

**STRATEGIC LEADERSHIP STYLE AND CLINICAL INNOVATION
ADOPTION BY LEADERS IN NAIROBI'S PUBLIC REFERRAL HOSPITALS**

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DECLARATION

This dissertation is my original work and has not been presented for a degree at any other university.

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DEDICATION

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ABSTRACT

This study examined how strategic leadership style affects clinical innovation adoption in Nairobi's public referral hospitals. The general objective was to assess how strategic leadership style influences clinical innovation adoption, focusing on leadership capabilities, innovation-oriented attributes, managerial tendencies, and fostering organisational innovation. The study drew from Transformational, Visionary, Transactional, and Coaching Leadership Theories using a positivist approach and a descriptive, cross-sectional survey design. Data from 189 participants across four referral hospitals were collected via digital questionnaires and analysed with STATA Version 15.1. Results presented textually and visually, revealed varying association coefficients, with leadership capabilities showing the strongest positive association ($\beta = 0.2145$, 95% CI [0.0512, 0.3777], $p = 0.01$). Innovation-oriented attributes and managers' attitudes had negative coefficients, while organisational innovation strongly correlated with adoption leadership. The study highlights the crucial role of strategic leadership style in driving innovation and suggests that healthcare leaders should focus on developing leadership capabilities. Insights are valuable for managers, policymakers, and educators in shaping theory, policy, and practice

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LIST OF ABBREVIATIONS AND ACRONYM

DV	Dependent variable
FC	Facilitating conditions
ID	Independent variable
IF	Intent focus
LC	Leadership capabilities
PAC	Pan Africa Christian University
SDGs	Sustainable development goals
SL	Strategic leadership

DEFINITION OF OPERATIONAL TERMS

Innovation Adoption: The adoption of innovation involves moving from experimental fringes to the organisational core. It is an individual journey from learning about an innovation to accepting and using it (Wisdom, Chor, Hoagwood & Horwitz, 2014).

Public referral hospital: A public referral hospital is a government-funded facility that provides specialised care and treatment. Patients from across or outside the county may receive referral letters to access these services (Chepkonga & Nyaga, 2019).

Strategic leadership style: This phrase indicates a strategic approach to leadership, emphasising a specific method or philosophy focused on strategic thinking and planning. It involves a leader's deliberate behaviour to align employees' attitudes and decision-making with the organisation's long-term vision and goals (Duhaime, Hitt & Lyles, 2021).

CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

Introduction

This study uses a funnel approach, starting with the background and context in Chapter One and narrowing down to specific details. It introduces foundational theories and concepts of strategic leadership style and clinical innovation adoption, highlighting their relevance to research on this relationship in Nairobi's public referral hospitals. The chapter then covers the problem, research objectives, hypotheses, justification, significance, scope, limitations, and delimitations, concluding with a summary.

Background to the study

Strategic leadership style is antecedent to both theory and concept, serving as the foundational idea that shapes their development in leadership studies. As a concept, strategic leadership style refers to the general approach or set of attributes, behaviours, and well-being behaviours leaders use to guide their organisations strategically (Güttel & Kleinhanns-Rollé, 2023). It is a broad, adaptable idea that does not rely on a formal, tested framework (Barr & Dowding, 2022).

As a theory, strategic leadership style can evolve into a structured framework that explains how specific leadership behaviours impact organisational outcomes, often supported by empirical evidence and research.

In this sense, strategic leadership style is antecedent to both, as it is the starting point that shapes the development of more formalized concepts and theories in leadership studies. By overlooking the specific nuances of strategic leadership, a

researcher misses the opportunity to explore its distinct role in guiding organisations through uncertainty, fostering innovation, and aligning long-term goals with day-to-day operations. Therefore, a clear distinction is essential for fully understanding the value and strength of strategic leadership in driving organisational success (Woolley & Currie, 2023). In other words, this framing highlights the importance of making a clear distinction to unlock the full potential of strategic leadership, rather than treating it as a generic or interchangeable concept.

As a concept, strategic leadership style refers to how top managers should guide organisations. It focuses on flexibility, achieving long-term goals and adapting to change. It involves visionary thinking, adaptability, and aligning resources with strategic goals. The concept provides context and variables for understanding leadership practices and roles (Kanegaonkar & Tysome, 2023). Strategic leadership goes beyond inherent traits like decisiveness or financial acumen. It is also about developing a set of skills. These skills can be acquired and honed by anyone willing to put in the effort. Personal preferences, beliefs, commitment, strategic resource decay, and contextual factors are the primary limits (Karadag & Poppo, 2023).

Differentiating between strategic leadership as a theory and as a concept clarifies its application and relevance in guiding organisational success (Dogan & Ozdemir, 2021). In conclusion, strategic leadership is crucial for navigating today's dynamic business environment, as it enables leaders to align organizational efforts with long-term objectives while responding effectively to challenges and opportunities.

Strategic leadership theory is a structured framework. It explains how leadership style and practices are utilized. This helps in developing and implementing broader organisational strategies. The framework includes models and frameworks

from empirical research. It aims to clarify how leadership styles impact organisational performance. It also guides both research and practice (Udin, 2024). This theory offers systematic approaches. In summary, these distinct approaches are used to analyse leadership effectiveness and inform strategic management (Alharbi, 2024).

In the realm of leadership and strategic management, adopting systematic approaches is essential. This theory offers structured methodologies for assessing leadership effectiveness. These methodologies provide a decisive advantage over ad-hoc or intuitive methods (Ledlow, 2023). Applying this theory can significantly impact strategic management decisions. It ensures decisions are grounded in robust, empirical analysis rather than subjective judgment. Understanding the nuanced antecedent focus of both the concept and theory of strategic leadership is crucial. This understanding helps grasp its practical implications and underlying principles (Ethiraj et al., 2018). Effective strategic leadership drives innovation. It also manages adoption and engages employees and stakeholders. This boosts competitive performance and achieves successful outcomes.

In the 1980s, contributions from Ireland and Hambrick helped pave the way for the emergence of strategic leadership. It reshaped how leadership affects organisational success through decision-making and vision-setting. The lack of consensus on its definition highlights its novelty. It also shows its evolving role in modern organisational contexts (Rosenhead et al., 2019). Initially defined by John Adair, strategic leadership involves several key elements. These include influencing decision-making, visionary leadership, strategic thinking, and change management for long-term viability (Singh et al., 2023). Ireland and Hitt (2005) highlight that strategic leadership requires foresight and flexibility to drive change. Delisi (2020) views it as

guiding organizations toward future goals. Hambrick and Wowak (2021) focus on principles for innovation and success. Samimi et al. (2022) describe it as a managerial style or top-level role crucial for performance and team oversight. Overall, strategic leadership is vital for sustained success and innovation.

Strategic leaders, such as CEOs and top management teams, guide middle managers and employees. Their goal is to create shareholder and stakeholder value (Kropp et al., 2021). They excel in complex environments. They use creativity, strategic thinking, adaptability, collaboration, ethical decision-making, and effective coaching (Chilingerian, 2021). Traditional leadership styles include transformational, transactional, visionary, instrumental, leader-member exchange, participative, ambidextrous, coaching, and servant leadership. These styles focus on various aspects like vision-setting, intentional culture strategy, and motivation. Strategic leadership integrates these approaches. Collectively, these styles only inform strategic leadership style which integrates these approaches, and in doing so, it becomes a formidable tool. Rather than relying on any single leadership style, it harnesses the strengths of transformational, transactional, visionary, instrumental, leader-member exchange, participative, ambidextrous, coaching, and servant leadership. This integration is not merely beneficial; it is essential for driving organisational success. By blending various methods, strategic leadership addresses diverse challenges and opportunities, offering a comprehensive framework that other styles lack. Thus, strategic leadership's ability to adapt and unify different approaches makes it a robust and indispensable asset in the pursuit of organisational excellence. This integration drives organisational success (Garengo & Betto, 2024).

As previously mentioned, strategic leadership often deviates from the norm, emphasising forward-thinking, long-term planning, and the ability to adapt to complex, ever-changing environments. Recently, organisations faced uncertain and competitive landscapes, marked by unprecedented changes like the shift from VUCA (Volatility, Uncertainty, Complexity, and Ambiguity) to BANI (Brittleness, Anxiety, Nonlinearity, and Incomprehensibility). VUCA describes a constantly changing, unpredictable world, while BANI highlights fragility, emotional stress, unpredictable patterns, and the challenges of understanding modern realities e.g., economic disruptions, pandemics (Baporikar, 2024). As a result, the need for strategic leaders who can navigate and innovate strategically becomes more pronounced (Al-Amin et al., 2021). Thus, strategic leadership continues to capture the attention of researchers and practitioners alike. Thus, it is considered a vital area of study and application in contemporary management and organisational behaviour.

Adopting innovation shifts strategic leadership from the experimental periphery to the institutional core of an organisation. This transformation changes it from novelty to normality. This evolution highlights its crucial role in navigating dynamic environments and driving long-term success. As organisations increasingly recognise the importance of forward-thinking and adaptability, strategic leadership becomes integral. It helps shape their strategic direction and fosters innovation. What was once considered innovative and new becomes standard practice. This solidifies strategic leadership's position as a fundamental aspect of modern management and organisational strategy. Despite its significance, leadership for adopting innovation has received less attention than it deserves (Wisdom et al., 2014).

The study incontrovertibly demonstrates that rigid, centralized, and excessively formal top-down leadership models are detrimental to adoption (Ramedani et al., 2024). This finding challenges the outdated notion that traditional leadership metrics—such as tenure, educational background, and recentness of education—play a significant role in fostering successful adoption. These metrics are not merely irrelevant; they actively hinder progress. They perpetuate ineffective, hierarchical approaches. It is high time researchers and academics recognize that leadership styles need to be dynamic and adaptable. As a result, they should not be constrained by archaic standards that fail to address the complexities of modern adoption processes.

Where leadership skills are deficient, adopting leadership in the context is crucial. This refers to the purposeful process by which leaders within an organisation or specific context embrace certain leadership styles, practices, or behaviours. The goal is to drive innovation adoption (Swani & Isherwood, 2020). Moreover, this study examines how a hospital might urge its leaders to blend various leadership styles. These include transformational, visionary, transactional, participative, coaching, and servant leadership styles. The aim is to drive innovation, as detailed later. Ultimately, strategic leaders must recognise that transformational leadership behaviours strongly promote generative thinking and exploratory innovation (Hundie & Habtewold, 2024).

According to Laihonon and Huhtamäki (2023), transactional leadership behaviours support enhancing existing knowledge. They are linked to exploitative innovation. Eichenseer (2023) argues that leadership effectiveness increases with the

addition of transactional elements such as punishment and reward. However, effectiveness decreases with frequent changes, such as rotating leadership.

Additionally, considering environmental dynamism is crucial for understanding the effectiveness of strategic leaders in fostering innovation (Lin et al., 2019). Exploring the adoption of leadership involves leaders consciously choosing and executing strategies that support and drive innovation within their teams or organisations. Moreover, a strategic leadership style is pivotal in driving innovation (Kurzahls et al., 2020).

It is argued that environmental dynamism needs to be considered to fully understand the effectiveness of strategic leaders. Linking strategic leadership style with clinical innovation adoption involves exploring and exploiting how leadership intention and behaviours impact clinical innovation in hospital settings (Gieure et al., 2020). This includes decision-making processes, communication styles, and organisational strategies. In essence, effective leadership approaches help create a culture that values innovation, fosters collaboration, manages risks and drives sustainable change in healthcare practices.

The notion that practices change hinges solely on a supportive environment and ample resources oversimplifies the complexities at play. While these factors are undeniably crucial, the pivotal determinants of successful change lie with the managers themselves. Specifically, their skills, motivation levels, and commitment to reinforcing new practices are critical. Without competent leadership driving adoption and fostering a culture of adaptation, even the most favourable conditions can falter

(Argus & Samson, 2021). Therefore, attributing the entirety of change success to external conditions overlooks the indispensable role of managerial qualities in steering transformative initiatives towards fruition (Pratici et al., 2023). Similarly, cultural norms are related to the type of leadership styles. Previous research indicates that the leadership skills of managers are critical in creating and reinforcing cultural norms effective in innovation (Xenikou, 2022). Broadly, exploring the relationship between strategic leadership style and innovation by leaders in Nairobi's public referral hospitals involves studying how different leadership approaches impact innovation and organisational effectiveness (Ali & Anwar, 2021).

This investigation aims to confront significant obstacles in understanding how leadership strategies, vision-setting, policy, and managerial practices can enhance the role and effectiveness of innovation leaders in healthcare settings (Savage et al., 2019). Uncovering these dynamics is crucial. The success of innovation leaders depends not just on their management skills but also on their ability to strategically steer and inspire change. If leadership strategies and vision-setting are inadequately addressed, the potential for transformative healthcare initiatives to achieve their goals could be severely compromised. Therefore, exploring how these elements contribute to innovation leadership is not merely an academic exercise. It is a critical endeavour that could fundamentally enhance the effectiveness of transformative efforts in healthcare.

Strategic leaders play a crucial role in shaping how organisations address clinical innovations. They influence attention, resource allocation, decision-making processes, and implementation strategies (Saeed et al., 2023). On a global scale,

despite evidence-based practice being the gold standard in patient care, hospitals and clinics often take around 17 years to adopt new treatments proven to benefit patients (Luciano et al., 2020).

Furthermore, an estimated 30-50 per cent of patients worldwide still receive outdated treatments (Correa et al., 2020). Advancements in medicine and technology have significantly extended life expectancy. However, they also come with risks like misdiagnosis, less-than-ideal treatments, and preventable injuries related to care. Therefore, hospital life can be seen as a continuous stream of inevitable innovation.

At a global level, innovation leadership adoption is a policy priority in many Western countries (Howard et al., 2023). Regionally, leadership development is a critical focus on national agendas (Till & McGivern, 2020). Locally, public referral hospitals need revitalization to remain effective (Abdi et al., 2023). Similarly, Njuguna et al. (2017) emphasise the need for research into leadership deficiencies that lead to inconsistent treatment protocols and technology adoption. Technology has accelerated globalisation by enabling interactions between countries, organisations, and individuals. To thrive in this context, leaders need to go beyond simply endorsing the idea of embracing diversity. Addressing these leadership gaps is essential for ensuring the timely and effective integration of clinical innovations.

In Kenya, Chege et al. (2015) argued that less than 50 per cent of strategies are executed. This is often due to poor leadership skills. Similarly, Silversides and Holmes Jr. (2022) noted that inadequate leadership is linked to adoption and application failures. Tipurić (2022) revealed that health innovation management issues often arise from inappropriate leadership. Strategic leaders are crucial and

highly sought after in local public hospitals. They are needed to foster innovation, especially in complex healthcare environments where uncertainty often hinders innovation leadership (Kiptingos et al., 2020). Based on this explanation, examining the gap in strategic leadership style and learning orientation is crucial in medical innovation. This examination directly impacts the successful adoption and application of new technologies and practices in the larger context.

There is a lack of focused examination in the existing body of research concerning the strategic leadership style and qualities of leaders influencing innovation in Nairobi's public referral hospitals (Shannon, 2021). The missing link between strategic leadership style and effective clinical innovation adoption by leaders lies in several key areas that must be addressed for synergy and effectiveness. Additionally, it involves examining how negative aspects of a leader's well-being impact the quality of their daily decision-making (Wittmers et al., 2024). Overall, opening leader behaviours are associated with creating an environment conducive to idea generation and exploration. Closing leader behaviours focus on refining those ideas to ensure successful exploitation and integration. Both sets of behaviours are crucial for a balanced and effective innovation process.

As a final point, the value of systematic approaches in analysing leadership style effectiveness cannot be overstated. These methods provide a solid foundation for objective assessment. They enhance decision-making accuracy and ensure consistency. They also facilitate effective tracking of progress. In an increasingly complex and competitive business environment, adopting systematic approaches is not just advantageous. It is imperative for achieving and maintaining organisational excellence.

Adoption of Innovation

Innovation drives organisational success (Lukoschek et al., 2018).

Distinguishing between the concept and theory of innovation adoption is vital for deeper insights (Gomes et al., 2021). The theory of innovation adoption, such as Everett Rogers' Diffusion of Innovations Theory, provides a structured, research-based framework. It explains and predicts adoption processes. The theory includes models and empirical research on stages like awareness, interest, evaluation, trial, and adoption. It offers detailed mechanisms and variables influencing adoption, guiding both research and practical application. In contrast, the concept of innovation adoption provides a general overview of the factors and principles involved (Ober, 2020). In the ethical arena of clinical innovation adoption, this study not only supports clinically proven innovations but also underscores the importance of heuristics and unconventional trials in evaluations, reinforcing the need for a deeper examination of these issues (Wiersma et al., 2023).

Clinical innovation, also known as medical innovation or innovative practice, often represents a contentious departure from established patient care norms. This shift challenges traditional practices and can provoke resistance due to its potential disruption of established protocols and patient care routines (Moussa et al., 2018). While innovation promises improved outcomes and advancements, it also introduces uncertainties and risks that can conflict with long-standing practices (Mulligan, 2021). In other words, innovation highlights how uncertainty influences adoption. Integrating clinical innovations demands careful consideration and robust debate to balance potential benefits against the inherent disruption to established care standards. This

practice involves doctors implementing new interventions that have not yet undergone rigorous validation according to evidence-based medicine standards (Wiersma et al., 2023). Critics contend that these heuristic novel approaches, by definition, lack sufficient proof of safety and effectiveness, posing significant risks (Walsh et al., 2023).

Further, there is a crucial distinction between discontinuous and continuous innovations. Discontinuous innovations require new learning or significant behaviour changes. In contrast, continuous innovations involve targeted refinements of existing practices. Discontinuous innovations represent an exploitative source, while continuous innovations are an explorative source of heuristics (Rejon-Parrilla et al., 2022). Misunderstanding these distinctions can impede efficient adoption. A clear grasp of these differences is essential for effective early-stage adoption, implementation, and integration of innovations. While this study does not dismiss these distinctions, it must be rigorously assessed to ensure it genuinely enhances understanding rather than complicates it further. Heuristic-produced clinical innovation, unlike structured research aimed at generating generalizable knowledge, often prioritises immediate patient benefits. This can potentially come at the cost of thorough, evidence-based validation (Wiersma et al., 2023). This raises critical ethical and practical questions: Should the push for rapid innovation override the fundamental principles of evidence-based medicine?

By prioritising immediate benefits over thorough evaluation, these innovations can lead to the adoption of practices that lack robust evidence of their long-term impact. Consequently, while heuristic innovations may offer short-term

improvements, they often compromise the integrity of evidence-based medicine and the reliability of patient care. Therefore, it is crucial to critically assess whether the speed of transition to routine practice is worth the potential sacrifice in thoroughness and reliability. Thus, adopting clinical innovations requires a strategic approach that balances these complexities and ethical considerations (Lipworth et al., 2018).

In essence, the failure to integrate cutting-edge practices effectively in public hospitals is a clear indictment of the current leadership paradigms and adoption strategies. Addressing these deficiencies is not merely a matter of upgrading technology or investing in new treatments but necessitates a fundamental re-evaluation of how leadership styles are exercised and how new practices are introduced and sustained. Until these core issues are addressed, public hospitals will continue to fall short in leveraging the full potential of evidence-based practices to enhance patient outcomes.

As mentioned earlier, examining the relationship between strategic leadership style and clinical innovation adoption is considered an interdisciplinary study (Miller, 2020). This study aims to establish a pioneering framework for conceptualising, measuring, and exploring the relationship between strategic leadership style and the adoption of clinical innovations. Chilvers et al. (2022) emphasise that difficulties in linking strategic leadership to innovation adoption arise from methodological differences, inconsistent variable definitions and measurements, and varying contextual factors.

Addressing these challenges is crucial for advancing our knowledge and improving the practical application of innovation adoption (Link et al., 2024).

