empirically, this supports Appida et al. (2019) and Mwangi (2015), who found that pricing and financial strategy affect patient choice and profitability. However, while previous studies focused narrowly on pricing strategies or marketing, this study takes a broader lens, examining cost efficiency through value proposition and customer benefits, filling a conceptual gap. This aligns with Evidence-Based Management (EBMgt) Theory, where informed decisions on resource utilization are crucial for competitive advantage (Tranfield et al., 2003).

Second, the relationship between quality of care and hospital performance is well-supported both theoretically and empirically. According to EBMgt, adherence to protocols and continuous

quality improvement are evidence-based practices that enhance outcomes (Straus et al., 2011). This is corroborated by Kashkoli et al. (2017) and Prates et al. (2021), who emphasize responsiveness and patient safety as key quality dimensions. The current study echoes this, confirming that responsiveness and adherence to protocols contribute significantly to performance. Yet it goes further by applying a multi-dimensional approach to quality of care, which previous studies often treated in isolation.

Third, human capital as a determinant resonates with both theories. Attribution Theory views workforce capacity as an internal cause of success or failure, while EBMgt underscores the importance of training and professional development. The study's findings concur with Nyaboga & Muathe (2022) and Diab & Ivelia (2018), noting motivation, productivity, and training as performance drivers. However, most existing studies focused on public hospitals or single elements like motivation, whereas this study incorporates a more comprehensive evaluation of human capital in the private sector, bridging contextual and conceptual gaps.

Fourth, technology was found to have the strongest influence on performance, affirming both theoretical models. The EBMgt theory emphasizes data-driven decision-making, and technological systems (e.g., HIS) support such practices. Empirical support is found in studies by Alolayyan et al. (2020) and Gathungu (2018), who associate digital tools with reduced errors and efficiency gains. Unlike earlier studies focusing on singular systems, this study integrates broader aspects such as system alignment with strategy and organizational adaptability.

Finally, government regulation's moderating effect is best explained by the Public Interest Theory of Regulation, which holds that well-designed regulation can correct market failures (Stigler, 1971; Pigou, 1938). The study shows that regulation can both reinforce or constrain hospital performance, depending on enforcement and design. This aligns with Guerrini et al. (2018) and Yousefinezhadi et al. (2017), who observed similar dynamics, though the present study is unique in applying moderation analysis, thereby addressing a notable gap. Generally, the study offers empirical depth and theoretical integration across all variables, while also addressing conceptual, methodological, and contextual gaps in prior research.

5.5 Conclusions

Private hospitals account for a significant proportion of hospitals in Nairobi County and are an important part of the county health system. The hospitality industry is labor intensive and despite the fact that private hospitals are in a highly capital and knowledge dependent sector, the roles of healthcare workers are critical in-service provision. There is limited research that has investigated the determinants of performance of hospitals in the country. Besides, investigative research in the health market is inclined towards demand side and efficiency and further, there is limited research on the influencing factors of hospital performance from healthcare workers. Therefore, this study provides evidence on the performance of private hospitals in Nairobi County and how this wellbeing is influenced by factors in health care workers. Findings revealed a positively significant relationship between cost efficiency and performance, quality of care and performance, human capital and performance, and technology and performance.

The study also assesses the moderating effect of government regulations on the relationship between the determinants studied and the performance of the private hospitals. The findings of the moderating effect of government regulations on patient's treatment costs also indicate that the government's regulation policy is an important intervention in the improvement of private hospital performance. Reimbursement patients will be treated by private hospitals in Kenya that apply an extensive protocol specialized for different forms of diseases. Finally, the influence of healthcare worker's training on hospital performance is stronger with government regulation of the prices charged for treatment.

5.5 Recommendations

5.5.1 Policy Recommendations

The Kenyan government should ensure adequate participation of all the stakeholders including those in the private healthcare sector in the formulation of policies and standards of healthcare so as to come up with policies that are representative of all possible issues of concern across the board and get the buy-in of all key stakeholders.