Strategic leadership is essential for driving innovation in emerging healthcare markets, particularly in the Global South—low and middle-income countries with high growth potential (Lee, 2019). Discrepancies in outcomes across countries lead to delays and increased costs, underscoring significant issues in healthcare adoption and regulatory variability (Anand et al., 2021). These challenges affect time, cost, and the adoption of medical innovations. Kechagioglou (2023a) argues that overcoming these challenges necessitates robust leadership across governmental, organisational, and industry levels.

Governmental leadership involves developing policies that balance patient safety, innovation, and efficient regulatory processes. Harmonising international standards can streamline adoption, while adequate resource allocation boosts regulatory agencies' capacity. Effective leadership at this level requires integrating these factors.

Industry leadership focuses on associations and consortiums addressing adoption and regulatory challenges. This includes facilitating stakeholder collaboration, sharing best practices, and providing education on regulatory requirements (Laihonen & Huhtamäki, 2023). Effective leadership across all levels is crucial for navigating the complex healthcare innovation landscape. Organisational leadership plays a crucial yet often underestimated role in the adoption of innovation (Abebe et al., 2020). Leadership is not merely a support function but a driving force behind the successful integration of new ideas and practices within an organisation. Effective leaders shape the organisational culture, set strategic priorities, and allocate resources in ways that can either facilitate or hinder innovation. They play a pivotal

role in creating an environment that is receptive to change, motivating employees to embrace new technologies, and overcoming resistance to innovation.

Research consistently shows that without strong, proactive leadership, even the most promising innovations can falter. Leaders who actively engage with and champion innovation initiatives are better positioned to navigate the complexities of change and drive successful adoption. Conversely, a lack of leadership commitment can result in stalled projects, diminished morale, and failed implementations. Therefore, understanding and enhancing the role of organizational leadership is not just beneficial but essential for fostering a culture of innovation and achieving long-term success.

Regionally, studies in Sub-Saharan Africa highlight the importance of innovation for economic growth (Azuh et al., 2020). Cultural and social acceptance also impact adoption rates and patient satisfaction, underscoring how economic, political, and cultural factors intersect (Sunyoto et al., 2019). In Kenya, leadership challenges in medical innovation are significant, with lagging adoption in hospitals impacting public health outcomes (Toroitich et al., 2022). Notably, there is a critical gap in understanding the impact of strategic leadership style on innovation adoption, a shortfall that could undermine effective patient care nationwide.

The study argues that strategic leadership style is pivotal in shaping the adoption of clinical innovations in public referral hospitals in Nairobi. By focusing on how different leadership approaches impact innovation uptake, it asserts that effective leadership is crucial for advancing healthcare practices in these settings. This investigation is crucial due to the growing need for effective strategies to accelerate

innovation adoption in healthcare settings, considering factors like positional power, influence, emotion, expertise, and nonverbal cues (Morgan, 2014). By focusing on leadership styles and their impact on clinical innovation integration, the study aims to pinpoint which approaches are most effective in expediting this process.

This research is not just timely but essential. As healthcare systems worldwide grapple with the complexities of modern medical advancements, understanding the dynamics between leadership and innovation adoption becomes pivotal. The leaders in Nairobi's public referral hospitals play a critical role in shaping how swiftly and effectively new clinical practices and technologies are embraced. By identifying which strategic leadership style are most conducive to fostering innovation, this study could provide invaluable insights for improving healthcare delivery and outcomes.

Critics might argue that focusing solely on leadership styles could overlook other critical factors influencing innovation adoption, such as organisational culture or external pressures. However, this study's targeted approach is not a limitation but rather a necessary focus. Effective leadership is often the linchpin in navigating the myriad challenges associated with adopting innovations. By focusing on this aspect, the research aims to address a key component of the innovation process.

Moreover, this study is a pivotal endeavour in understanding and enhancing the leadership style of clinical innovation adoption in Nairobi's public referral hospitals. Its findings have the potential to inform leadership strategies that can significantly improve the integration of cutting-edge medical practices, ultimately benefiting both healthcare professionals and patients alike.

Statement of the Problem

Despite the vast array of cutting-edge, evidence-based practices, many public hospitals still lag. These practices promise to significantly improve patient outcomes and lower healthcare expenses. However, hospitals often struggle to effectively integrate these advancements into their clinical routines. This persistent issue is not just about financial constraints or lack of resources. It highlights a deeper, more troubling problem: a critical deficiency in leadership ability and style (Piubello Orsini et al., 2021). Additionally, there is a disorganised and inconsistent adoption process. This understanding is not just theoretical; it can greatly affect whether innovations are successfully adopted or rejected. This study aims to explore leaders' perceptions of strategic leadership style. It will examine how these perceptions impact attitudes and motivation toward innovation. Additionally, the study will investigate how attitudes impact the intention and behaviour regarding the adoption of new practices. As mentioned earlier, leadership in public hospitals often falls short. Effective leaders must champion the integration of new practices. They should also inspire and guide their teams through the complex and sometimes turbulent process of change. Unfortunately, many public hospitals have leaders who lack the vision or skills needed to navigate these challenges. This leadership shortfall results in a fragmented approach to adopting evidence-based practices. Initiatives are often poorly implemented or abandoned midway. This leadership gap severely impedes the adoption of best practices, compromises the quality of patient care, and results in unnecessary cost increases. To address these critical issues, it is imperative to fill this gap with a robust empirical process (McCombes, 2023).

Consequently, the problem statement for this study is: "How do leaders' perceptions of strategic leadership style and abilities impact leaders' intentions and behaviours concerning the complex innovation adoption in Nairobi's public referral hospitals?" This formulation identifies the intention to adopt an innovation as the dependent variable. The independent variables include leaders' perceptions of strategic leadership style and abilities. These perceptions cover leadership capability, views on innovation attributes, managerial behaviours, and the organisational climate for innovation. These elements will be examined in detail and appraised in the theoretical section of the study.

Research Objectives

These are goals that the research aims to achieve. This study was responsive to one general objective and four specific objectives, outlined as follows:

General Objective

The study's general objective is to assess how strategic leadership style impacts clinical innovation adoption by leaders in Nairobi's public referral hospitals.

Specific Objectives

Four specific objectives directed the study:

1. To determine the relationship between leadership capabilities and clinical innovation adoption by leaders in Nairobi's public referral hospitals
2. To establish the relationship between innovation-oriented attributes and clinical innovation adoption by leaders in Nairobi's public referral hospitals.

3. To examine the relationship between managers' behavioural predilections and clinical innovation adoption by leaders in Nairobi's public referral hospitals.
4. To assess the relationship between fostering innovation in the organisation and clinical innovation adoption by leaders in Nairobi's public referral hospitals.

Research Hypotheses

These hypotheses propose an expected relationship between specific variables, including measurements and predictions for testing. This study tested four null hypotheses.

H₀1: Leadership capabilities show no significant relationship with clinical innovation adoption by leaders in Nairobi's public referral hospitals.

H₀2: No significant relationship exists between innovation attributes and clinical innovation by leaders in Nairobi's public referral hospitals.

H₀3: Managers' behavioural predilections show no significant relationship with clinical innovation adoption by leaders in Nairobi's public referral hospitals.

H₀4: No significant relationship exists between fostering innovation in the organisation and clinical innovation adoption by leaders in Nairobi's public referral hospitals.

Justification of the Study

The rationale behind this research is twofold. It involves a quest for understanding and a crucial intervention. This intervention aims to bridge a glaring gap in the literature. The core objective is to scrutinise how strategic leadership style impacts clinical innovation adoption in routine healthcare settings. This topic is sorely underexplored. Despite the undeniable importance of leadership in fostering innovation, there is a shocking dearth of research. Specifically, research is lacking on how strategic leadership style at different organisational levels interact. These interactions can either facilitate or obstruct clinical innovation (Weintraub & McKee, 2019). This study aims to fill that void. It focuses on the specific case of Nairobi's public referral hospitals. Here, the dynamics of strategic leadership style and clinical innovation adoption are critically under-researched.

Further, the current landscape of healthcare research has largely overlooked the nuanced perceptions and executions of leadership adoption in clinical innovation (Johns, 2024). This oversight is not merely academic. It has tangible implications for how healthcare organisations adopt and benefit from innovative practices. This study investigates the relationship between strategic leadership style (SL) and the adoption of clinical innovation (CI) within these hospitals. It promises to deliver valuable insights. The study assesses the context-specific SL style of healthcare managers. It also assesses their approach to CI leadership. Additionally, it uncovers how these strategic leadership style influence the adoption of innovation.

Moreover, the proposed model for strategic leadership is tailored to Nairobi's public referral hospitals. This highlights the research's practical implications. These

implications include leadership strategies and policy recommendations on a broader scale. The model addresses leadership challenges and innovation barriers. It promotes targeted style improvements nationwide. It also guides the application of these improvements. The research is not only a contribution to academic discourse. It serves as a practical roadmap for significant, real-world advancements in healthcare leadership and innovation.

Significance of the Study

The practical applications of this research are numerous. They are also essential and transformative. Firstly, the study offers concrete, empirical evidence. This evidence is crucial for healthcare managers and policymakers. It clarifies which leadership styles and traits are pivotal for fostering innovation in healthcare settings (Seaman et al., 2018). This is not merely a theoretical contribution. It serves as a practical guide. This guide can significantly enhance how healthcare leaders drive clinical innovation adoption. Managers and professionals who understand the relationship between strategic leadership style and innovation adoption can refine their strategies. This refinement fosters an environment conducive to effective leadership. This represents a vital shift from the generic approaches currently prevalent in the public sector. It enables a more targeted and impactful promotion of leadership qualities that truly drive progress.

Secondly, the findings present a call to action for policymakers. These policymakers are grappling with cultural and structural impediments to innovation. The insights provided are not just supplementary. They are instrumental in shaping informed leadership adoption initiatives. The implications of this research are

profound for those involved in leadership training and organisational studies. It offers a valuable resource for refining educational programs and leadership development strategies.

Thirdly, educators are often at the frontline of addressing challenges in team collaboration and innovation. They will find these insights indispensable. By integrating the study's findings into tailored training programs and instructional resources, educators can better prepare healthcare professionals. This preparation helps professionals embrace and drive innovation (Boms et al., 2022).

The recommendations emerging from this research are not just theoretical musings. They are actionable strategies for institutions contemplating the integration and optimization of strategic leadership style. These recommendations are crucial for optimizing strategic operations. They also improve efficiency and enhance patient outcomes. Additionally, they serve as a foundational guide for future research. They illuminate gaps and pave the way for deeper exploration.

The significance of this study cannot be overstated. Few studies have examined how strategic leadership style affects the adoption of clinical innovations, which is a crucial healthcare issue. This research aims to investigate the traits of strategic leadership style that accelerate innovation adoption in Nairobi's public referral hospitals. It has the potential to be a pioneering study on the impact of strategic leadership style on innovation adoption in the healthcare sector. It could also contribute a new framework to the existing literature.

Scope of the Study

Eze (2018) asserts that defining the scope of a study is crucial. It helps in setting precise boundaries and focusing the research. However, the scope delineated for this study raises critical questions about its comprehensiveness and applicability. The research focuses on only four of Nairobi's public referral hospitals: Kenyatta National Hospital, Mama Lucy Hospital, Pumwani Maternity Hospital, and Mbagathi Hospital. This focus is notably restrictive. The hospitals are unevenly distributed across three sub-counties: two in Kibra, one in Kamkunji, and one in Embakasi West. This narrow selection may limit the study's generalizability. It might fail to capture the broader dynamics affecting strategic leadership style and clinical innovation across a wider spectrum of healthcare institutions.

The study's narrow focus on these four hospitals provides valuable insights. However, it might not fully account for the diverse challenges and practices across different healthcare settings in Nairobi. Additionally, the specific aspects of strategic leadership style examined—leadership capabilities, cultivation of innovation attributes, managers' behavioural predilections, and fostering innovation—are essential. Yet, they overlook other critical factors influencing innovation adoption. The study's timeline, spanning from January to September 2023, raises concerns. This period may not be sufficient for a thorough and nuanced exploration of the relationships between strategic leadership and clinical innovation. The temporal scope might impact the depth and accuracy of the findings, given the fast-evolving nature of both healthcare practices and leadership theories.

Limitations and Delimitations

The research faced several constraints and challenges. These must be critically examined to understand the implications of its findings. Henderson (2021) highlights that limitations are risks or factors impacting data accuracy beyond the researcher's control. In this study, the cross-sectional design was used. While it is advantageous for its simplicity, cost-effectiveness, and rapid data collection (Milinković et al., 2018), it inherently restricts the depth of analysis.

In social science research, hypotheses can typically be categorized into two main types: correlational and causal (Bhandari, 2023). Correlational hypotheses explore relationships or associations between variables. Causal hypotheses seek to determine whether one variable directly influences another. In other words, specific predictors (assumed causes) are related to specific dependent variables (assumed effects). The snapshot approach used here is adequate for single-point analysis. However, it is inadequate for exploring causal relationships and temporal dynamics, especially if not replicated (Balnaves & Caputi, 2001).

The idea that longitudinal studies inherently address the limitations of cross-sectional studies remains a subject of debate. However, longitudinal surveys can mitigate common method variance and enhance causal inference. They offer notable advantages in addressing validity threats. In contrast, cross-sectional studies can provide valid data early on. Yet, longitudinal studies risk temporary erosion of data quality over time (Rindfleisch et al., 2008).

Longitudinal studies, such as Trends, Panels, or Cohorts, would provide a more comprehensive view. They can consider changes over time. In other words, they

enable the comparison of the same groups and the same phenomena over time. Additionally, future research should consider longitudinal designs. These designs would track changes over time and provide deeper insights into causality.

In essence, time and research design are interconnected. However, the practical constraints of time and budget in this doctoral study precluded the use of such designs. This limitation underscores the need for a more nuanced approach in subsequent studies. This approach would fully capture the dynamics between strategic leadership and clinical innovation. Moreover, the study's narrow focus on Nairobi's public referral hospitals provides valuable localized insights. However, it significantly limits the generalizability of the findings. This restriction to a specific geographic and organizational context means that the results may not apply to other regions or sectors, such as manufacturing, finance, or tourism. The exclusion of broader contexts underscores the need for caution when extrapolating these findings beyond Nairobi's public healthcare settings.

The use of electronic surveys to collect data, though a methodologically sound choice, does not come without limitations. Despite efforts to reduce biases—such as controlling for consistency effects and implementing procedural safeguards—the potential for methodological discrepancies and psychometric issues remains (Rasetshwane et al., 2023). The study's reliance on digitized surveys, rather than self-report surveys, was a more appropriate choice. Digitised methods are associated with lower bias compared to other approaches. Despite this advantage, one cannot overlook the necessity for ongoing vigilance to maintain data quality (Kiprotich et al., 2021). Ignoring this need for constant oversight risks undermining the integrity of the research findings.

Thus, while digitised surveys mitigate some biases, they are not a panacea. They demand careful management to ensure their effectiveness. Nonetheless, the study's strengths should not be overshadowed by these limitations. The application of strict exclusion criteria and a standardized assessment instrument significantly enhances the accuracy of the results. These aspects of methodological rigor help mitigate confounding factors and support the robustness of the conclusions drawn.

To encapsulate, the study has limitations. These include its cross-sectional design, geographic focus, and potential biases in data collection. These limitations pose challenges. However, they also highlight areas for future research and methodological refinement. The strengths of the study include its rigorous approach and contextual relevance. These strengths provide a solid foundation for exploring the complex relationship between strategic leadership style and clinical innovation adoption. Future research should build upon these findings. It should address the identified limitations. This will advance our understanding and application of strategic leadership style in diverse healthcare settings. In closing, while the study's focus is well-intentioned, its limitations in scope and timeframe suggest a need for more inclusive research. This would help fully understand the interplay between strategic leadership style and innovation in diverse healthcare environments.

Chapter Summary

Chapter One is positioned as the cornerstone of this research. It sets the stage for a comprehensive exploration of strategic leadership style and its impact on innovation adoption. While it introduces strategic leadership as the study's central

theme and provides a contextual backdrop, there are critical aspects that warrant closer scrutiny.

The chapter outlines the adoption of innovation across global, regional, and Kenyan contexts. It presents a broad analysis aimed at contextualizing the study. However, this expansive approach risks diluting the focus. It may overextend the analysis without delving deeply into the specific nuances of each context. A more concentrated examination of the Kenyan situation, particularly in Nairobi's public referral hospitals, would offer clearer insights. This would enhance the relevance of the research framework.

Further, while Chapter One includes a detailed Statement of the Problem, Research Objectives, Hypotheses, Scope, Justification, Significance, Limitations, and Delimitations, it is crucial to scrutinize their integration into the research framework. The effectiveness of this chapter hinges not just on presenting these components but on how well they interconnect to address the specific challenges of innovation leadership in Nairobi's public referral hospitals.

The purported robustness of Chapter One in laying the foundation for the research framework is subject to critique. The significance of the study is highlighted, but one must question whether the scope and limitations are adequately balanced. The chapter's ability to ground the research in a relevant and actionable context is essential. Yet, the broad treatment of the problem and objectives could obscure the focus on local dynamics and practical implications.

In essence, while Chapter One aims to establish a solid framework for understanding innovation leadership challenges, it must be assessed for its depth and

specificity. It should address the unique needs and realities of Nairobi's healthcare sector. The chapter's success in setting up the research will ultimately depend on its ability to provide a precise, focused, and contextually relevant foundation. This foundation must genuinely reflect the complexities of strategic leadership style in clinical innovation.

CHAPTER TWO: LITERATURE REVIEW

This chapter explores the conceptions of clinical innovation adoption (CIA) and strategic leadership style (SLS) in the hospital context, highlighting their relationships through key indicators. It reviews recent empirical studies, previous research, organisational reports, and regulations related to SLS and CIA. Theoretical and conceptual frameworks outline the connection between these constructs and healthcare leaders. The chapter concludes with a summary of the discussions.

Review of Literature

The literature review is vital in a dissertation, establishing the context and rationale for the research (Baker, 2016; Lim et al., 2022; Paul et al., 2021; Thomas et al., 2020). It involves compiling relevant sources to highlight agreement or disagreement with prior findings. Aveyard et al. (2021) and Baker (2016) emphasize that a literature review helps researchers understand existing literature, identify gaps, and justify their arguments. Ultimately, it offers a valuable theoretical contribution (Cloutier & Langley, 2020).

Ham (2020) highlights and receives support from Wilson (2020) affirms policies that the adoption or rejection of innovation depends on socio-political factors, organisational traits, innovation attributes, profession, and individual or client characteristics. Key influences include the external environment, policies, leadership, structure, complexity, compatibility, trialability, attitudes, knowledge, motivation, readiness, and adaptive capacity (Spanos et al., 2024). Managers' attitudes are key factors that influence human behaviour (Bashir et al., 2023; Shannon, 2021; Tormala & Rucker, 2022). They represent the learned evaluative judgments that guide how

individuals consistently react to an object with varying degrees of favour or disfavour (Ajzen, 2018; Fischer et al., 2020). Attitudes encompass the collection of evaluative information that individuals hold about an object, which is synthesised and summarised to form an evaluative judgment retained in memory (Onyeneke & Abe, 2021). In conclusion, understanding attitudes is crucial as they significantly shape how employees perceive and interact with various objects, innovations, and situations.

Research by Fischer and Sitkin (2023) noted that strategic leaders adopt transformational and transactional leadership styles to influence organisational performance. Strategic leaders foster employee ingenuity and innovation by engendering a safety-conscious environment with opportune reporting mechanisms and infrastructure, sanctioning employees to learn without the trepidation of penalization (Bartman et al., 2021; Cadeddu et al. 2023; Carlucci et al., 2020). Strategic leaders play a crucial role in the cultivating and diffusion of innovation-oriented attributes (Filser et al., 2021). According to Lam et al. (2023), the inability to establish innovation-oriented attributes (institutionalise) can significantly impact the performance of an organisation. Similarly, Kurtmollaiev (2020), al-Hashimi (2020), al-Hassani and al-Somali (2022) suggest strategic leaders can enhance their skills through mentoring, job rotation, coaching, shadowing, and learning environments, utilizing both formal and self-directed bundles. Lieberman (2023) argues, and similarly supported by Pereira et al. (2022) that transitioning to sustainable healthcare practices is crucial in replication to the expeditiously transmuting external environment, but low- and middle-income countries still lack the efforts. Bastani et al. (2021) highlighted the positive postures and demeanours of hospital managers in Jordan influencing the adoption of evidence-predicated management in the decision-

making process. Hospital managers' adoption of this approach is influenced by organisational culture, anterior organisational knowledge, and familiarity with scientific evidence, which can be amended by healthcare settings (Custódio et al., 2019). Therefore, strategic leaders must foster positive postures towards evidence use, enhance subjective standards, and identify potential issues, acting as facilitators and deterrents to department development.

A positive leadership style and enhanced employee ingeniousness are liable to foster innovation in the organisation (Peterson et al., 2020). It has been suggested by Nguyen et al. (2023) that strategic leadership is concerned with promoting innovation within organisations (at the organisational level). Lei et al. (2020) noted that strategic leaders must drive and implement the vision from a variety of angles, including relationships, customer focus and learning, innovation, and finance, and communicate meaning to employees about their role in achieving this vision and inspiring an incentivized replication to novel challenges. De Keyser et al. (2023) argue that understanding strategic leadership requires a focus on what efficacious senior leaders authentically do to engender an organisation that is strategically oriented. Therefore, this empirical dissertation is based on a strategic leadership perspective, emphasizing strategies, attitudes, activities, and perceptions, to predict behaviours that contribute to improving business performance.

As a final point, strategic leaders are critical to maintaining a competitive edge in an ever-changing and intricate healthcare environment (Chapman & Hewitt-Dundas, 2018). Strategic leaders need to pinpoint valuable, rare, costly-to-imitate, and difficult-to-replace organisational capabilities to secure a superior and competitive advantage. Further, providing financial incentives and resources for successful

innovation integration is crucial for long-term success. The literature review of this study demonstrates key predictor and response variables as outlined below.

Strategic Leadership Style and Clinical Innovation Adoption

Examining the relationship between strategic leadership style and clinical innovation adoption is considered an interdisciplinary study. This is because it involves integrating theories, concepts, insights, and methods from multiple academic disciplines to address complex questions or problems (Miller, 2020). Combining these areas requires understanding both leadership dynamics and healthcare or medical innovation processes, making it an interdisciplinary approach. Chilvers et al. (2022) argue that linking strategic leadership to innovation adoption faces challenges. These challenges are attributed to methodological differences, inconsistent variable definitions and measurements, varying contextual factors, and a peripherally siloed approach to interdisciplinary variables. This perspective is compelling but oversimplified. While these factors contribute to the complexity, the core issue is deeper. It lies in how strategic leadership is conceptualized and applied across different contexts. Methodological differences and inconsistent measurements are symptoms of a more fundamental problem. This problem is the lack of a unified framework for integrating strategic leadership with innovation adoption. Additionally, the siloed approach to interdisciplinary variables is not just a peripheral issue. It is a critical barrier that impedes comprehensive understanding and effective application. Addressing these challenges requires more than acknowledging their existence. It necessitates a fundamental reevaluation of how strategic leadership is defined, measured, and applied within the innovation ecosystem. Without this reevaluation,

efforts to link strategic leadership to innovation adoption will remain fragmented and ineffective.

In terms of focus and scope, this strategic leadership style emphasises long-term vision, adapting to external changes, and aligning organisational goals with broader environmental trends. It requires a holistic understanding of the organisation's position in its industry and the ability to anticipate future challenges. This style often involves driving significant change, encouraging innovation, and fostering a culture of agility. Strategic leaders are typically more comfortable with uncertainty and are adept at guiding organisations through periods of transformation (Potosky & Azan, 2023). In comparison, the strategic emphasis on future planning and adaptability can clash with the transactional focus on current operations and stability. Heavily transactional leaders may resist changes proposed by strategic leaders, fearing disruption to established systems and practices. This style often involves driving significant change, encouraging innovation, and fostering a culture of agility. Decision-making is often decentralized and involves broad consultation and input from various stakeholders. Strategic leaders leverage diverse perspectives and data to inform decisions that align with long-term objectives. Motivation under strategic leadership is often tied to long-term goals, vision, and the broader impact of the organization's mission. Strategic leaders may use motivational techniques that emphasize purpose and growth opportunities.

Strategic leadership drives hospitals to exceptional performance through effective and efficient management (A'aqoulah, 2024). In hospitals, strategic leaders bear a crucial responsibility to address the growing demands for sustainability and meet patients' evolving needs. Beyond merely managing day-to-day operations, these

leaders must ensure that the entire hospital is aligned with success in an increasingly competitive healthcare marketplace. This entails not only implementing effective practices and innovations but also fostering an organizational culture that prioritises both patient satisfaction and operational excellence. The ability to harmonise these elements is essential for navigating the complexities of modern healthcare and achieving long-term success.

Strategic leadership involves executive-level decision-making and addressing organisational challenges (Bhardwaj et al., 2021; Elbanna et al., 2020; Ndayishimiye et al., 2023; Tumate & Njoroge, 2023). In the same vein, Pichlak (2016) makes a notable contribution by identifying various factors influencing the adoption of innovation, yet it is glaringly evident that the strength of leadership has not been sufficiently quantified or established. This oversight is not merely an academic nuance; it is a fundamental gap that undermines the robustness of the research. Leadership strength, undoubtedly a critical determinant in driving successful innovation adoption, remains underexplored and inadequately addressed. Without a clear understanding of how leadership influences these processes, the findings of Pichlak's study lack the depth necessary for truly actionable insights. Smith and Bhavsar (2021) assert that future research must rectify this oversight to provide a comprehensive view of all factors at play, particularly the pivotal role of leadership in shaping innovation outcomes.

Ireland and Hitt (2005), Delisi (2020), and Hambrick and Wowak (2021) highlight the critical role of managers in navigating complexity, fostering innovation, and ensuring organizational longevity through strategic leadership. They show that by integrating strategic foresight, flexibility, and collaborative decision-making, strategic

leaders drive immediate performance and build a resilient foundation for sustained success in dynamic environments (McCausland, 2023). Thus, organisations seeking to thrive amidst challenges and capitalise on opportunities in today's rapidly evolving landscape find strategic leadership indispensable.

Strategic leaders in CEO positions, TMTs, senior executives, and boards impact organizational outcomes. They shape innovation by directing attention, allocating resources, and making strategic policy decisions (Barbazzeni, 2022). Strategic leadership stands out during organizational challenges, discontinuities, or when boosting competitiveness. Unlike traditional leadership, which focuses on interpersonal interactions, strategic leadership is essential in these situations (Sapiro, 2024). One reason is that the speed of innovation adoption in public hospitals reflects agile leadership. Leaders respond quickly with evidence-based approaches (Franco et al., 2020). They scan the environment and analyse capacity thoroughly. They use lean leadership styles to navigate changes in the healthcare market (Al Fannah et al., 2022; Garretsen et al., 2022; Guarcello & Raupp, 2021; Rzepka & Bojar, 2020).

Innovation adoption drives the diffusion of new ideas and practices, integrating them into society and unlocking significant social and economic benefits (Currie & Spyridonidis, 2019). Without actively embracing and implementing innovations, progress would stagnate and hinder advancements in quality care and other areas (Walker et al., 2021). Moreover, it is evident on literature hospitals that promptly adopt innovations experience notable improvements in treatment patterns and health outcomes. This complexity often challenges scholars in conceptualising and measuring innovation adoption effectively, revealing a significant gap in our understanding and application of these concepts (Jaleha & Machuki, 2018).

Furthermore, the adoption process within these institutions frequently lacks coherence and strategic planning. Too often, hospitals haphazardly adopt new practices, leading to inconsistent application and undermining the potential benefits (Correa et al., 2020). Without a structured, well-considered approach, even the most promising innovations can falter. This disorganization not only wastes valuable resources but also hampers the overall quality of care provided to patients.

Recent healthcare advancements promise to enhance clinical services, health outcomes, and caregiver-patient convenience. However, leaders face challenges in systematically identifying and adopting these innovations, which are often overlooked in formal caregiver education. Embracing innovation becomes crucial for leaders because of these challenges. By focusing on long-term goals, anticipating market shifts, and fostering innovation, strategic leaders guide organisations toward sustainable success in dynamic environments. This study aims to assess how elements of strategic leadership—such as leadership capabilities, innovation-oriented attributes, managers' behavioural tendencies, and fostering innovation within the organisation impact the leadership of clinical innovation adoption.

This study implicitly indicates a strategic relationship between leadership styles and innovation, while existing literature identifies five key factors that either facilitate or obstruct innovation adoption. These factors operate on a spectrum within organisations, rather than being exhaustive or binary (Kumpf & Proud, 2022). Their study identifies six specific barriers to adoption affecting organisational, senior management, employee, and patient levels. They also observe that senior management falls for the allure of new technologies, akin to the hype cycles that surround emerging innovations. This fascination can divert attention from established

innovations, which may require significant time and financial investment for full integration. In this study, the principles of strategic leadership styles encompass predictor variables such as leadership capabilities, innovation-oriented attributes (inherent to product, idea, procedure), managers' behavioural preferences, and the fostering of innovation within the organisation. As a result, strategic leadership not only emphasises effective management but also plays a pivotal role in driving innovation and shaping the future trajectory of organisations. Leaders who master these strategic competencies wield substantial influence over organisational success by aligning internal capabilities with external opportunities and challenges (Norzailan 2016).

Leadership styles reflect internal paradigms and societal shifts, influencing how leaders interact and pursue objectives (Al-Thawabiya et al., 2023). These styles, including Transformational, Transactional, Charismatic, Visionary, Servant, Ambidextrous, and Coaching leadership, encompass personal traits and behaviours affecting communication, motivation, and organisational culture (Katuse, 2019). In strategic leadership, Vera et al. (2022) argue that healthcare leadership addresses the adoption gap of new technologies and practices, emphasising alignment of environment, strategy, and organisation to optimize execution. As leader behaviour is increasingly recognised as a key antecedent in innovation, a reliable report shows that transformational leadership's impact is enhanced by innovation management (Hansen & Pihl-Thingvad, 2019). Some organisations burden innovation teams with tasks like commissioning, supporting, and advocating for innovations but often do not give them the authority to prioritise adoption. Even when they are empowered, their skills are more suited to change management than to the innovations themselves, creating a

critical knowledge gap. This misalignment complicates integration and highlights the need for a more nuanced approach to managing innovations.

Rogers in 2003 identified five key qualities that are crucial for the success of an innovation, emphasizing attributes such as relative advantage, compatibility, and complexity. However, the existing body of research, including the works of Balas & Chapman (2018) and Horton et al. (2018), has predominantly highlighted the postadoption challenges as significant barriers to the diffusion of innovations. While these studies provide valuable insights into the difficulties faced after adoption, they fall short of addressing the fundamental disconnect between diffusion and preadoption (Dzallias & Blind, 2019; Everhart et al., 2021).

The conventional approach treats diffusion and adoption as separate phases, which undermines the potential for a more integrated strategy. This fragmented view fails to capture the complex interplay between these processes, which are inherently interconnected. By addressing this disconnect, this study aims to bridge the gap between the two phases, proposing a framework where the lessons learned during adoption are effectively utilised to enhance the broader diffusion of innovations.

In contrast to the prevailing focus on postadoption hurdles, this approach advocates for embedding mechanisms that link the experience of adoption in one context with the process of spreading innovation across different contexts. This perspective not only addresses the immediate challenges encountered during the adoption phase but also leverages these experiences to facilitate a more coherent and successful diffusion process (Vega et al., 2019; Viswanathan & Gadgil, 2020). By doing so, the study offers a more nuanced understanding of how innovations can be

both adopted effectively through strategic direction and disseminated broadly, thereby advancing the field beyond the limitations of previous studies.

Leadership Capabilities and Clinical Innovation Adoption

Leadership capability is what sets leaders' style, abilities, and organisation apart from its rivals and collaborators (Cuervo-Cazurra et al., 2020; Schoemaker et al., 2018; Votova et al., 2019; Warri, 2022). This includes resources, competencies, market understanding, research, and development that can be habituated to maintain a competitive edge in terms of performance, collaboration, and competition (Adegbite et al., 2018; Helfat, 2022). Environmentally and socially responsible businesses have a higher chance of economic success through competition, cooperation, and superior performance (Lepore et al., 2023). This leadership capability encompasses the skills and competencies of leaders in envisioning, strategizing, and executing innovative practices (Potosky & Azan, 2023).

Leaders who are perceived as highly capable are more likely to inspire confidence in the adoption of innovations. Their ability to navigate complex situations and make informed decisions (adoption) is crucial for successful implementation. Building leadership capacity and capability is a critical facet of strategic leadership development. It involves developing context-specific skills, competencies, and attributes. Leaders must engage in lifelong learning and care of their well-being to effectively guide and manage people, teams, and initiatives within an organisation (Wittmers et al., 2024). This concept is far from trivial; it represents the essence of how leaders inspire, motivate, and drive organisational success through their distinct

leadership styles and actions (Cozzi, 2023; Klein & Şener, 2023; Puaschunder, 2022; Sukoco et al., 2022).

Leadership capabilities are not merely theoretical constructs but practical elements that include the ability to adapt behaviours, strategies, technologies, and approaches in response to new ideas. These capabilities define what makes a leader effective, whether they are in leadership positions or aspiring to them (Yildiz et al., 2024). The emphasis on leadership capabilities underscores their fundamental role in distinguishing successful leaders and highlights the urgent need for a rigorous focus on developing these competencies to drive organizational excellence and innovation.

Conceptualized leadership capabilities place innovation leadership at the forefront, deeming it crucial for driving clinical innovation. As diffusion-adoption theory advances, it increasingly examines how various leadership styles and strategies impact innovation adoption in healthcare and other technology-driven sectors (Dingman & Bass, 2021; Gardner et al., 2018; Gruber, 2020). Effectively, innovation leadership must foster a culture of innovation that embraces experimentation and risk-taking while ensuring strategic alignment with the organization's overarching goals. This dual focus is not merely beneficial but essential for aligning innovation efforts with broader strategic objectives. While leadership capability is more centered on the qualities and skills of individual leaders, organisational capability refers to the broader institutional or systemic strengths and capacities that enable an organisation to function effectively and achieve its mission. They are related because effective leadership often contributes to building strong organisational capabilities, but they address different levels and aspects of organisational functioning. Strategic leaders

can use system insights to mobilise innovation adoption and application across decentralised networks (Beharrell et al., 2020).

Research into how institutional and clinical governance of public referral hospitals affects strategic leaders' understanding of uncertainty is a topic of interest (Ciulla, 2020; Huebner & Flessa, 2022; Lipunga et al., 2019; Mutsvangwa, 2018). A key quality in leadership includes decision-making under uncertainty (How effectively individuals make decisions in ambiguous or uncertain situations, demonstrating adaptability in their thought processes). It is an indicator of effective innovation leadership.

Effective strategic leaders are perceived as having strong organisational skills and operating decisively, inspiring and modelling behaviours for others (Bosak et al., 2021; Ciulla, 2020; Kouzes & Posner, 2023). Public referral hospital leaders who assess organisational characteristics and strategic decision-making gain a relative advantage in performance (Valor et al., 2022). These indicators collectively provide a comprehensive assessment of an individual's adaptability as a response variable in studies examining leadership, organisational behaviour, psychology, or related fields. Each indicator helps researchers understand how individuals cope with change, uncertainty, and complexity, which are critical in assessing adaptability in various contexts.

Leaders with a strategic vision play a crucial role in fostering innovation adoption through diverse means, aiding organisations in formulating innovation strategies and promoting a culture of innovation (Hamilton et al., 2021). Social media platforms like X (formerly Twitter) are utilized by public and non-governmental

organisations to disseminate information or financially lobby a course about social and clinical innovations, facilitating their adoption across diverse sectors and demographics (Hassan & Kapila, 2022; Schuster & Kolley, 2020). This adoption of social media channels underscores the importance of leaders with strategic vision in promoting an innovation culture. Social interactions and relationships are vital for healthcare professionals in delivering care in hospitals, fostering a dynamic and safe environment that inspires innovation when conversations are open and knowledge is shared (Hassan & Kapila, 2022; Schuster & Kolley, 2020).

Theoretical perspectives highlight that organisational culture is crucial in shaping both innovation and adoption leadership. A culture that values continuous targeted improvement and risk-taking encourages leaders to adopt innovative practices and empowers employees to embrace new leadership approaches that support innovation. Based on these connections, innovation adoption with the adoption of leadership academically and theoretically involves exploring how leadership styles, organisational culture, and contextual factors interact to facilitate the acceptance and application of innovations within organisations. Consequently, understanding and aligning these elements is essential for effectively driving and sustaining innovation.

The managerial approach to a hospital is not a rigid discipline defined by one-dimensional principles; it is fundamentally shaped by subjectivity. To claim otherwise is to ignore the intricate web of emotional, social, spiritual, political, technological, legal, and rational factors that influence managerial decisions (Richard, 2020). Any attempt to study healthcare leadership in a way that fails to capture this multifaceted nature is inherently flawed (Mbigi, 2007). Ultimately, a truly effective approach must

embrace the complexity and diversity inherent in management, rather than reducing it to a simplistic, one-size-fits-all model.

The literature recognises that organisational capabilities stem from managerial, supply chain, operational, and marketing capabilities (de Souza et al., 2022; Sunyoto et al., 2018). Individual capacity, whether low or high, dictates task fulfilment and desired outcomes. Examining internal drivers of enterprise growth and supporting philosophies is pivotal in organisational reviews (Athota, 2021; Schwartz & Schwartz, 2020). For capacity analysis, it identifies competitive weaknesses and leverage advantage. Thus, a thorough understanding of these capabilities and their impact on organisational performance is crucial for strategic planning and achieving long-term success.

Overarching leadership capabilities encompass strategic, tangible, and intangible resources and functions developed to adapt to external changes (Ngongo et al., 2019; Rehman et al., 2019). These leadership capabilities mediate between organisational performance and its determinants. Effective leadership capabilities and management distinguish thriving organisations from failing ones. Similarly, Ediansyah et al. (2022) contend that resource integration and leadership networking capabilities positively impact hospital operations. Mechanisms of leadership capabilities and style such as navigating ambiguity, managing complexity, tech proficiency, and adapting to changing demographics and cultures, are vital assets (Dalcher, 2020). Since organisations employ leadership capabilities to fulfil their mission, execute plans, and satisfy clients, they are challenging for others to duplicate. Based on this explanation, excelling in leadership, culture, resilience, external

relations, structure, and entrepreneurship, ensures competitive advantage and future success (Sasmito et al., 2023).

Despite significant progress in the public health sector, lingering inefficiencies and underrecognized leadership capabilities hinder innovation (Prange, 2021).

Resource-Based Theory (RBT) defines these capabilities as an organisation's capacity to adapt and innovate in response to environmental and market changes, derived from broader strategic management theory (Sapiro, 2024). The main challenge lies in swiftly executing effective metamodels in organisations (Koutsopoulos et al., 2024). However, environmental dynamism increasingly drives change in businesses. Factors like social, cognitive, emotional, attentional, and psychological elements foster an atmosphere conducive to innovation and the integration of clinical and technological advances into health systems (Wong et al., 2023). Yet, concrete steps to address healthcare sector issues are limited in momentum (Cobben et al., 2023).

The success of hospitals unequivocally depends on cultivating distinct leadership capabilities (Kechagioglou, 2023a; Montreuil et al., 2021). Innovative leadership, with its five critical dimensions—creative thinking, determination for innovation, openness to diverse opinions and risks, establishing innovation mechanisms, and executing innovative ideas—is not just beneficial but essential for organizational flexibility and performance in healthcare (Alhassani & Al-Somali, 2022; Helfat, 2022; Zhu et al., 2024). This multi-faceted approach to leadership is imperative for navigating the complexities of modern healthcare environments and achieving superior outcomes.