5.5.2 Managerial Recommendations

The management of private hospitals need to consider adopting hotel pricing models so as to ensure cost efficiency of their operations which will make them more competitive. The management can also improve cost efficiency by offering discounts for returning customers which will boost customer loyalty and result in higher levels of profitability. Private hospitals can enhance the effectiveness of their human capital by ensuring that training initiatives are conducted for all staff including subordinate staff. Given that a number of hospitals lacked a formalised environmental strategy which has left them vulnerable to some environmental hazards, the management should ensure that they enhance their compliance with this critical policy.

5.5.3 Implications for Academia and Research

The study has exposed contextual gaps such as the focus on public hospitals rather than private hospitals, as well as different geographical contexts; thus, this study will address these gaps by providing new insights on determinants of performance of private hospitals in Kenya. Further, there are few studies that have addressed the moderating effect of government regulations on the determinants of performance of private hospitals, which is conceptual gap that has been addressed by this study.

5.6 Limitations of the Study

In attempting to attain its research objectives, the study encountered the following limitations. Firstly, some of the participants did not want to offer personal data. To mitigate against this, the researcher reassured the participants that the study was only being conducted for research purposes. Secondly, the study was restricted to five private hospitals in the county. To mitigate against this, the researcher recommends that further research be conducted on other institutional contexts in order to determine whether the findings will be different using the same constructs. Thirdly, the study also limited itself to the four determinants of performance. To mitigate against this, further research should be conducted on other determinants of performance. The study was limited by the conceptual variables applied in the study and that other variables could have been utilized to further test the link. Finally, the study applied a descriptive research design which makes it difficult to identify the cause-and-effect link and assess behaviour in a certain amount of time.

To mitigate against this, the research recommends that longitudinal studies be carried out to analyse the variables over an extended period of time.

5.7 Suggestions for Further Studies

Future research should be focused on other determinants of performance both in private hospitals since the current study has limited itself to only four determinants of performance. Secondly, the study has been contextualized on private hospitals, future research should examine the determinants of public hospital performance in Nairobi County, Kenya. Thirdly, there has been little consideration on the moderating effect of government regulations on the determinants of performance, this should be an area that future research ought to focus on.

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APPENDICES

Appendix 1: Letter of Introduction

RE: Request to Collect Data

I am a Masters student at the Strathmore University pursuing a Master of Commerce (Strategic Management Option). I am currently carrying out a research on **"Determinants of performance of private hospitals in Nairobi County, Kenya and moderating effect of government regulations".**

The purpose of this study is to find out the determinants of performance of performance of private hospitals in Nairobi County, Kenya. The results of the study will provide a practical reference for all concerned parties wishing to improve the performance of private hospitals including private hospital managers, patients, government officials and researchers and scholars. As respondents, you stand to benefit through your own personal contribution in shedding more light to the reasons why private hospitals have been struggling to attain acceptable levels of performance.

The Strathmore University respects participants' right to privacy and, as such, as a student of the institution, I am bound to uphold this principle by ensuring the anonymity of all participants and confidentiality of any information gotten from the study. Additionally, my professional ethics precludes me from engaging in any practices that will cause undue injury to any participant. Finally, it should be noteworthy that your participation is fully voluntary and you have a right to get prior consent for use of any information prior to that information being used in the study. Your participation is highly invaluable and will be gratefully appreciated.

Yours Sincerely,

_____

Kenn Zarowiwa

Appendix 2: NACOSTI Permit and ETHICS Approval

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 421636

Date of Issue: 03/July/2024

RESEARCH LICENSE

This is to Certify that Mr.. Kenn Zarowiwa Kaunda of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Determinants of Performance of Private Hospitals in Nairobi, Kenya and Moderating Effect of Government Regulation for the period ending : 03/July/2025.