Recent literature compellingly highlights the positive relationship between leadership capabilities and healthcare performance. Loureiro et al. (2023) argue for evaluating organizations through strategic rather than operational lenses, emphasizing that bidirectional approaches such as hybridity and fluidity are essential for tackling contemporary challenges (Laihonen & Huhtamäki, 2023). Consequently, leaders and managers must grasp these complexities thoroughly. Organisations must exhibit flexibility and adaptability to excel in the face of ever-changing demands (Järvi et al., 2018). Without this deep understanding and agile response, healthcare institutions risk falling behind in today's dynamic environment.

Promoting innovation through the lenses of social networks and transformational leadership theories is not merely advantageous but essential for advancing medical and social practices within hospitals (Naguib et al., 2018). Innovation is pivotal for enhancing care quality and ethical practices, which are critical to the success of public hospitals (Morain & Largent, 2023). It drives substantial improvements, elevates customer satisfaction, and secures a competitive edge. The effectiveness of strategic leaders, therefore, rests on three crucial factors: their leadership capabilities—rooted in personal intuition and the cultivation of a robust leadership identity—professional credibility, and a deep understanding of organisational dynamics (Fanelli et al., 2022). Without these elements, efforts to foster innovation and achieve excellence in healthcare will inevitably falter.

Core competencies, defined by domain-specific knowledge and skills, often become rigid and foster path dependencies, creating significant challenges over time (O'Connor, 2018). In contrast, leadership capabilities involve a blend of unique knowledge, and skills integrated into organizational activities and structures,

influencing the entire organization. Unlike core competencies, leadership capabilities endure beyond the departure of individual leaders, highlighting the necessity for both new and seasoned leaders to critically understand their limitations, strengths, and weaknesses (Bolman & Deal, 1991; Ritchie et al., 2021). This ongoing awareness is essential for maintaining organisational resilience and adaptability in the face of evolving challenges.

The functions: managerial, and policy capabilities are far from mere administrative functions; they are the core internal assets essential for mobilizing, directing, and optimising resources to achieve strategic objectives. In the pursuit of survival, growth, and development, these capabilities do more than just align resources they must adeptly manage the intricate balance of intangible, physical, and financial capital, as well as knowledge within teams. This management is crucial for fostering both internal cohesion and external relationships. Despite their symbiotic and critical role, these capabilities often operate amidst inherent tensions and conflicts, highlighting their complex nature and the need for a nuanced approach to harnessing their full potential (Herrera et al., 2023; Kucharska & Rebelo, 2022). The effective deployment of these capabilities is not just a strategic advantage but a fundamental necessity for organisational success and resilience.

Managerial capabilities, a subset of organisational leadership capabilities, address directors' style and ability to navigate change effectively (Ambrosini & Altintas, 2019; Fishman et al., 2021). The synergy between leadership capabilities and managerial style is critical; effective leadership cannot thrive without a compatible managerial approach. Leadership capabilities shape strategic vision and influence organizational culture, while managerial style dictates how those capabilities are

implemented and operationalized. Aligning these elements ensures that leadership intent translates into practical, impactful results, reinforcing the importance of integrating leadership skills with an appropriate managerial style to drive organizational success. Managerial capacity is pivotal for maintaining and enhancing an organization's competitive edge and performance, driven by the revitalization and transformation of resources influenced by managerial cognition, human capital, and social capital—particularly the value of social connections. Effective leadership acknowledges that organizational knowledge is integral to operational flow, facilitating a smoother and more efficient process. Therefore, hospitals led by strategic leaders who excel in knowledge management and exhibit advanced leadership capacity are likely to achieve superior performance outcomes (Fahlevi et al., 2022; Kosklin et al., 2023; Lam et al., 2023). This correlation underscores the necessity of aligning leadership capabilities with comprehensive knowledge management to drive exceptional results in healthcare settings.

A capability policy is not just a procedural formality; it is an essential instrument for addressing underperformance with fairness and consistency within an organisation. This policy underscores the organisation's commitment to employee development, mental health, and overall well-being. The context of this study is the hospital sector. Hospitals, as major research and service organisations, offer vital services impacting care quality and innovation adoption based on sound policies (Ngongoni et al., 2022; Zhu et al., 2022). Thus, implementing a robust capability policy is crucial for enhancing performance and fostering an environment conducive to high-quality patient care and effective innovation.

To be truly effective, a capability policy involves two critical processes: Firstly, capacity building, which lays the groundwork for organisational targeted improvement. Secondly, capability building equips the organisation with the power to drive innovation adoption (Demaio & Marshall, 2018). Without such a policy, organisations risk undermining their efforts to foster a governmental supportive and productive work environment, ultimately jeopardizing their capacity to innovate and succeed. Thus, implementing a robust capability policy is not merely a best practice but a strategic imperative for organisational excellence. By clearly defining expectations and procedures, these policies not only promote fairness and transparency but also cultivate trust and loyalty among frontline employees (Porter et al., 2024).

Hospitals, as intricate adaptive systems, demand effective leadership to harmonize complex innovations and diverse professional agendas. Strategic leaders must grasp their capabilities and understand the dynamics of their contexts to drive innovation successfully, rather than merely reacting to disruptions with impulse-driven decisions (Albuquerque et al., 2024). Inflexible managers, particularly in public hospitals, often falter in their innovation efforts by focusing on obstacles rather than utilising organisational skills and credibility to address patient needs. To navigate this complexity and achieve desired future states, developing a roadmap that aligns with leadership capabilities is appropriate (Alves et al., 2018; Höglund et al., 2018). This underscores the importance of focusing on leadership capabilities in the study, as they are pivotal in guiding hospitals through the challenges of innovation and ensuring effective outcomes.

Innovation-Oriented Attributes and Clinical Innovation Adoption

Innovations represent new features or advanced elements designed to provide specific customer benefits. Rogers and Shoemaker's (1971) classic definition of 'adoption' is making optimal use of a new idea as the best available course of action. The attributes of an innovation refer to the characteristics of the innovation that significantly contribute to its adoption. Innovation attributes include the perceived benefits, complexity, and compatibility of the innovation with existing practices in the context. Leaders' perceptions of the attributes of an innovation can influence their attitude and motivation toward its adoption. Innovations that are seen as beneficial and easy to integrate are more likely to be supported by leaders. Damanpour and Schneider (2009) reveal that despite these promising characteristics (attributes) as significant to adoption, studies are still scarce in this area. Throughout this study, clinical innovation refers to innovation and processes that predict rather than outcome, serving as the foundation (Hutchison et al., 2015).

Communities' and practitioners' perceptions of innovation attributes are crucial for adoption and diffusion (Das, 2022). Two key models frame this process, but each has limitations. The Gartner Hype Cycle, introduced by Fenn in 1995, often overstates the excitement and disillusionment around new technologies. Rogers' Innovation Diffusion Model, from 1963, simplifies how innovations spread across social groups, missing the complexity of adoption.

Rogers' scale of innovation attributes, including perceived impact and ease of use, is the most comprehensive despite these flaws. This study focuses on perceived impact, examining how innovations affect healthcare professionals' work processes

rather than comparing them to existing alternatives. This approach offers a clearer view of an innovation's value.

Adoption, a fundamental yet often vague concept in innovation studies, suffers from imprecision due to its everyday use (Tappen et al., 2024). Innovations perceived as radically different or complex face hurdles, while visibility affects adoption rates (Vagnani & Volpe, 2017; Vargo et al., 2020). Effective innovation adoption requires proactive managerial actions, including initiative-taking and emotional intelligence. In the absence of these indicators, strategic leadership is essential for overcoming barriers like organizational readiness and resistance to change (Cinar et al., 2019; Van Houtven et al., 2023). This highlights the need for leadership in clinical innovation, encompassing skills in communication, decision-making, and team motivation (Kirchner et al., 2020).

Managers' Behavioural Predilections and Clinical Innovation Adoption

This involves the personal tendencies and inclinations of managers towards risk-taking, openness to new ideas, and proactive behaviours (McKenna et al., 2018). Leaders with a predisposition towards embracing new ideas and taking calculated risks are generally more inclined to support and advocate for the adoption of innovations. Mbigi (2007) asserts supported by Lin, et al. (2019), that managers are fundamentally shaped by their cultural contexts, implying that their perceptions are confined by time (temporal) and cultural paradigms they operate within. This perspective underscores a crucial point: both managers and employees are limited by the cultural frameworks that influence their views and decisions. Kremer et al. (2019) argue, similarly to Lukoschek et al. (2018), that managers can become innovation

leaders by establishing effective group norms, strategically designing teams, managing external interactions, demonstrating leadership support, showing organisational backing, and applying performance management effectively. Therefore, the notion that management can be approached through purely objective or standardised models is misguided. Si et al. (2022) argue that the true substance of management lies in its inherent subjectivity, dictated by the diverse cultural paradigms that shape organisational behaviour and perceptions. Ignoring this subjectivity is to overlook a fundamental aspect of how management operates in real-world settings.

Managers' leadership styles are not just a superficial collection of attitudes, behaviours, beliefs, and values (Anderson et al. 2018; Kropp et al., 2021). They reflect a deeper interplay of individual and collective dynamics that impact organisational change (Ahmadi et al., 2023; Mano & Çitaku, 2024). The notion that behavioural predilections—essentially, the decision makers' stance—determine organisational adoption decisions (Nilsen et al., 2020) overlooks the complexity of how managers engage in power struggles to shape and enforce norms within their professional communities (Cruess et al., 2018; Nicolini et al., 2016). This perspective is further complicated by the fact that human behaviour is influenced by a broad spectrum of disciplines, including biology, psychology, sociology, anthropology, philosophy, ethics, and law (Rees & Mullins, 2023; Rowland, 2020).

Managers' perceptions of change are crucial, as they significantly affect employee attitudes and organisational outcomes (Buick et al., 2018; Fisher et al., 2020; Potosky & Azan, 2023). For instance, the interaction between theory and individual perceptions guides organisational behaviour, making it clear that attitudes

towards AI and other innovations are deeply influenced by managerial concerns (Haketa & Qutieshat, 2023). Addressing these concerns is essential for successful AI adoption and positive organisational change. Future leaders must therefore grasp the intricacies of human-AI interaction (Haupt & Marks, 2023; Landes, 2023) and recognize that managerial ideas are pivotal in driving meaningful progress and engagement within organizations (Rees & Mullins, 2023).

Managers undeniably wield substantial influence over employees' attitudes and behaviours, which are shaped by their thoughts, emotions, political views, and decisions (Cao et al., 2021; Jones, 2020; Onyeneke & Abe, 2021; Zhang & Liao, 2021). Their perspectives on the organisation, management style, and working conditions directly impact how employees perceive their roles and perform their duties. These dynamics underscore the necessity for creating an innovation climate and environments where managers are attuned to their teams' psychological and emotional needs, which in turn can foster a more engaged and productive workforce.

Further, the introduction of Artificial Intelligence (AI) as innovation into the workplace presents both opportunities and challenges that must be carefully weighed. AI can enhance efficiency and decision-making, yet it also raises concerns about job displacement, decision-making, and the erosion of human-centric leadership (Makimoto & Kohro, 2024; Meru & Kinoti, 2022; Pierce et al., 2022). As such, managers must navigate these complexities, balancing technological advancements with the human elements that drive organisational culture.

Situated learning theory provides valuable insights into this interplay. It highlights the power asymmetry inherent in hierarchical structures, where managers

(masters) exert considerable influence over their subordinates (apprentices) (Alanazi et al., 2023; Brooks et al., 2020). This theory suggests that clinical innovation and other processes are not just about technical advancement but are also deeply embedded in the political and social negotiations within professional communities.

The argument here is that while managers have a significant impact on employee attitudes and behaviours, this influence is not solely a matter of managerial actions but is also intertwined with broader political and social factors. As a result, increasing literature on leadership development underscores the need for 'political skill' to navigate and manage healthcare organisation politics (Clarke et al., 2021; Demaio & Marshall, 2018). Consequently, effective management in the modern workplace requires a nuanced understanding of both human and technological elements, alongside a keen awareness of the underlying power dynamics that shape workplace interactions.

In conclusion, managers must not only consider their roles and decisions but also the implications of emerging technologies like AI. They must strive to create environments that support positive employee engagement and development while addressing the challenges posed by technological advancements. This balanced approach is essential for fostering a productive and harmonious workplace.

In the contemporary organisational landscape, the interplay between social exchange theory and organisational theory plays a crucial role in shaping managerial approaches to employee behaviour and innovation adoption (Rees & Mullins, 2023). The essence of this argument is that successful early-stage innovation adoption hinges significantly on the receptiveness and readiness of employees, which is largely

influenced by senior management. This influence is far from incidental; it is deeply embedded in the strategic decisions made by senior leaders responsible for setting organisational goals, managing resources, and fostering an environment conducive to new ideas (Hamilton et al., 2021; Rees & Mullins, 2023).

Senior management's strategic leadership style, resource allocation, and information-processing mechanisms are pivotal in shaping the organisation's trajectory (Bakanauskas et al., 2020; Damanpour, 2020; Siebert et al., 2021). Their ability to guide and influence employees is not merely a matter of implementing policies but involves a sophisticated blend of affective, intellectual, and conative elements that align with the organisation's vision and objectives (de Paula et al., 2023; Novikov et al., 2024).

However, a critical cautionary perspective is offered by Egan et al. (2018), who argue against an overreliance on heuristics, emotions, or mental states in decision-making. They underscore that effective leadership requires more than just intuitive decision-making; it demands robust leadership skills, managerial resourcefulness, and personal traits that foster team effectiveness.

Further, Jordens et al. (2024) assert and receive support from Berry (2024) evidence that increased behavioural integration, emotional engagement, and competitive environments are key factors influencing the quality of strategic decision-making and overall well-being within organisations. These findings suggest that while strategic leadership and resource management are critical, they must be complemented by a deep understanding of behavioural dynamics and competitive pressures to optimise decision-making processes and employee outcomes.

To bring it all together, while theories like social exchange and organisational theory offer valuable frameworks for understanding the managerial impact on employee behaviour and innovation, managers must balance strategic leadership with emotional intelligence and practical decision-making skills. This comprehensive approach is essential for fostering an environment that supports both effective innovation adoption and enhanced organizational performance.

Godfrey et al. (2023) and Yildiz et al. (2024). define absorptive capacity as processes involving knowledge acquisition, integration, transformation, and application. Additionally, moderating innovation culture according to David et al. (2023). This research examines the impact of strategic leadership styles on innovation adoption, recognizing the crucial role of emotions, attitudes, intellect, and preferences in innovation (Vagnani & Volpe, 2017; van Dun & Kumar, 2023). As a final point, astute leaders are highly sought after in public hospitals for strategic management, integrating empirical evidence, policy, and practice, addressing biases in leadership selection, and overcoming traditional healthcare management constraints (Rubino et al., 2018; Viera & Kramer, 2020).

Fostering Innovation in Organisation and Clinical Innovation Adoption

This refers to the environment and culture within the organisation that supports or hinders innovation (Garengo & Betto, 2024; Kirmani, 2021; Mascareño et al., 2021). It includes factors such as organisational support, resources allocated for innovation, and the presence of a conducive climate for change (Powell et al., 2021). Leaders who perceive their organisation as supportive of innovation are more likely to foster and champion new practices (Eriksson et al., 2024). Organisational culture and

support mechanisms play a significant role in the successful adoption of innovations (Garengo & Betto, 2024; Powell et al., 2021; Rehn, 2019). The rationale for using innovation-driven leadership lies in its logical and practical support for achieving desired outcomes through structured assessment (Jia et al., 2018; Melo et al., 2020; Saidi et al., 2021). The aim is to drive favourable changes and differentiate the organisation from others (Chen et al., 2019; Cillo & Verona, 2022; Si et al., 2022).

It is well-established that leadership acts as an antecedent to organisational culture (Poole et al., 2021; Xenikou, 2022). In the case studied, by Gareno and Betto (2024), shifting from passive avoidant to transactional leadership enabled the adoption of a performance measurement system. Transitioning to transformational leadership fostered a culture of achievement and encouraged participative performance management. This study's findings align with Gareno and Betto (2024), highlighting that effective leadership requires adapting paradigms. Similarly, the findings support Mwihia et al. (2020) and Cooper (2021), who emphasise the impact of strategic leadership on managerial and operational efficiency in Kenyan public hospitals, leading to improved outcomes. Ultimately, tracking the adoption and integration of new medical technologies, electronic health records (EHRs), telemedicine platforms, and other innovations that enhance patient care quality and operational efficiency is essential.

It entails introducing novel and practical concepts, items, services, and strategies, viewed as cooperative and competitive strategies by managers (Damanpour, 2020). Staff engagement in innovation is crucial. Metrics include participation in innovation initiatives, suggestions for targeted improvement, and satisfaction with leadership

support for innovation. Engaged staff are more likely to contribute to innovative practices (Rohlfer et al., 2022).

Effective leadership fosters innovations that streamline operations and optimize resource utilization. Innovation-driven leadership should aim to improve these outcomes through new processes, technologies, or care models. Financial performance is another variable for assessing the impact of innovation on revenue generation, cost reduction, and return on investment (ROI) from new initiatives or technologies as a guide to leaders. Effective leadership indeed fosters partnerships that drive innovation in healthcare (Cortes & Herrmann, 2021; Kechagioglou, 2023a; Schneider et al., 2022). Additionally, assessing investments in training and development programs that equip staff with skills to implement and support innovative practices (Fernandez et al., 2022). It also involves gathering feedback through surveys and qualitative data on how innovations are perceived by patients and healthcare providers, and their impact on care delivery. Effective leadership not only drives innovation adoption but also shapes the organisational climate that supports and advocates ongoing innovation efforts (Newman et al., 2020).

Overall, ensuring innovations comply with regulatory standards and guidelines while improving patient care and safety (Pereira et al., 2022). To accelerate the adoption of innovations, it is crucial to provide sufficient funding, resources, and financial incentives to those involved in exploring and piloting new ideas. However, leaders must also avoid the pitfalls of unintentionally penalising individuals who develop and advocate for these innovations.

Further, fostering a culture of innovation requires a robust change management strategy, an element often overlooked yet essential for the effective acceptance and adoption of new approaches and technologies. By tracking these measurable variables, hospitals can assess the effectiveness of innovation-driven senior leadership in fostering a positive culture in patient care, operational efficiency, staff engagement, and overall healthcare outcomes.

Clinical Innovation Leadership and Clinical Innovation Adoption

Wisdom et al. (2014) expose a critical gap in understanding how leadership factors influence innovation adoption and how to enhance adoption rates. They also highlight how adoption rates can be improved. Understanding these dynamics is essential for advancing knowledge and driving sustainable progress, especially in fields like healthcare (Reinhardt et al., 2015). Despite this, Wisdom (2014) notes that existing theories inadequately define and measure leadership, alignment with norms, and motivation. Wisdom (2014) argues in an empirical review that, while leadership is a common theme in many innovation adoption theories, there is a significant void. Further, there are no universally accepted scales to effectively measure this crucial construct. This gap in understanding highlights the complexity and critical nature of clinical innovation, demanding more nuanced and strategic leadership (Walsh et al., 2023).

Pichlak (2016) concur, noting that while various factors impact innovation adoption, the role of leadership strength remains unclear. This oversight is not merely an academic oversight; it is a fundamental issue. The concept of innovation adoption is critical for both researchers and society. It sheds light on how new technologies and

ideas spread and succeed. Without a clearer grasp of leadership's role in innovation adoption, efforts to harness and implement new advancements will remain flawed and less effective. In summary, the concept of innovation adoption is pivotal for both researchers and society because it reveals how new ideas and technologies disseminate and achieve success (Reinhardt et al., 2015).

As Critchfield et al. (2015) argue, once clinical innovations are integrated, they transition from experimental to core practices within organisations, underscoring their importance. Chew and Achananuparp (2022) further emphasise that AI has revolutionised sectors like healthcare by significantly improving patient outcomes and reducing costs. Harper et al. (2022) define the adoption of clinical innovation as the decision to implement new products, processes, or systems within an organisation. This definition underscores a critical point: adoption is not merely about acknowledging the existence of innovations. It involves a deliberate decision to integrate and utilise these new elements for the first time. The basic argument here is that adoption is a significant, proactive step that transforms potential into practice. It is not enough to simply be aware of innovations. Organisations must commit to applying them to achieve tangible improvements. This distinction highlights the importance of not just recognizing innovation but actively incorporating it to drive progress and efficiency.

Leaders in hospitals are increasingly expected to drive innovation adoption, defining the role of managers (Damanpour 2020; De Vries et al., 2018; Gomes et al., 2021). Clinical innovation leadership refers to the ability of healthcare leaders to drive and embrace innovative practices within clinical settings (Edmonson & Weberg,

2019). In the context of manager behaviour toward innovation, a convincingly collective sign of perceived plans/results demonstrability is notable.

Firstly, intent focus refers to the deliberate and purposeful concentration of effort and resources toward achieving a specific goal. In the context of innovation adoption, it means that managers are concentrating their efforts and strategies on effectively adopting and integrating innovations. It involves aligning their actions, decisions, and resources to successfully incorporate new ideas or technologies into their organisation. Bechler et al. (2020) highlight two qualitative dimensions of intentions during innovation: shifting an individual from negative to positive and enhancing an already positive stance. These dimensions assist in targeting the audience effectively. They can also be influenced by various factors, including leadership styles (Ajzen, 2018). The dependent variable in this context measures the receptiveness and readiness of individuals or organisations to adopt clinical innovations considered most effective in the future.

Secondly, intentionality refers to the quality of being deliberate or purposeful in actions and decisions. When managers display intentionality regarding innovation adoption, they are consciously making decisions and taking steps specifically aimed at fostering and supporting innovation. It implies a strategic approach where managers are not just reacting to changes but are actively and thoughtfully pursuing innovation.

Thirdly, an initiative to incorporate indicates the proactive effort taken to integrate or adopt innovations or practices. It suggests that managers are not waiting for changes to happen but are actively initiating and driving the process of incorporating innovations into their organisation. This involves identifying

opportunities, planning, and executing actions to make the adoption process as smooth and effective as possible. Considering this, when managers exhibit “intent focus”, “intentionality”, and “initiative to incorporate” innovation adoption, they are purposefully directing their efforts and decisions toward the successful integration of new ideas and technologies, demonstrating a proactive and strategic approach to fostering innovation within their organization. Consequently, perceived result demonstrability refers to the extent to which the outcomes or benefits of a new idea, technology, or innovation can be observed and demonstrated to others. In other words, it is about how easily and convincingly the results or relative advantages of a new guide can be shown and understood.

In the real world, to implicitly suggest that an adoption will be successful, assuming there are no remaining barriers, a manager can embrace self-efficacy that conveys confidence and readiness. Here are three key theoretical and novice guides that suggest a successful adoption and depend on how effectively the innovation has been communicated to and understood by stakeholders.

Evaluating communication efforts helps ensure that the benefits and results of the innovation are conveyed and understood, which is crucial for broader acceptance. Understanding the extent to which the innovation has been embraced and integrated can indicate its practicality and acceptance among stakeholders.

"We're fully prepared for implementation." This indicates that all necessary preparations have been made and that the team is ready to execute the adoption process. It implies that the groundwork has been laid, and the transition to the innovation will proceed smoothly.

"The team is aligned and committed to this change." This phrase conveys that everyone involved is on the same page and dedicated to making the adoption work. It suggests a unified effort and strong support, which are crucial for successful implementation. Stakeholders are aware that the perceived impact of the innovation outperforms or offers significant advantages over the previous solutions used.

"We're seeing positive early indicators/results." This implies that initial signs of success or favourable outcomes are already apparent, suggesting that the adoption is on the right track and likely to continue succeeding. Seeking concrete examples helps illustrate the practical benefits and real-world impact of the innovation, making its demonstrability more tangible.

These verbal and non-verbal communications collectively provide a sense of confidence and readiness, implying that the adoption process is set up for success without explicitly stating it. When applied to the context of innovation adoption: Perceived result demonstrability means how effectively the results of adopting an innovation can be demonstrated to stakeholders (like managers, employees, or customers). If the benefits of an innovation are tangible and easily observable, it is more likely to be adopted because team members can see and understand the value it brings. These non-rigid narratives help to comprehensively assess how effectively an innovation adoption is being demonstrated and perceived, covering various aspects from quantitative results to qualitative feedback and strategic alignment.

Ultimately, perceived result demonstrability is crucial for encouraging the acceptance and adoption of innovations because clear, observable results make it

easier for individuals and organisations to recognise and support the value of the innovation new or approach.

In essence, clinical innovation leadership involves creating an environment that encourages risk-taking, creativity, and the adoption of novel approaches to healthcare delivery (Rehn, 2019). As a focal point in this study, clinical innovation leadership exemplifies the gap in adopting effective leadership practices. When indicators are absent linking expected leadership with innovation execution, adopting leadership that embraces certain leadership styles, practices, or behaviours becomes crucial. Considering this, a knowledge gap emerges when a lack of targeted leadership on adoption fails to address it. This gap underscores the delay in leadership between introducing new technologies, practices, or innovations and integrating them into routine organisational use, revealing the challenge of translating knowledge into practical applications (Cicchetti et al. 2018; Kirchner et al., 2020). Addressing this gap requires leaders, managers, and policymakers to overcome barriers such as organisational readiness, resistance to change, resource allocation, communication, and cultural factors hindering adoption and application. Based on this explanation, this clarifies the conceptual definitions of strategic leadership style and clinical innovation leadership. Leadership capabilities encompass a broader range of skills and qualities that leaders possess to influence and guide others. These capabilities include communication skills, emotional intelligence, decision-making abilities, team-building skills, and the capacity to inspire and motivate others toward achieving common objectives.

As Hall (2005) argues, without effective diffusion, innovations are destined to remain isolated curiosities, incapable of realizing their full potential or generating

widespread societal benefits. This underscores the undeniable necessity of strategic adoption; without it, innovations cannot leverage their transformative power to enact meaningful change across society.

Despite significant focus on innovation adoption's antecedents and outcomes, the impact of strategic leadership styles on leader-level adoption remains underexplored. In the healthcare sector, especially within hospitals, the adoption of innovation is not just important it is crucial. Hospitals are at the forefront of adopting and experimenting with new technologies, especially in Kenya's healthcare environment, where significant resources are dedicated to innovative solutions for treating infectious diseases (Mewara et al., 2022). Despite managerial efforts to drive change, the lack of affordable and reliable supply chains, along with challenges in sustaining adoption, continues to hinder large-scale disease control efforts.

According to Rangachari (2018), a strategic leader in healthcare must employ a configurative approach to transformational, transactional, authentic, visionary, and charismatic leadership styles and processes in terms of behaviour, thinking and movement (Fischer & Sitkin, 2023). The objective is to shift the clinician's attention from individual goals to collective goals, concretely focusing on innovation adoption and application (Novikov et al., 2024). Research suggests that transformational leaders effectively inspire healthcare professionals by encouraging them to align personal goals with the organisation's objectives (Albednah et al., 2024).

Côté-Boileau et al. (2019) found that the maximization of reach and impact of innovation to achieve immensely colossal-scale health system transformation is still understudied. At three stages of the innovation journey within health systems; spread,

sustainability, and scale-up (3S)— they highlighted the increasing interest in strategy and strategic leadership. Similarly, Flessa and Huebner (2021) concluded that the expeditious development and adoption of innovations in healthcare are compulsory. Further, they emphasized that amending the quality of life for the ageing population requires strategic leaders and strategic innovation management.

Recently, Scarbrough and Kyratsis (2022) conducted a longitudinal study that revealed differences in the Keystone Project in Michigan, USA. The project aimed to decrease catheter-associated bloodstream infections in the intensive care unit (ICU) by coalescing modifications to strategic leadership and knowledge dynamics to respond to current needs. This patient safety innovation was successfully implemented in 108 ICUs across 77 Michigan hospitals, resulting in a significant (up to 66%) and sustained reduction in bloodstream infections. In contrast, replication research in the United Kingdom demonstrated that the innovation had failed. Inadequate strategic management, as well as an inability to utilize and apply data, information, and cognizance to change perceptions of current practices and promote change, are responsible for both the failure to disseminate and subsequently adopt this innovation.

Recently, Neher et al. (2023) utilized a deductive quantitative design and a consolidated application framework to study 26 healthcare leaders' perceptions of AI applications in healthcare. The findings have shown that healthcare literature focused on technology neglects to discuss the consequentiality of innovation success factors and how they are affected by strategic leadership. Neher (2023), with support from Ennis-O'Connor and O'Connor (2024) and Xu et al. (2024), emphasises that healthcare organisations need to prioritize a broader organisational vision and enhance

physician acumen to effectively integrate AI innovations. This vision integrates clinical, cultural, political, social, technological, environmental, and economic factors into an innovation strategy (Santarsiero et al., 2023). For organisations to promote innovation and leadership, AI, augmented authenticity (AR), and robotics, must be integrated into business decisions (Di Cuonzo et al., 2023; McKinney et al., 2020; Mukherjee et al., 2022; Seibold et al., 2023; Tromp et al., 2022). Healthcare professionals' advocacy intentions are pivotal in executing evidence-based treatments, yet measuring their intentions and behaviours remains challenging in healthcare (Link et al., 2024). Recent research highlights the growing attention to clinical innovation leadership (Singh et al., 2023). Leadership adoption is an antecedent to effectively executing innovation in the long term (Kristensen et al., 2020; Lin et al., 2019). Hospitals, for instance, must adopt innovative care pathways to perform well and compete in a dynamic environment (Karali et al., 2018).

However, healthcare innovation adoption tends to follow a fragmented, slow, sigmoid pattern of diffusion over time (Orsini, 2021; Poole et al., 2021). This process is influenced by factors such as information scarcity and passive adoption behaviours (Prange, 2021). These factors underscore the need for integrated leadership approaches (Prange, 2021). Sub-Saharan Africa faces significant challenges in disseminating clinical innovations effectively, particularly in regions affected by various socio-political issues (McMahon & Coughlan, 2023; Signé, 2021). From an organisational standpoint, the innovation nature remains consistent and may overlook competitive external factors such as externalities, leading to inexplicable healthcare cost increases (Hamilton et al., 2021; Lepore et al., 2023). Adapting leadership style and innovation to the internal market is crucial for successful leadership adoption

(Olatoye et al., 2024; Smith & Bhavsar, 2021). Therefore, these factors collectively contribute to understanding and measuring the innovation adoption rate.

Theoretical Framework

The formulation of a strategic leadership framework draws from several key sources. These include theoretical foundations, industry best practices, expert insights, organizational experience, environmental scanning, and cultural/contextual factors. Established theories and academic research provide core principles. Case studies and benchmarking offer practical insights from successful organizations. Expert input from leaders and scholars helps refine the framework. Organisational data and feedback ground it in real-world realities. Market research, trends, and SWOT analysis ensure adaptability to external changes. Cultural and contextual factors ensure the framework suits different leadership styles. Together, these sources create a comprehensive, adaptable framework for strategic leadership.

Visionary Leadership Theory

The concept of visionary leadership, as articulated by Goleman et al. (2002), is far from a mere theoretical construct; it is a critical driver of organisational and individual success. According to their description, a well-thought-out vision is not just a vague aspiration but a clear, compelling, and strategically crafted image of the future that provides direction and motivation. This perspective aligns with the foundational ideas of James MacGregor Burns, who, in his groundbreaking work *Leadership* (1978), established the framework for transformational leadership. Burns's theory unequivocally asserts that visionary leadership is not just beneficial but essential. He argued that leaders who effectively inspire and motivate their followers

do so by crafting and communicating a vision that resonates deeply and aligns with the values and goals of their audience.

Burns's emphasis on visionary leadership underscores a critical argument: without a compelling vision, leaders risk failing to inspire genuine commitment and drive among their followers. Transformational leadership, with its focus on visionary elements, demonstrates that successful leadership is inherently linked to the ability to articulate a clear and motivating future. Therefore, the impact of visionary leadership extends beyond theoretical discussions; it plays a pivotal role in shaping effective leadership practices that drive organisational progress and success. Dismissing the importance of a well-defined vision is to overlook a fundamental aspect of leadership that directly influences motivation, alignment, and achievement.

The concept of innovation is inherently ambiguous, primarily because its definition varies significantly depending on context and perspective (Romanow, 2022). Joseph Schumpeter's seminal definition highlights innovation as the introduction of something entirely novel—an unprecedented shift (Crossan & Apaydin, 2010). However, this narrow interpretation is increasingly challenged by practical realities. As Crossan and Apaydin point out through Hansen and Wakonen (1997), the very nature of innovation implies that even incremental changes can be considered innovative, as perfect replication of past methods is practically impossible. Walsh et al. (2023) further refine this by focusing on clinical innovation, illustrating how context-specific definitions are crucial for understanding what constitutes meaningful progress.

In this context, a strategic leadership style is not just a peripheral factor but a central driver of innovation. Effective strategic leadership involves crafting a visionary strategy that aligns with and motivates employees to embrace innovation. According to Xie et al. (2018), this leadership approach creates an environment conducive to meaningful innovations. It is through this visionary leadership that organisations can cultivate the conditions necessary for breakthrough innovations, ultimately securing opportunities for survival and growth (Sheehan et al., 2020). Thus, strategic leadership is not merely a method of achieving strategic objectives; it is a pivotal influence on fostering innovation and driving organisational advancement. Without this leadership approach, the potential for transformative innovation remains untapped, underscoring its critical role in organisational success.

Visionary leadership blends personal qualities with the ability to articulate and communicate organizational goals, guiding followers through future changes. It adapts to diverse global, regional, and national contexts, including ideological, political, economic, social, and cultural aspects, fostering holistic development and preparing institutions for anticipated transformations. Addressing its limitations makes visionary theory suitable for anchoring strategic leadership styles by highlighting leaders' expanded role in creating and communicating a clear, inspiring vision for their organisation (Karliner et al., 2020).

Visionary leadership is not merely advantageous; it is indispensable for driving organizational success. Leaders who embody this approach possess a clear, compelling vision of the future and communicate it with such effectiveness that it inspires their entire team. This clarity of purpose not only motivates and energizes followers but also fosters a deep sense of unity and shared commitment. Within the

framework of visionary theory, strategic leadership is about aligning this inspiring vision with long-term goals and objectives. Leaders who adopt this model set ambitious yet realistic targets that guide their decision-making and organizational trajectory. By instilling a sense of purpose, encouraging innovation, and remaining adaptable to changing circumstances, these leaders ensure that their teams are not only motivated but also strategically aligned in their pursuit of the envisioned future. Thus, visionary leadership is not just a theoretical ideal but a practical necessity for achieving sustained organizational success and adaptability in a dynamic environment.

Visionary theory is fundamental for strategic leadership, offering a crucial framework for guiding organizations toward sustainable success and growth. This theory is not merely a conceptual luxury; it is a strategic necessity. Visionary leadership underscores the pivotal role of inspiring and motivating followers by presenting a compelling and forward-looking vision. Leaders who embrace this theory are distinguished by their capacity to communicate a vision that aligns with followers' values and aspirations, thereby fostering deep engagement and commitment. Such leaders drive their organizations forward by anticipating future trends, taking calculated risks, and encouraging innovation. By doing so, they empower their teams to actively contribute to realizing the vision. In contrast, leaders who lack this visionary approach may struggle to inspire or sustain long-term growth. Therefore, adopting visionary leadership is not optional but essential for achieving and maintaining organizational excellence in an ever-evolving landscape.

Visionary thinking is not just a valuable competency; it is essential for steering organisations toward sustained success (Pherson et al., 2024). To argue otherwise is to

underestimate the power of strategic foresight in shaping the future. Visionary leaders do more than react to current trends; they anticipate future shifts, inspire and align stakeholders with a compelling vision, and drive strategic initiatives that cultivate a culture of innovation (Blaikie & Priest, 2019). This proactive approach enables organizations to navigate complexities and seize emerging opportunities, setting them apart from competitors who lack such strategic foresight (Betti & Blettner, 2020). Therefore, embracing visionary thinking is imperative for any leader committed to guiding their organisation toward long-term achievement and relevance (Karwan et al., 2021; Kesumayani et al., 2020).

Transformational Leadership Theory

The theory of transformational leadership, first introduced by Downton (1973) and later expanded by Burns (1978) and Bass (1990), has proven to be instrumental in the evolution of strategic leadership. This theory's significance becomes especially evident as organisations confront the multifaceted challenges of the modern workplace. Transformational and visionary leadership styles are not merely theoretical constructs; they are pivotal in shaping an organisational culture that embraces clinical innovations. By encouraging risk-taking, fostering effective communication, and promoting interdisciplinary collaboration, these leadership styles effectively dismantle common barriers to innovation in healthcare settings (MacRae et al., 2021; Paquin et al., 2018).

Transformational leadership, while also supportive of change, does so through inspiring and motivating followers to embrace a shared vision. In contrast, transactional leadership is more about managing and optimising existing processes

rather than driving radical change. Transformational leaders may support strategic changes but may struggle to align their vision with the more structured and routine-oriented approach of transactional leaders. Research highlights the crucial role of leadership in driving innovation adoption. According to Wilaphan et al. (2023), leaders who model and endorse innovative behaviours foster an environment that supports new ideas. Transformational leaders excel in this by inspiring and empowering their teams, which is key to building a culture of innovation (Bakker et al., 2023). Additionally, aligning leadership styles with innovation goals is essential, with visionary and strategic leadership styles proving particularly effective in integrating organizational objectives with innovative initiatives. In essence, the influence of leadership on innovation adoption is profound. Leaders who exhibit transformational, visionary, and participative styles not only inspire and empower their teams but also strategically align organisational goals with innovative practices. Thus, the effectiveness of leadership in promoting innovation is not just a theoretical ideal but a practical necessity for achieving meaningful progress and overcoming barriers to innovation in complex settings such as healthcare.

Recent research highlights ongoing challenges in innovation diffusion and adoption (Horton et al., 2018). Adopting a transformational leadership style has been shown to enhance healthcare outcomes and operations (Alanazi et al., 2023; Kozio-Nadolna, 2020; Marguet & Ogaz, 2019). In public hospitals, leadership styles include various characteristics and approaches for guiding and inspiring employees (ALfadhalah & Elamir, 2019; Otieno, 2022). Exploring Transformational leadership, and integrating trait and behavioural theories, fosters individualized approaches that

drive organizational success and prepare future leaders (Albednah et al., 2024; Alblooshi et al., 2020).

Strategic leadership styles like transformational, transactional, visionary, participative, coaching, ambidextrous, and collaborative leadership form the basis for prioritizing employee capacity and quick adoption of innovation (Di Vincenzo et al., 2021; Gui et al., 2022; Yang et al., 2021). Ultimately, strategic leadership ascends and inspires others, rooted in Transformational Leadership Theory. An organisation's strategic leadership style shapes its core values and stress responses through behavioural patterns (Harb et al., 2022). Effective leadership primarily depends on style, highlighting transformational leaders' qualities like strong values, ethics, and long-term goals, which boost followers' capabilities and organisational impact (Fischer & Sitkin, 2023; Northouse, 2021; van den Hoed, 2022).