License No: NACOSTI/P/24/37039

421636

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

Strathmore UNIVERSITY

10th June 2024

Mr Kaunda Kenn,
kenn.kaunda@strathmore.edu

Dear Mr Kaunda,

RE: Determinants of Performance of Private Hospitals in Nairobi, Kenya and Moderating Effect of Government Regulation

This is to inform you that SU-ISERC has reviewed and **approved** your above SU-masters proposal. Your application reference number is **SU-ISERC2179/24.** The approval period is from **10th June 2024 to 9th June 2025.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

Mr Ambrose Rachier,
Chairperson; SU-ISERC

Appendix 3: Research Instruments

SECTION A: DEMOGRAPHIC INFORMATION

1. Gender of Participant ☐ Male ☐ Female

2. Please indicate your category.

   ☐ Doctor ☐ Student Doctor

   ☐ Registrar ☐ Nurse

   ☐ Resident ☐ Clinical Assistant

   ☐ Intern ☐ Non-clinical Staff

3. How long have you worked for the hospital? (Kindly tick one below):

   ☐ Less than 1 years ☐ 6-10 years

   ☐ 1-5 years ☐ Over 10 years

4. What is your age? (Kindly tick one below):

   ☐ 20-30 years ☐ 41-50 years ☐ Above 60 years

   ☐ 31-40 years ☐ 51-60 years

5. What is your highest level of education? (Kindly tick one below):

   ☐ Primary School or lower

   ☐ High School

   ☐ Tertiary College

   ☐ Undergraduate

   ☐ Postgraduate

SECTION B: Influence of Cost Efficiency on Performance of Private Hospitals.

Kindly (√) tick appropriately on a scale of 1-5. 1-Strongly Disagree (SD), 2-Disagree (D), 3-Neutral (N), 4-Agree (A), 5-Strongly Agree (SA).

	Statement	SD	D	N	A	SA
1.	The hospital has turned to hotel pricing strategies where there are flexible prices on the basis of what the patient is paying for.					
2.	The hospital has tended to charge high prices owing to the high costs involved in the provision of health services.					
3.	The hospital has introduced mHealth whose value proposition is the reduction of costs through the provision of a viable alternative to costly travel to clinics or hospitals by removing the need for face-to-face appointments.					
4.	The hospital sought to enhance the value proposition of its services by integrating health care payment systems that led to the reduction of errors.					
5.	The hospital has been able to ensure customer loyalty by offering discounts for returning customers.					
6.	The hospital has adopted cost leadership strategy whose effectiveness was borne out by the positive feedback from the customers that the services on offer were commensurate with the cost.					

SECTION C: Influence of Quality of Care on Performance of Private Hospitals.

Kindly (√) tick appropriately on a scale of 1-5: 1-Strongly Disagree (SD), 2-Disagree (D), 3-Neutral (N), 4-Agree (A), 5-Strongly Agree (SA).

	Statement	SD	D	N	A	SA

7.	The hospital is in-tune with the needs and expectations of patients so it has established mechanisms for quickly responding to them which has led to improved customer satisfaction.					
8.	The hospital is committed to upholding the requirements of the patients' rights charter which has been responsible for enhancing the responsiveness of the leadership and governance of the health systems.					
9.	The hospital has been more successful at integrating a culture of patient safety due to the generally higher level of resource investment in training of staff in safety.					
10.	One of the key determinants of patient safety culture at the hospital is managerial support for patient safety.					
11.	One of the most critical determinants of nurses' adherence to standard precautions is the knowledge of standard practices and protocols.					
12.	The hospital has institutionalised several measures aimed at enhancing adherence to standard protocols including the policing of Standard Treatment Guidelines.					

SECTION D: Influence of Human Capital on Performance of Private Hospitals

Kindly (√) tick appropriately on a scale of 1-5. 1-Strongly Disagree (SD), 2-Disagree (D), 3-Neutral (N), 4-Agree (A), 5-Strongly Agree (SA).

	Statement	SD	D	N	A	SA
13.	The healthcare personnel in the hospitals are principally motivated by good pay.					
14.	Job satisfaction and employee reward systems were the most popular motivators and tended to result in improved employee performance.					
15.	The most effective performance management systems at the hospital were those that focus on a holistic perspective of employee productivity.					

16.	Employee productivity was enhanced by integrating policies that addressed time management practices as part of work scheduling and prioritization.					
17.	The most important aspect of training programs at the hospital was the quality of medical services.					
18.	Many of the trainings at the hospital were dominated by the more senior staff such as ward managers leaving out subordinate staff.					