The research centers on strategic leadership styles as the basis for leadership ability and behaviour in public hospitals, grounded in theory (AL-fadhalah & Elamir, 2019; Kadzo & Muthimi, 2023). In literature, eight positive leadership styles are recognized, with transformational, transactional, and authentic leadership being prominent in today's business world. By these, transformational leadership stands out as the most effective for fostering innovation, performance, knowledge-sharing, and entrepreneurial orientation (Al-Yami et al., 2018; David et al., 2023; Kesting et al., 2015; Nguyen et al., 2023). Considering this context, transformational leadership is not the sole management style for innovation. Various leadership styles each bring distinct contributions to different types and stages of innovation. Yet, fully determining these allocations remains incomplete, leaving the question of how best to manage innovations unclear (Łukowski, 2017). Transformational leadership enhances

innovation through factors like psychological capital, including self-efficacy and optimism (Lei et al., 2020).

Transformational leadership consistently promotes employee creativity, initiative, and collaboration (Baddley et al., 2023; Rehn, 2019). Leadership's pivotal role in enhancing employee motivation involves employing motivational tools and adopting suitable styles. Encouraging employees through frequent interactions, diverse tasks, and positive relationships can promote innovation within organisations through direct leadership styles and behaviours (David et al., 2023; Lundqvist et al., 2022). Leadership style encompasses how a leader demonstrates accountability, including ownership, control, and responsibility (Al Khajeh, 2018; Kouzes & Posner, 2023). Diverse leadership theories and models empower individuals to tailor their approaches. These approaches reflect their unique traits, perspectives, and scope. This fosters innovation and inspires employees within the organization (Bhardwaj et al., 2021; Lukowski, 2017).

Leadership style and human capital significantly promote open innovation within organisations. Leaders who leverage soft power effectively engage with their team members. They influence, empower, and motivate them, driving the innovation process forward (Ahamdi et al., 2023; Costa et al., 2023). Effective leaders prioritise strategic communication and use marketing as a persuasive tool. Their behaviour and communication shape a culture of innovation. This encourages employee creativity and promotes knowledge sharing. (Al Zahrani, 2024; Holden et al., 2021; Khassawneh et al., 2022; Rehn, 2019). In practical scenarios, nurses find transformational (relational) styles more relatable and effective, which have a stronger influence on health outcomes compared to transactional or task-based approaches

(Cummings et al., 2018). Consequently, leadership styles and behaviours vary across different levels of leadership development (Jia, 2018; Rohlfer et al., 2022; Turner, 2019).

Transformational leadership stands out as the most extensively studied leadership style for fostering innovation in the modern world (Lukowski, 2017). This leadership style encompasses four sub-concepts: motivation, individual consideration, intellectual stimulation, and individual influence on others. Leaders inspire others to adopt their goals, values, and behaviours through genuine actions and choices. Transformational leaders drive innovation through motivation, simplification, determination, mobilization, preparation, facilitation, and innovation, supported by empirical evidence across industries (Costa et al., 2023). Their effective communication and influence drive innovation adoption across different types: marketing, product, service, process, and organisational (Costa et al., 2023). This study seeks to underscore the relevance of transformational leadership styles within organisational capabilities, recognising organisations as dynamic entities constantly evolving and changing. Bosak et al. (2021) demonstrated that transformational leadership can adapt to changing conditions, such as burnout by hospital staff, utilizing both internal (e.g., Human Resources, Financial Resources, Technological Resources, Cultural Resources, Physical Resources) and external resources (e.g., Partnerships and Alliances, Consultants and Advisors, Government Support, Market Trend, and Suppliers and Vendors). Therefore, public sectors require transformational leadership to navigate the innovation arena effectively.

Leadership characteristics encompass specific actions taken by leaders to achieve positive outcomes for their staff, a pivotal aspect highlighted by Fowler and

Robbins (2022) in the context of healthcare leadership's critical role in institutional success. Aydogdu (2022) reinforces this notion, citing Kim and Park's (2020) research, which underscores how strategic leaders' attitudes can impact staff self-efficacy, job satisfaction, well-being, and ultimately, the quality of care provided. Thus, in uncertain times, monitoring and training for positive leadership characteristics become imperative (Fernandez et al., 2022; Kechagioglou, 2023b). Reduced transformational characteristics serve as important indicators across all leadership situations (Fowler & Robbins, 2022; Henricks et al., 2020), with evidence from the literature indicating that leadership outcomes lead to subsequent growth in transformational characteristics and competency. These targeted improvement actions inherently enhance patient care and organisational functioning during turbulent times and beyond (Fowler & Robbins, 2022).

Providing care is essential for all healthcare workers. Healthcare leaders must ensure patients receive safe, high-quality, and compassionate care by integrating new knowledge. Recent studies suggest transformational leadership is ideal for healthcare, as it cultivates staff experience, impacting patient satisfaction. Staff influence and work pressure are key factors affecting patient satisfaction. (Aydogdu, 2022; Kim & Park, 2020; Hussain et al., 2021; West et al., 2022).

Competent leadership is crucial for effective healthcare in low- and middle-income countries (Ndayishimiye et al., 2023; Perez, 2021; Stawicki & Firstenberg, 2018). Traditional recruitment and promotion methods in public hospitals lack incentives for leadership skill development. Strategic leadership, as defined by Dogan and Ozdemir (2021), enables innovation, change management, and goal achievement.

Transformational leadership, per Ogolla and Senaji (2018), can profoundly influence followers' needs and aspirations.

Over the past three decades, Transformational Leadership Theory has gained prominence, particularly in healthcare, shaping leadership development strategies (Perez, 2021). Similarly, Fareed et al. (2021) assert their significance in predicting success in public sector projects. Consequently, researchers like Golensky and Hager (2020) and Zappalà and Toscano (2019) explore its role in fostering innovation in non-profit organisations. Transformational leadership is crucial in today's dynamic society, driving necessary change (Northouse, 2021), especially influencing innovation (Al-Edenat, 2018). Additionally, the literature suggests that both transformational and transactional leadership styles of senior managers positively impact strategy application (Nzinga et al., 2019). Transformational Leadership Theory underscores the importance of ethics, values, and behaviours in decision-making. Strategic leaders leverage personal qualities to engage employees effectively, enhancing leadership growth and organisational effectiveness (Al-edenat, 2018; Alrowwad & Abualoush, 2020). Likewise, Liebe et al. (2017) explore antecedents of senior managers, focusing on strategic goal setting and behavioural preferences. Strategic Leadership Theory gains momentum in understanding complex systems like healthcare, utilizing conceptual capabilities to catalyse systems-level change (Beharrell et al., 2020; Field & Brown, 2019; Luciano et al., 2020).

Innovative leadership, particularly Transformational Leadership Theory, drives high employee performance and organisational targeted improvement. This theory prioritizes followers' feelings, needs, and benefits, emphasizing compassion, consideration, conscientiousness, and encouragement. It encompasses five

transformational leadership factors: idealized influence (attributed and behavioural), inspirational motivation, intellectual stimulation, and individualized consideration. Additionally, it integrates two mutually exclusive transactional leadership factors (a dynamic where leaders and followers exchange services and benefits via contingent rewards and active management) and two passive avoidance factors (passive management by exception and laissez-faire). Recognizing the impact of transformative leadership on organisational performance encourages public referral hospital managers to adopt strategic leadership skills (de Waal & Heijtel, 2017). Strategic leaders require intellectual honesty, accountability, self-awareness, and the ability to attract and develop talent (Schoemaker et al., 2018). They focus on critical organisational capabilities and cultivate core values and people skills for sustained superior performance. Transformational leadership guides by articulating values as guiding frameworks and motivating the adoption of innovation towards a compelling future, fostering organisational and individual growth (Schoemaker et al., 2018).

Considering this, while transformational leadership can drive innovation by inspiring and motivating teams, it can also be detrimental when it leads to a disregard for practical input, creates undue pressure, neglects incremental improvements, or lacks necessary structural support. To maximize the benefits of transformational leadership, leaders need to balance visionary enthusiasm with practical considerations and foster an environment where diverse contributions and incremental advancements are valued

Transactional Leadership Theory

Transactional leaders typically make decisions based on established rules and protocols, with a focus on efficiency and consistency. Decision-making is often more hierarchical, with less emphasis on broad consultation. The strategic leader's emphasis on inclusive and forward-thinking decision-making can clash with the more rigid, rule-bound approach of transactional leadership. This can lead to disagreements on how decisions should be made and implemented, potentially causing friction within the leadership team.

Transactional Leadership Theory anchors strategic leadership style by focusing on the exchange relationship between leaders and followers. In this theory, leaders use contingent rewards and management-by-exception approaches to motivate and guide followers toward achieving specific goals and objectives. Transactional leadership relies heavily on extrinsic rewards and penalties to motivate employees, focusing on short-term performance and adherence to standards. The strategic leader's focus on long-term, intrinsic motivation may not align with the transactional leader's emphasis on immediate rewards and performance metrics. This misalignment can create tension in how to effectively motivate and engage employees. Strategically, transactional leaders establish clear structures, roles, and goals within the organisation. They emphasize task accomplishment and efficiency, ensuring that performance standards are met through rewards and corrective actions. This style of leadership supports strategic decision-making by providing clarity in expectations and accountability, which helps in achieving short-term objectives and maintaining organisational stability (Singh et al., 2022).

Transactional leadership complements strategic leadership by providing a framework for managing day-to-day operations, ensuring compliance with organisational policies, and aligning individual efforts with organisational goals. While transactional leadership focuses on immediate tasks and outcomes, strategic leadership looks ahead to long-term goals and the organisation's overall vision and direction. Together, they contribute to organisational effectiveness and the achievement of both short-term and long-term strategic objectives.

Coaching Leadership Theory

Thomas Leonard's pioneering work in the 1980s was crucial in shaping coaching as a holistic approach within the business world, with a strong emphasis on financial management and retirement planning. This foundational shift cannot be overstated, especially considering its profound impact on how organisations approach leadership and coaching. The coaching leadership style is valuable for supporting and challenging colleagues to achieve personal development goals (Berg & Karlsen, 2016; David & Cîmpean, 2018). It is most effective when managers focus on building employees' strengths and when employees are open to feedback and learning. Further, Coaching theory is grounded in several areas, namely: psychology, such as positive psychology and humanistic, constructivist and coaching psychology including Neurolinguistic Programming (meagre of language, neurology and programming).

Setting goals from the client's perspective is the most crucial initial task in coaching. Unlike mentoring, which demands that the mentor possess superior experience and a higher status, coaching operates on a fundamentally different premise. Coaching does not require the coach to hold a superior position or have

extensive experience. Instead, coaching relies on the art of asking insightful questions to help clients explore their solutions and strategies. This approach underscores the core principle that effective coaching is not about hierarchical superiority but about facilitating self-discovery and growth through targeted inquiry.

Incorporating coaching as an intervention into the broader organisational fabric has fundamentally transformed how companies view performance innovation. Leadership and coaching are no longer isolated functions but are deeply intertwined in driving organisational success. The literature underscores that understanding the dynamics of leadership power is essential for effective coaching. Leaders must recognize how their authority and influence can shape coaching outcomes, either enhancing or undermining the development of their teams. This awareness is not just beneficial but imperative for fostering an environment where coaching can thrive and contribute meaningfully to organisational performance.

Therefore, it is essential for contemporary leaders to not only grasp the technical aspects of coaching but also appreciate the nuanced ways in which leadership power can impact coaching effectiveness. Neglecting this understanding risks diminishing the potential benefits of coaching and stifling performance innovation. As such, the evolution of coaching from Leonard's initial financial focus to a comprehensive leadership tool highlights the need for a sophisticated grasp of leadership dynamics in coaching practices.

As Downey (2003) aptly defines, coaching is "The art of facilitating the performance, learning, and development of another". This role has become increasingly significant in various sectors, including healthcare, where coaching

practices are being adopted to enhance both staff and patient outcomes (Coulson-Thomas, 2023). Participation in coaching has demonstrated notable benefits, including increased proactivity, core performance, goal attainment, self-insight, motivation, positive affect, and autonomy. These improvements underline the critical value of coaching in fostering individual and organisational development.

DiGirolamo and Tkach (2019) provide a compelling argument for the integration of coaching skills into managerial and leadership practices. Their mixed-methods research reveals that employing coaching techniques aligns closely with a style of participative management, which is associated with higher team-member engagement, improved working relationships, and a decreased intention to leave the organisation. This suggests that coaching is not merely a supplementary tool but a core component of effective leadership. Managers and leaders who embrace coaching skills are more likely to cultivate a motivated and committed team, demonstrating that coaching is indispensable for modern leadership.

Karlsen and Berg (2020) similarly supported by Schyns et al. (2020) further elaborate on the coaching leadership style, emphasizing its foundation in optimism, self-efficacy, and positive emotions. They argue that this approach, focused on helping employees realize their potential, serves both personal and organisational goals. Successful implementation of a coaching leadership style, as they describe, requires a comprehensive toolkit, including self-management and cultural elements. This perspective reinforces the notion that effective coaching is not a one-size-fits-all solution but rather a nuanced approach that demands flexibility and a diverse set of strategies.

Calasso et al. (2024) contribute to this discussion by identifying five distinct coaching phases: the contact phase, exploration phase, operationalization phase, conclusion phase, and recurring coaching behaviour category. This framework provides a detailed understanding of the coaching process, shifting the focus from merely identifying success factors to comprehensively explaining the stages involved in coaching. By delineating these phases, organizations can better grasp the intricacies of coaching and its practical application.

The growing interest in managerial coaching highlights its potential to enhance work effectiveness. As organisations seek leaders who can both inspire and develop their teams, the integration of coaching into managerial practices becomes increasingly critical. Managerial coaching, which activates subordinates' resources and skills, emerges as a powerful approach to driving work performance and effectiveness.

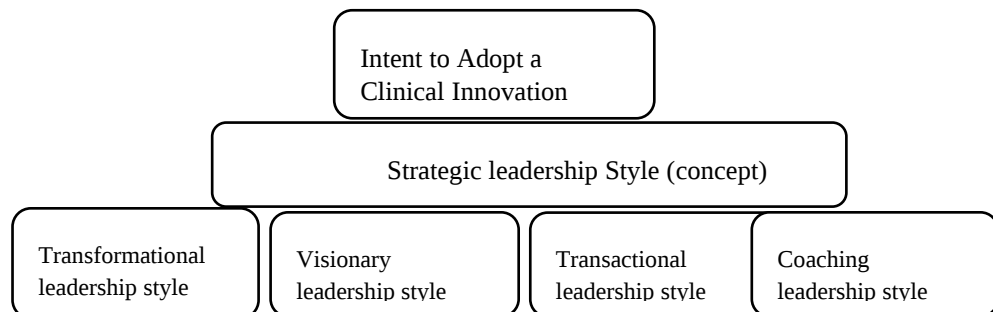
Client-driven content is the starting point of coaching and can be effectively categorized into affective, cognitive, and skill-based outcomes, each critical to comprehensive development. Affective outcomes include attitudinal and motivational factors such as self-efficacy, self-confidence, job satisfaction, and organisational commitment. These elements are vital because they drive an individual's engagement and investment in their role. Skill-based outcomes encompass competencies like leadership, communication, and specific technical skills. Mastery in these areas enhances job performance and leadership effectiveness, directly impacting organisational success.

Cognitive outcomes involve the development of new problem-solving and solution-focused strategies. These cognitive skills are essential for innovative thinking and effective decision-making. Moreover, the workplace benefits from improved well-being, including reduced depression and burnout, and enhanced self-regulation, such as better goal setting and attainment. Collectively, these outcomes underline the comprehensive value of client-driven coaching content, demonstrating its significant impact on both individual and organisational performance.

Overall, the evidence overwhelmingly supports the value of coaching within leadership and organisational contexts. From enhancing individual performance to fostering better team dynamics and reducing turnover, coaching proves to be a vital element in modern management practices. As organisations continue to evolve, the integration of executive, leadership, and business coaching skills will undoubtedly remain a key factor in achieving both personal and organisational success.

In summary, while strategic leadership focuses on long-term vision, adaptability, and broad decision-making, traditional leadership styles often emphasise short-term goals, stability, and structured decision-making. These conflicting priorities can lead to friction and inefficiency, particularly when strategic leaders push for significant change and innovation while traditional leaders focus on maintaining established processes and performance metrics below depicts a theoretical overview.

The Study's Theoretical Framework Model



Empirical Review

Strategic Leadership Style and Adoption

This section reviews past studies guided by the study's objectives. The research by Alshamlani et al. (2024) aimed to evaluate the perceived leadership competencies of 136 nurse executives in Saudi Arabia to identify strategies for healthcare success. Using a quantitative, descriptive, cross-sectional, and correlational design with an online Competency Assessment Tool survey, the study revealed significant weaknesses in communication, relationship building, healthcare environment knowledge, leadership, and business skills. Strengths were noted only in professionalism. These findings highlight a critical need for targeted improvements in leadership competencies.

O'Shannassy (2021) highlights methodological limitations and debates in empirical studies that underestimate leadership, strategy, and organizational resources, impacting performance comparisons at team and individual levels, thus creating gaps. Despite these challenges, a common theme emerges the crucial role of selecting, nurturing, and retaining organisational resources and capabilities, especially the 'soft' human aspects. Authors vary in their perspectives, reflecting diverse interests

and priorities on these critical issues. Nevertheless, collective studies contribute to advancing strategic leadership understanding, proposing solutions to overcome challenges for sustainable organisational outcomes. The study advocates a comprehensive approach drawing from theoretical frameworks including entrepreneurship theory, strategic leadership, and applied psychology to effectively address these complexities.

Globally, research indicates that transformational leadership, characterized by vision, inspiration, and intellectual stimulation, is widely effective in promoting innovation adoption by healthcare leaders (Dryden-Palmer et al., 2022; Parsa-Parsi, 2022). This style encourages a proactive approach to change management and cultivates a supportive organizational culture that embraces new practices and technologies.

Regionally, studies in different parts of the world highlight variations in leadership styles and their impact on clinical innovation adoption (Karatu, 2024). For instance, in Europe, participative leadership styles that emphasize collaboration and shared decision-making have shown significant benefits in enhancing innovation adoption rates. These styles empower healthcare professionals at various levels to contribute ideas and participate actively in executing new clinical practices, thereby improving patient outcomes and operational efficiency.

At the local level, within specific healthcare settings such as Nairobi's public referral hospitals, the emphasis on strategic leadership styles varies based on contextual factors, organizational culture, resources, and leadership capabilities. Local studies underscore the importance of adaptive leadership approaches that can navigate

complexities and uncertainties inherent in healthcare environments (Bajaba et al., 2021). Leaders who demonstrate flexibility, resilience, and a focus on continuous targeted improvement are better positioned to facilitate the adoption of clinical innovations that address local healthcare challenges effectively (Jordan et al., 2022).

Overall, a nuanced understanding of global, regional, and local perspectives on strategic leadership styles reveals their critical role in shaping leader qualities and influencing the successful adoption of clinical innovations in diverse healthcare settings. This empirical review underscores the importance of aligning leadership strategies with organisational contexts to foster a culture of innovation and enhance healthcare delivery outcomes globally.

Management innovation, which includes new managerial processes, practices, or structures that change the nature of managerial work, can be an important source of competitive advantage (Damanpour & Aravind, 2015).

Leadership Capabilities and Adoption

According to Justus et al. (2021), the study, grounded in a positivist philosophy, aimed to develop new knowledge through a cross-sectional design. It targeted 257 level four public hospitals in Kenya, analysing employees as the unit of analysis and hospitals as the unit of observation. Using stratified random sampling, 157 hospitals were selected, with respondents categorised into doctors, nurses, and clinical officers. The Israel Formula determined the sample size. Data collection involved a 5-point Likert scale questionnaire and content analysis of secondary data from strategic plans. Results indicated a significant correlation between leadership capability and hospital performance. The study concluded that effective leadership

significantly improves performance and recommended engaging capable leaders who align objectives with the organisation's vision and involve key stakeholders in strategic decisions.

Mwangi et al. (2023) conducted a study examining leadership and governance at Aga Khan University Hospital, Nairobi, post-COVID-19. It reviewed over 200 documents from the Kenya Ministry of Health, emails, memos, and protocols. The evaluation focused on themes such as leadership and incident management; coordination and partnerships; communication strategies; and ethical frameworks. The findings suggest that effective pandemic response relies on strong leadership, clear communication, and employee support. It advocates for contextualized ethical guidelines and harmonized preparedness plans to optimise resources, enhance coordination, and avoid duplication in future pandemics. Their study assessed the impact of leadership capabilities on the performance of level four public hospitals in Kenya, using dynamic capability and transformational leadership theories. Out of 257 hospitals, 157 were sampled using systematic sampling and data was collected via questionnaires. Analysis showed a significant correlation between leadership capability and hospital performance. The study concluded that effective leadership significantly enhances hospital performance and recommends that hospitals engage capable leaders who align objectives with the organization's vision and involve key stakeholders in strategic decisions.

Oreg and Berson's (2019) study focused on the integration process of leadership and change within organizations. It highlighted the crucial role of managers as both change leaders and agents, emphasizing a systematic approach to leadership and change. The systematic review method revealed critical gaps across

strategy, organizational behaviour, and analysis levels. It proposed a conceptual framework to address these gaps and elucidate how leaders drive organizational change and impact recipients. Key leadership functions and change processes were identified, but the study also called for further research into the strategic choices of leaders, and how context and time affect their impact on employees during change.

Innovation Attributes and Adoption

Omulo et al. (2022) explored regional antibiotic use across three public hospitals in Kenya: Kenyatta National Hospital (KNH, n = 579), Coast Provincial General Hospital (CPGH, n = 229), and Moi Teaching and Referral Hospital (MTRH, n = 263). They collected hospital-level data on antimicrobial stewardship, infection prevention and control, and laboratory diagnostic capacities from administrators, infection control unit heads, and laboratory directors, respectively. Patient-level antibiotic use was abstracted from medical records using a modified World Health Organisation point-prevalence survey form. Findings revealed significant issues such as missed antibiotic doses, underutilization of specimen cultures for therapy guidance, high antibiotic usage especially in children and surgical patients and a preference for broad-spectrum antibiotics, indicating suboptimal antibiotic practices in these tertiary care settings. The study underscores the need for tailored antimicrobial stewardship programs, policies, and guidelines to address these challenges effectively.

Konda et al. (2024) study sought to identify factors influencing surgeons' decisions to integrate novel surgical innovations into clinical practice. A systematic literature review, utilizing a 10-question Critical Appraisal Skills Programme (CASP) tool for qualitative research, examined 26 studies involving 1,112 participants,

including 694 surgeons, from nine countries. The studies, comprising interviews and focus groups, were analysed thematically and categorized into five causal factors: structural, organizational, patient-level, provider-level, and innovation-based. These were further divided into facilitators and barriers. Key facilitators included improved clinical outcomes, cost-effectiveness, and stakeholder support, while barriers involved insufficient organizational support and resistance from senior surgical managers. In conclusion, the adoption of surgical innovations is hindered by a complex interplay of multiple factors. Enhancing the strength of clinical evidence is crucial to support the broader implementation of innovations in surgical practice.

Managers' Behavioural Predilections and Adoption

Alzaharani (2024) investigated community perceptions of healthcare leadership's role in promoting vaccine acceptance. The study was prompted by recent vaccine recommendations facing opposition due to debates, public trust issues, and varying levels of hesitancy leading to increased anti-vaccination advocacy and reduced global vaccination rates. Using a cross-sectional design with a five-point Likert scale questionnaire, the study targeted a heterogeneous purposive sample of Saudi Arabian adults aged 18 and above. Participants completed the questionnaire online via social media links. Age positively correlated with agreement on healthcare leaders' vaccine promotion role, while education level inversely correlated. Retired individuals scored highest, followed by employed ones. Unlike political and religious leaders, healthcare professionals notably influence vaccine hesitancy and uptake (Grigolon & Lasio, 2023; Sáenz, 2023).

Palm and Fischier's (2022) study aimed to explore factors that promote or hinder innovation in healthcare. It involved a qualitative case study with semi-structured interviews of nine key respondents—three physicians, two nurses, two managers, one care developer, and one politician. The findings reveal that the complexity of innovation impacts its adoption, with human and financial capital being crucial for sustainability. Evaluating innovation through scientific processes is important for legitimacy.

Data saturation was reached after nine interviews, after which data collection ceased, and analysis began. The interviews, conducted between March and December 2020, followed the Helsinki Declaration's ethical guidelines and were recorded, transcribed, and analysed. Respondents' diverse perspectives provided a comprehensive view of the innovation system, highlighting practical implications for healthcare managers and professionals.

Fostering Innovation in Organisation and Adoption

Villaluz and Hechanova (2019) study proposed the CREATE model, emphasising leadership's critical role in shaping innovation culture. It found that leadership directly and indirectly influences innovation culture through mediating variables. Analysing 631 employee surveys from sole proprietorships, family-owned, and non-family organisations, the study revealed that in sole proprietorships and family-owned firms, leadership impacts innovation through mediators, while in non-family corporations, it operates via strategy, evaluation, and rewards. Thus, leaders must adapt their approaches to foster an innovation culture depending on their organisation's ownership type.

Newman et al. (2020) review the literature on innovation climate, analysing its antecedents, outcomes, and role as a moderator in empirical studies. They propose a research agenda to deepen theoretical insights and better understand how innovation climate drives team and organisational outcomes. The study advocates for exploring divergent and negative impacts of innovation climate, employing a dynamic perspective on its evolution, and considering cultural and institutional influences. In conclusion, advancing research in these areas will provide a more comprehensive understanding of innovation climate and its effects on organisational performance.

Saeed et al. (2023) examine how leadership styles influence organisational innovation in healthcare, as perceived by medical doctors across Lahore's five largest public sector hospitals. It also investigated the mediating role of organisational culture in these relationships. Using a cross-sectional survey with a proportionate stratified random sampling of full-time medical doctors, data were analysed through Structural Equation Modeling (SEM) and confirmatory factor analysis with SPSS and Smart-PLS software. Results indicated that organisational culture significantly mediated the impact of leadership styles on organisational innovation, rendering the direct effects of transformational and ambidextrous leadership styles insignificant when culture was included as a mediator. In conclusion, the study underscores the critical role of organisational culture in shaping the relationship between leadership and innovation, highlighting the need for healthcare organisations to foster a supportive culture to enhance innovation outcomes.

Using an integrated approach, combining the qualitative insights from Alzaharani (2024) with the quantitative findings from Palm & Fischier (2022), offers a richer, more nuanced understanding of how leadership impacts both internal

healthcare processes such as innovation adoption and implementation and external perceptions such as vaccine acceptance. The triangulation approach enhances the robustness of the findings by integrating diverse methodologies and a cross-contextual comparison, providing a more comprehensive view of the role of leadership in healthcare.

Using an integrative approach a leadership's role in innovation must adapt to the organisation's context. Villaluz and Hechanova (2019) highlight the need for leadership strategies to vary by organisational type, while Saeed et al. (2023) demonstrate that organisational culture mediates this relationship. Integrating these findings shows how tailored leadership strategies and a strong organisational culture enhance innovation.

Newman et al. (2020) review supports this, emphasising the need to explore cultural influences and their impact on innovation outcomes. Future research should investigate how different aspects of innovation climate and organisational culture affect the leadership-innovation link, including their negative and divergent impacts.

For practitioners, adapting leadership strategies to the organisational context and fostering a supportive culture are crucial for driving innovation. The combined studies offer a comprehensive view of how leadership influences innovation and the key role of organizational culture. This methodological triangulation provides a robust understanding of leadership's impact on organizational success and helps in developing effective strategies and interventions.

Overall assessment of the methodologies reviewed earlier of identified and relevant empirical studies such as quantitative surveys, qualitative interviews, focus

groups, and case studies have shown that findings from multiple studies build a comprehensive understanding. Similarly, a comparison approach of findings across different studies can help identify consistent themes or conflicting results concerning the impact of leadership styles and qualities on innovation in public referral hospitals.

Conceptual Framework

The theoretical framework underpinning this research is grounded in transformational, visionary, transactional, and coaching leadership theories. The conceptual framework organizes and defines key concepts within the study (Zackoff et al., 2019). It identifies predictor variables such as leadership capabilities, innovation attributes, managers' behavioural tendencies, and fostering innovation within the organization. Specifically, the research investigates how these strategic leadership elements influence the adoption of clinical innovations, and intent to adopt innovation as the dependent variable, reflecting the hypothesized relationships outlined in the conceptual framework below in Figure 1.

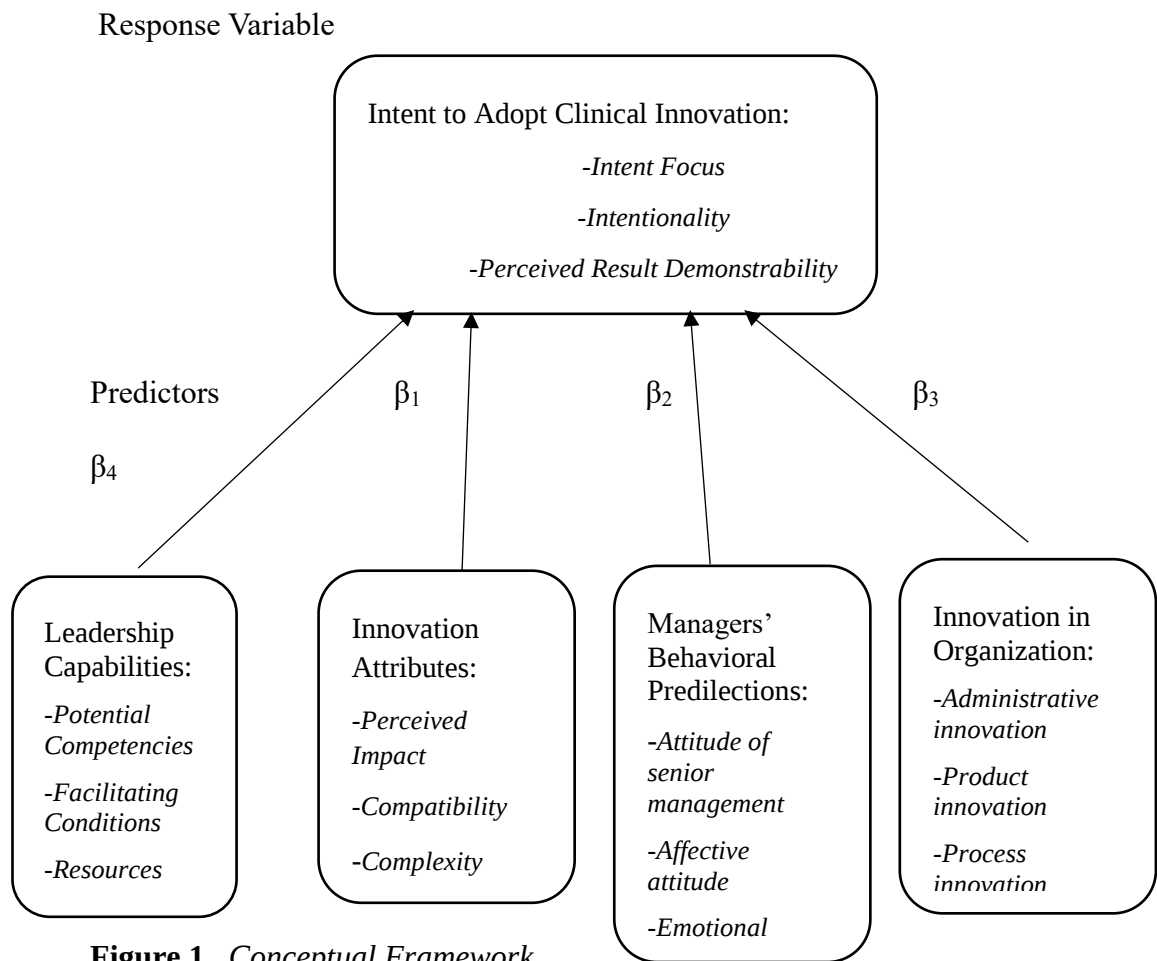


Figure 1 Conceptual Framework

Research Gaps Summary

Table 1 : Identification of Research gaps

Theme	Author	Title of Study	Findings	Critique	Research gaps
Adoption of innovation Still a complex concept	Kirchner et al. (2020).	Getting a clinical innovation into practice: An introduction to application strategies.	Emphasising the role of early identification and documentation of application strategies during development can help accelerate the uptake of clinical innovation in healthcare.	Kirchner's study overlooked an objective gap that failed to address the relationship between strategic leadership styles and clinical innovation adoption by leaders in Nairobi's public referral hospitals.	To address the gap, this study examined the relationship between strategic leadership style and clinical innovation adoption by leaders in public referral hospitals

Strategic leadership styles across organisational and individual ranks	Speziale (2015).	Strategic management of a healthcare organisation	Results showed a positive impact on senior and middle managers on organisational operations.	Speziale's study fell short of filling an objective gap by failing to address the relationship between strategic leadership style and clinical innovation adoption by leaders in Nairobi's public referral hospitals.	To address the gap, this study examined the relationship between strategic leadership style and clinical innovation adoption by leaders in Nairobi's public referral hospitals
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Theme	Author	Title of study	Findings	Critique	Research gap
Leadership decision studies in hospital settings	Nzinga et al. (2018)	Examining Clinical Leadership in Kenyan public hospitals through the distributed leadership lens.	The study revealed that leadership in public hospitals is complex and requires collaboration. This complexity underscores the need for strategic and shared leadership approaches to enhance effectiveness.	Nzinga's study focused on distributed leadership but overlooked the relationship between strategic leadership style and clinical innovation adoption in Nairobi's public referral hospitals.	To address the gap, this study examined the relationship between strategic leadership style and clinical innovation adoption by leaders in Nairobi's public referral hospitals.

Innovation Adoption Process	Pichlak, (2016)	The innovation adoption process: A multidimensional approach.	The adoption process is an important part.	The study found the adoption process crucial but did not explore leadership strength in this context.	To address the gap, this study examined the relationship between strategic leadership style and clinical innovation adoption by leaders in Nairobi's public referral hospitals.
Cultivating Effective Departmental Leadership	Kiptingos et al. (2020)	Influence of leadership skills on the effectiveness of Departmental Leadership in Mogotio Sub County Hospitals	A positive statistically significant association between leadership skills and effective departmental leadership results	The study recommends implementing mentoring leadership but does not evaluate leadership capabilities or flexibility.	To address the gap, this study examined the relationship between strategic leadership style and clinical innovation adoption by leaders in Nairobi's public referral hospitals.

Chapter Summary

This chapter restates the research objectives, hypotheses, conceptual framework, and literature review to enhance coherence between Chapters One and Two. It explores relevant theories and studies on independent and dependent variables (Nakano & Muniz Jr, 2018). Strategic Leadership (SL) is defined as executive-level decision-making to address organizational challenges critical to success, with SL identified as a key factor, second only to innovation. The chapter examines how SL influences Continuous Targeted Improvement Adoption (CIA) to impact decision-making, healthcare outcomes, and cost reduction during uncertain times.

The chapter explores various SL styles, including Transformational, Visionary, Transactional, and Coaching Leadership. Transformational leaders foster team alignment with organisational and healthcare visions, promoting consistency, communication, and leadership development through mentoring and training (Fernandez et al., 2022; Wen et al., 2019). It is reasonable to argue that leadership styles work in tandem and are dependent on context.

The concluding section outlines the theoretical frameworks guiding the research, highlighting how transformational leadership strengthens adoption and innovation theories by motivating leaders, setting high standards, and building trust. The final section identifies gaps in the literature, such as the lack of empirical data on training leaders without SLS qualities, insufficient SLS connections at different managerial levels, the need for further exploration of CIA in hospitals, and a lack of evidence on monitoring strategies to support CIA adoption and leadership development in healthcare settings.

CHAPTER THREE: RESEARCH METHODOLOGY

Introduction

The methodology chapter outlines the research methods and techniques, including their selection and any challenges faced. It also reaffirms the research objectives, hypotheses, and conceptual framework to ensure coherence. This study examines the relationship between strategic leadership styles and the adoption of clinical innovation by leaders in Nairobi's public referral hospitals. Chapter Three details the methodology, research paradigm, design, justification, study population, data types, sampling methods, instrument pretesting, data collection and analysis, ethical considerations, and concludes with a chapter summary.

Research Paradigm

A research paradigm includes a philosophical stance with beliefs and assumptions about ontology, epistemology, axiology, methodology, and rigour, defining the nature of the study (Cassell et al., 2021; Kuhn, 2021; Park et al., 2020). A paradigm is a cognitive framework guiding a researcher's thought processes and logic throughout the research process to develop new knowledge (Jamieson et al., 2023). It integrates assumptions, theories, and practices to create a comprehensive research plan (Lumsden, 2019; Kuhn, 2021). It provides insights into the rationale behind a researcher's perspective and how concepts and approaches are applied to support their belief system on the subject (Babbie & Edgerton, 2023; Jamieson et al., 2023).

Researchers' beliefs significantly shape their approach to inquiries and data collection (Jamieson et al., 2023). These beliefs play a crucial role in steering the course and progression of the study (Creswell & Poth, 2018). In the final analysis,

knowledge is a synthesis of quantitative and qualitative positivist perspectives, aiming to comprehend reality while exploring the phenomena that constitute that reality (Holmes, 2020; Cassell et al., 2021; Kostere & Kostere, 2021).

The traditional scientific worldview centers on concrete and measurable facts and events, encompassing objects, behaviours, situations, and emotions, while excluding consideration of anything beyond these parameters (Mazhura, 2021). In contrast, phenomenology delves into the interconnections between objects and circumstances within a specific setting, exploring the factors that contribute to these connections (Kuchinke, 2023; Kyzar & Denfield, 2023). Phenomenology places value on the human experience and intuition as a rich source of information and knowledge, whereas science concentrates on uncovering physical phenomena through measurement (Lau & Lau, 2020). This divergence highlights a fundamental tension between the objective, measurement-focused approach of traditional science and the subjective, experience-oriented insights offered by phenomenology. Embracing both perspectives can provide a more comprehensive understanding of complex phenomena, integrating empirical rigour with nuanced human insights.

The assumption underpinning this research involves acknowledging the existence of a tangible reality comprised of measurable factors and techniques. This assumption serves as the foundation for constructing a measuring instrument. It enables the researcher not only to precisely describe the object of study but also to make highly accurate predictions concerning the occurrence of one phenomenon (X) based on another (Y), and to manipulate the object accordingly. To recapitulate, a researcher's epistemological beliefs about the foundation of human knowledge and

understanding of the world are intricately tied to their perceptions about the nature of reality (ontology).

This study embraced a positivist philosophy, employing a nomothetic, quantitative approach alongside a survey research design (Mandavilli, 2023). The positivist research paradigm played a crucial role in guiding the entire process, from data collection and analysis to interpretation and reporting, emphasizing knowledge derivation through deductive arguments (Chiulli, 2018; Cooksey, 2020). Simultaneously, it facilitated the maintenance of research quality by integrating relevant references into the study (Thelwall et al., 2023). Consequently, the adherence to a positivist framework not only ensured rigorous and systematic investigation but also enhanced the study's credibility and robustness, providing a solid foundation for generating reliable and generalizable insights.

In this context, a positivist quantitative approach was adopted, utilising a theoretical-deductive (that is, hypothetico-deductive) method to either refute or support a priori hypotheses. The outcomes of the hypothesis test were leveraged to inform and advance knowledge (Park et al., 2020). Positivism, as a philosophy, emphasises empirical observation and scientific methodology to understand and solve problems as well as develop new knowledge. The crucial nexus between leadership philosophy (Strategic Direction, Cultural Creation and Value) and positivist philosophy lies in their shared emphasis on systematic, evidence-based approaches (Faruqi, 2024). This alignment underscores the critical importance of integrating rigorous, empirical methods in leadership practices to ensure that strategies and decisions are not only informed by robust data but also aligned with a broader, evidence-based framework for problem-solving and knowledge development.