SECTION E: Influence of Technology on Performance of Private Hospitals.

Kindly (√) tick appropriately on a scale of 1-5. 1-Strongly Disagree (SD), 2-Disagree (D), 3-Neutral (N), 4-Agree (A), 5-Strongly Agree (SA).

	Statement	SD	D	N	A	SA
19.	Despite the integration of health information systems (HIS), the use of healthcare medical technology as well as the adoption of interoperability policies, much more needs to be done in order to optimize the use of HIS such as the training of the staff					
20.	The hospital has installed record keeping systems which have enhanced service delivery.					
21.	HITs have enabled the reduction of medical errors which is critical for the avoidance of litigation costs provided the health facility has enabled access to complete patient information.					
22.	The digitization of records by the hospital has reduced diagnosis and prescription errors and led to a reduction of error-related deaths.					
23.	The acceptance of technology by the management of the hospital is one of the most importance outcomes of positive user perceptions.					
24.	The incorporation of technology into the vision and strategy of the hospital has enabled the success of the implementation of the technology.					

SECTION F: Influence of Government Regulations on Performance of Private Hospitals.

Kindly (√) tick appropriately on a scale of 1-5. 1-Strongly Disagree (SD), 2-Disagree (D), 3-Neutral (N), 4-Agree (A), 5-Strongly Agree (SA).

	Statement	SD	D	N	A	SA
25.	Given the increased level of competition in private hospitals, the hospital has been compelled to ensure high levels of performance including high standards of compliance to healthcare standards.					
26.	Given the advent of the internet, patients have easy access to information pertaining to government public health policies.					
27.	Whilst there was extensive involvement of stakeholders in the healthcare industry in the establishment and implementation of safety standards there is a deficient level of physician involvement at the hospital.					
28.	The hospital lacked a formalised environmental strategy which has left them vulnerable to some environmental hazards.					
29.	Hospitals in urban areas have been compelled by the pressure from increasingly knowledgeable patients to improve the quality of their healthcare, additionally, the Government had become more actively involved policing the implementation of quality standards.					

SECTION G: Performance of Private Hospitals.

Kindly (√) tick appropriately on a scale of 1-5. 1-Strongly Disagree (SD), 2-Disagree (D), 3-Neutral (N), 4-Agree (A), 5-Strongly Agree (SA).

	Statement	SD	D	N	A	SA

30.	Higher patient readmission resulted in increased revenues for the hospital and reduced costs associated costly treatments associated with unnecessary readmissions.					
31.	A reduction in the rate of readmissions is an indicator of successful curative programs in the hospital.					
32.	Low bed occupancy rates (BORs) are symptomatic of operational inefficiencies owing to underutilisation; while higher bed occupancy rates are also indicators of a health system that is overwhelmed that may lead to the incidence of undesirable practices such as premature discharges.					
33.	Low BORs require managerial intervention to enhance efficiency by initiating hospital resource evaluation and planning.					
34.	One of the determinants of hospital length of stay is the skill of the nursing care.					
35.	One of the determinants of length of stay in hospital were the adequacy of staff numbers per shift.					

Thanks for your participation!

Appendix 4: List of Private Hospitals in Nairobi

1. The Nairobi Hospital
2. The Aga Khan University Hospital
3. M.P. Shah Hospital
4. The Mater Hospital, Metropolitan Hospital
5. Gertrude Garden Children's Hospital
6. Guru Nanak Ramgharia Sikh Hospital
7. Avenue Hospital
8. Coptic Hospital
9. Jamaa Hospital
10. The Karen Hospital
11. The Nairobi Women's Hospital
12. Masaba Hospital
13. Nairobi West Hospital
14. Nairobi South Hospital
15. Nairobi Equator Hospital
16. Parklands Ambulatory Surgical Centre
17. St. Mary's Mission Hospital
18. South B Hospital
19. Chiromo Lane Medical Centre
20. Melchizedek Hospital
21. Lions Sightfirst Eye Hospital
22. Familycare Medical Centre
23. New Langata Medical Centre
24. Madina Nursing Home
25. Mariakani Cottage Hospital.