When linked with innovation as a leadership philosophy, positivism encourages leaders to approach innovation systematically and methodically: For instance, in empirical validation, positivism advocates for testing hypotheses and ideas through empirical observation and data. In the context of innovation, leaders can use this approach to validate new ideas or innovations before application, ensuring they are based on evidence and have a higher chance of success. In a systematic approach, positivism promotes a systematic and structured approach to problem-solving and innovation.

Leaders can apply this by setting clear objectives, conducting rigorous analysis, and systematically executing innovations to achieve desired outcomes. Concerning continuous targeted improvement, positivism supports the idea of continuous learning and targeted improvement through experimentation and feedback. Leaders can foster a culture where innovation is iterative, encouraging teams to refine ideas based on empirical data and feedback from stakeholders. For evidence-based decision-making, positivism encourages leaders to make decisions based on empirical evidence rather than intuition alone. Incorporating these practices not only enhances the effectiveness of leadership but also ensures that organisational strategies are grounded in solid, objective evidence, leading to more reliable and sustainable outcomes.

Considering this, connecting positivism with innovation as a leadership philosophy promotes a structured, evidence-based approach to fostering and executing new ideas within organisations. It emphasises empirical validation, systematic application, continuous targeted improvement, and evidence-based decision-making to drive successful innovation initiatives. Therefore, when applied to innovation,

leaders can prioritise ideas tested and show promise through empirical data, minimising risks associated with unproven concepts. In this study, employing positivist principles for data analysis prioritised objectivity, quantifiability, and replicability. Positivism guided the data analysis using strata in the following ways:

In positivist research, sampling methods are crucial to ensure the generalizability of findings. Stratified sampling involves dividing the population into subgroups or strata based on relevant characteristics (e.g., age, gender, income level) and randomly sampling within each stratum. As a result, this method ensures that each subgroup is represented proportionally according to its size within the population, thereby reducing bias and improving the validity of the results.

Positivist research emphasises precise measurement and operationalisation of variables. This means defining variables in a way that allows them to be measured quantitatively, using instruments and procedures that yield reliable and valid data. For instance, in social sciences, surveys with closed-ended questions are often used to gather data that can be quantitatively analysed across different strata. As a result, this approach ensures that the research findings are consistent, and comparable, and can be used to draw objective conclusions about the phenomena under study.

Positivism favours quantitative methods for data analysis, such as statistical techniques (e.g., regression analysis) that allow researchers to identify patterns, correlations, and relationships within the data. When data is stratified, these statistical analyses can reveal how variables interact differently across various subgroups, providing deeper insights into the research questions. One of the key tenets of positivism is the pursuit of objective knowledge that can be generalised beyond

specific cases. By using stratified sampling and quantitative analysis, researchers aim to produce findings that are not only rigorous and reliable but also applicable to broader populations or contexts, enhancing the external validity of the research. Thus, these methodologies help ensure that the insights gained are robust and have the potential to inform broader theoretical and practical applications.

As a final point, positivism as a philosophy, shapes how data is collected, analysed, and interpreted in research. When using strata in data analysis, it ensures that the research is methodologically rigorous, objective, and capable of yielding generalizable conclusions across diverse populations or settings. This approach underscores the importance of systematic and unbiased approaches in generating reliable research outcomes.

This study aimed to impartially assess strategic leadership style and innovation-driven leadership in Nairobi's public referral hospitals by gathering data on four specific elements of strategic leadership styles: leadership capabilities, shaping innovation-oriented attributes, managers' behavioural predilections, and fostering innovation in the organisation. The quantitative nature of this study rests on the assumption that the constructs under investigation are measurable. However, it is essential to note that this assumption is now being contested, especially in certain interpretive quantitative approaches (Babones, 2016; Franz 2023). By relying on observations and precise measurements of the phenomenon, this study embraced a quantitative positivist paradigm to gather reliable data for testing research hypotheses. Consequently, the obtained findings were used to confirm the a priori hypotheses. This comprehensive framework shapes how research is conducted and interpreted,

ensuring that the study aligns with its underlying philosophical principles and contributes meaningfully to the field.

Research Design

The study utilises a theoretical framework to examine how strategic leadership styles influence the adoption of clinical innovations in Nairobi's public referral hospitals. A descriptive research design was employed to analyse this relationship, focusing on elements such as organisational capacities, innovation attributes, managerial behaviour, and promotion of innovation. This approach aimed to assess the relationship between response and predictor variables through systematic data collection and numerical analysis, clarifying theoretical concepts and revealing tangible relationships (Oster, 2020; Reeves & Buczkowski, 2023; Wronski et al., 2021). Ultimately, this design provides valuable insights into how strategic leadership impacts innovation adoption.

A survey design was used to collect data and test research hypotheses with a sufficient sample size. Surveys are effective for gathering insights into practices, attitudes, and knowledge to predict behaviour (Story & Tait, 2019). The study emphasised quality, adhering to APA format and integrating updated citation styles to develop a strong authorial voice (Leong, 2021; Mhilli, 2023; Onguka, 2023; Peng, 2019; Teng & Wang, 2023). Despite this, some data suggest that dissertation writers may struggle with developing a distinct academic voice (August et al., 2023). Addressing this early can help students build a confident authorial presence (Hodgson, 2020; Kobayashi & Rinnert, 2023; Leong, 2021; Morton & Storch, 2019; Qi & Zhao, 2023; Zhao & Liu, 2021). The research design was crafted with attention

to quality and rigour, following principles outlined by Burke and Soffa (2018), Creswell and Poth (2018), Kothari and Garg (2019), and Thelwall et al. (2023). This comprehensive approach ensures robust and credible findings.

This study utilized a cross-sectional survey design and an observational approach (Hunziker & Blankenagel, 2024). Cross-sectional data are well-suited for studying concrete, externally oriented constructs, especially when the research involves highly educated respondents, employs diverse measurement methods and is firmly anchored in theory (Rindfleisch et al., 2008). It involved gathering data from a diverse group of individuals in a specific population at a single time, essentially capturing a snapshot. The aim was to test research hypotheses through data analysis. In contrast to case-controlled or cohort studies, participants were chosen based on specific inclusion/exclusion criteria. The adaption of this research design aligns with recommendations from precedent studies (Alharbi et al., 2021; Phillips et al., 2021; Restivo et al., 2022; Tanner, 2018; Wang & Cheng, 2020). A cross-sectional survey design was chosen for its cost-efficacy. It is insightful and generates correlations useful for subsequent research. This method allows researchers to accumulate information from a larger sample size, potentially reaching thousands of participants.

Sekaran and Bougie (2020) recommend using multiple research designs to enhance precision, a view supported by Saunders et al. (2020). Employing various designs improves the accuracy of conclusions and ensures respondent anonymity, which encourages more honest information sharing and enhances data quality (Mugenda & Mugenda, 2019; Saunders et al., 2020). Ultimately, the research design functions as a conceptual roadmap, guiding the application of methods for effective quantification and analysis (Cooper et al., 2021; Creswell & Poth, 2018; Hjelm, 2024;

Kothari & Garg, 2019). This comprehensive approach strengthens the robustness and reliability of the study's findings.

Study Population

A population is defined as a complete set of people, objects, or events with shared characteristics that the researcher aims to study (Casteel & Bridier, 2021). In this context, Target Population refers to the entire group of individuals or items that the researcher is interested in studying and to which the results are intended to generalize. It is the broader group from which a sample is drawn. For example, this researcher wants to study the leadership styles of healthcare managers in Nairobi's public referral hospitals, the target population might be all hospital managers in Nairobi's public referral hospitals, while the study population could be the managers in specific public referral hospitals where the researcher has access.

In summary, Target Population is the broader group a researcher wants to study. For example, if a researcher wants to study all hospital managers in a city, this is the target population.

Sampling Frame: This is a list or database that includes members from the target population. The sampling frame is what you use to identify the specific individuals or units available for sampling. Ideally, it should be as close as possible to the target population.

Study Population: This is the actual subset of individuals or units chosen from the sampling frame to participate in the study.

So, the sampling frame provides access to the study population, which is a smaller, more specific group drawn from the larger target population. In essence, the

sampling frame gives the researcher the practical means to identify who from the target population can be included in the study. the target population consists of the workforce across all Nairobi public referral hospitals, which provide a range of primary, secondary, and tertiary health services under the Ministry of Health, Government of Kenya (Richard et al., 2024). Following Kumar's (2018) recommendations, the survey treated the four hospitals as units of inquiry (primary subjects or entities that are being investigated in a study) and focused on their healthcare leaders as units of analysis (specific elements or individuals from whom researcher collect data and draw conclusions).

Middle managers and department heads are responsible for administering the innovation, while senior managers serve as the ultimate decision-makers concerning its adoption (Faugstad, 2020). Their decisions are influenced by the experiences and evidence provided by creators and participants from the health ministry during the innovation phase. This democratic decision-making structure means that the adoption of clinical innovation hinges on the consensus reached by healthcare professionals. Therefore, middle managers are pivotal decision-makers in the adoption process (Urquhart et al., 2018). In this context, the adoption decision by senior managers mirrors the viewpoints expressed by the healthcare professionals involved.

Considering this, managers and department heads are best positioned to answer questions about their organisation's structure, strategy, and long-term adoption of innovations due to their oversight of daily operations and institutional awareness (van de Riet et al., 2019).

Therefore, many professionals primarily rely on healthcare settings to apply and assess leadership styles (Stahlhut et al., 2021), as noted by Sekaran and Bougie (2020). In summary: Study Population refers to the specific subset of the target population that is included in the research. This is the group of individuals or items that the researcher has access to and collects data from. It is the broad population to which the results of the study are intended to generalize. Table 2. below depicts the study population.

Table 2

Study Population of Managers in Nairobi's Public Referral Hospitals

Type of Hospital n=4	Study participants category	No. of Officers n=189
KNH	Senior/Middle-level managers/Heads	48
Mbagathi	Senior/Middle-level Managers/Heads	57
Pumwani	Senior/middle-level managers/Heads	45
Mama Lucy	Senior/middle-level managers/Heads	39

Source: *Research Data*

Sampling Frame: This is a list or database that includes members from the target population. The sampling frame is what the researcher uses to identify the specific individuals or units available for sampling (Stratton, 2021). For this study, the sampling frame consists of total list of 7 Nairobi's public referral hospitals, as shown in Table 2 below.

Table 3*Sampling Frame*

No.	Listed Institutions in Nairobi (N=7)
1.	Mama Lucy Kibaki Referral Hospital
2.	National Spinal Injury Referral Hospital (NSIRH)
3.	Mbagathi Referral Hospital (MRH)
4.	Mathari National Teaching and Referral Hospital (MNTRH)
5.	Pumwani Maternity Referral Hospital (PMRH)
6.	Kenyatta National Referral Hospital (KNH)
7.	Kenyatta University Teaching, Research & Referral Hospital (KUTRRH).

Table 4**Sample**

The distribution of Public Referral Hospitals in the Stratified Strata

Hospital Stratum Size (Medium size=5, Large =2)	Hospitals in Stratum N=7	Sampled Hospitals (Randomly Chosen) n=4
Stratum 1	Hospital 1	Hospital 1
	Hospital 2	Hospital 3
	Hospital 3	
	Hospital 4	Hospital 5
	Hospital 5	
Stratum 2	Hospital 6	Hospital 6
	Hospital 7	

Sampling Methods

This study used simple stratified and purposive sampling to select representative samples, effectively identifying key characteristics (Etikan & Babetope, 2019; Van de Schoot & Miocević, 2020). Sampling ensures statistical generalizability and is essential when constraints such as budget and time prevent data collection from entire populations. A well-chosen sample can provide more precise and reliable results than attempting to survey everyone. Thus, these methods were instrumental in obtaining accurate and generalizable findings for the study.

Simple stratified random sampling divides the population into distinct strata based on relevant characteristics. For this study, Nairobi's seven public referral hospitals were stratified into two groups (see Table 3 for a summary of results). A total sample size of four hospitals was determined, with a representative sample selected using random sampling techniques. This approach ensured that the selected subset accurately reflects the diversity within Nairobi's public referral hospitals. Conclusively, this method allowed for a well-represented sample, enhancing the study's reliability and applicability.

Where:

The sample size was determined as follows: Large Hospitals: $2/7 \times 4 \approx 1$, Medium Hospitals: $5/7 \times 4 \approx 3$. Hospitals are categorized based on a ranking, depending on the system of care (e.g., specialization) or service tiers. Hospitals are considered large if their roles correspond to levels 5 and 6, and medium if they have acting dual or non-dual roles at levels 4 and 5. In this context, the researcher decided to enlist 4 hospitals. One large hospital and three medium hospitals were randomly

selected to represent the entire population, totaling four public referral hospitals. One large hospital and three medium hospitals were randomly selected means that, from a larger group of hospitals (i.e., 7), the following selection process took place:

One large hospital: A single hospital that is classified as "large" (based on the complexity of its services or its role) was chosen.

Three medium hospitals: Three hospitals that are classified as "medium" were chosen. These hospitals offer a mix of services at a moderate level of complexity, based on their classification.

Randomly selected: The selection of these hospitals was done randomly, meaning the hospitals were chosen without any specific bias or predetermined pattern. This ensures that each hospital (large and medium) had an equal chance of being selected in the sampling process. Sampling was based on the hospital's "Referral label" instead of "Level status," ensuring proportional representation. The survey targeted healthcare leaders in Nairobi's public referral hospitals. Referral hospitals vary significantly (Li et al., 2019; Zarrin et al., 2022), and each requires tailored leadership due to differences in referral sources, reputation, care, and technology (Figueroa et al., 2019; Joshi, 2017). Further research is recommended to better understand healthcare leaders' perceptions of leadership quality and behaviour. Stratified sampling involved stratification followed by simple random sampling of public referral hospitals (Kothari & Garg, 2019; Lohr, 2021; Nguyen et al., 2021). The hospitals excluded were the National Spinal Injury Referral Hospital, Mathari National Teaching and Referral Hospital, and Kenyatta University Teaching and Referral Hospital. In other words, hospitals not randomly selected were not included

in this analysis. Purposive sampling was then used to select individuals with relevant healthcare information expertise (Andrade, 2021; Campbell et al., 2020). According to Kock (2021), senior and mid-level managers, health facility heads, and deputies from each sampled hospital were selected. A total of 189 healthcare leaders were purposively selected to complete an electronic questionnaire. This larger sample size enhances representativeness and generalizability over a smaller census sample in a cross-sectional study, with purposive sampling preferred for obtaining informative cases (Denieffe, 2020; Saunders et al., 2020). However, self-selection bias may occur, as volunteers may differ from non-volunteers (Jager et al., 2020). Using a set inclusion criterion can help mitigate this bias. This approach ensured a comprehensive and knowledgeable sample, enhancing the study's validity and relevance.

Types of Data

Research encompasses two fundamental types of data: primary data, gathered directly from participants and not previously documented, and secondary data, collected by others through established methods e.g., Government or Public Records, Academic Journals, Official Databases, Historical Documents, Existing Research (Kothari & Garg, 2019). In this study, primary data was generated through surveys that gauged healthcare leaders' perspectives on the implementation of SLS. Digitalised questionnaire responses were analysed to assess the extent of CIA potential. Further, surveys captured healthcare leaders' individual views on SLS and CIA, offering insights into their beliefs and emotions, which facilitated the interpretation of the relationship between SLS and CIA.

Data Collection Methods

A questionnaire is a research document comprising of prespecified series of responses and items regardless of whether printed or digitised in a specific order (Dalati & Marx Gómez, 2018; Hiebert et al., 2023; Taherdoost, 2021). This is done in one or more forms. It is used to gather information from respondents about a certain topic (Kothari & Garg, 2019; Sileyew, 2020). The tool used to collect data was developed from the literature considered in terms of latent constructs as well as existing validated questions. This study used the quantitative data collection method of a closed-ended questionnaire. A key need is a survey function to make it easier for all respondents to answer the question (Farooq, 2018; Sharma, 2022). In this study, a closed-ended questions were used in the final questionnaire. Survey data started as qualitative type (e.g., categorical data) and converted to quantitative data for statistical analysis through a process where responses are transformed into numerical values such as assigning numbers to categories (e.g., "strongly agree" = 5, "agree" = 4, etc.), that can be analyzed statistically. In this study, closed-ended questions had questions with predefined answer options (e.g., multiple choice, rating scales). The responses are already in a format that can directly be converted into numbers. For example: Likert scale (Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree) can be assigned numbers like:

Strongly Agree = 5; Agree = 4; Undecided = 3; Disagree = 2; Strongly Disagree = 1

Standardized questions ensure consistent understanding among all respondents, improving the reliability of the questionnaire (Farooq, 2018; Sharma, 2022; Taherdoost, 2021). A quantitative approach is more likely to produce

generalizable insights, facilitating analytical conclusions. In this context, analyzing quantitative data is more straightforward and enables the identification of statistical relationships, which can either support or challenge the study's hypotheses (Sileyew, 2020).

The questionnaire had two sections: The first section explored the baseline hospital characterisation information. The second section delved into four elements of strategic leadership style: organisational capabilities, cultivating innovation-oriented attributes, managers' behavioural predilections, and promoting innovation in the organisation. These were categorised as predictor variables while clinical innovation adoption was classified as the response variable (Denti & Hemlin, 2012).

Three indicators were used to operationalise leadership capabilities: style, facilitating conditions, and resources (funds, skills, competencies). Three indicators were used to operationalise cultivating innovation-oriented attributes; relative advantage (perceived impact), compatibility, and complexity (Moorlock & Draper, 2023; Rosenhead et al., 2019). According to Wilson (2023) and Vagnani et al., (2019) contributions, three indicators were used to operationalise managers' behavioural predilections: attitude of senior management, affective attitude, and emotional attitude. Schindler (2021) assessed the promotion of innovation in organisations through three key indicators: championing administrative innovation, championing product innovation, and championing process innovation. To alleviate identification concerns, each construct was assessed using a minimum of three indicators.

Respondents rated items on a five-point Likert scale, with 5 indicating 'strongly agree', 4 indicating 'agree', 3 indicating 'undecided', 2 indicating 'disagree'

and 1 indicating ‘strongly disagree’ As previously mentioned under data collection methods, the conversion to quantitative data has been explained. This composite scale, commonly used in social research, is easy to complete, convert to quantitative data, and approximates an interval scale (Kothari & Garg, 2019; Saunders et al., 2020). Primary data collection used digital questionnaires administered in person by the researcher and six trained assistants to every potential respondent including senior and mid-level managers and healthcare facility heads or their deputies as units of inquiry at each of the four sampled hospitals (Fetzer, 2020; Jordan & Troth, 2020; Kock et al., 2021). As a result, the team distributed questionnaires to respondents capable of providing at least sufficient responses. This approach aimed to mitigate common method biases and ensure a comprehensive understanding of all organisational functions, operations, and the operating environment.

As Bäck et al. (2020) assert and similarly supported by Barrera-Ortegon et al. (2024), senior and middle managers play a crucial role in cultivating strategic direction and facilitating organisational change in unprecedented times. Fisher et al. (2023) noted, and Veikkolainen et al. (2023) alluded to the fact that if researchers administered questionnaires, the number of completed and usable forms would increase. In studies where the sampled populations reside in or near the same geographic area, this aspect holds relevance and applicability for the study's objectives. According to the findings of Manstein et al. (2023), digitised questionnaires led to faster response times than questionnaires sent in separate envelopes and paid for by postal mail. Further, it was easier to use a handheld smartphone to collect data than to carry around a stack of papers (Martínez-Navalón et al., 2023; Mazikana, 2023). It is widely acknowledged that collecting and digitising

data at the source improves data entry efficiency and clarity. This, in turn, leads to higher data quality.

Instrument Pre-testing

The preliminary survey underwent a pilot test to assess respondent comprehension and completion challenges, aligning with recommendations from Saunders et al. (2020) and Hair et al. (2019). Pilot testing was crucial to validate and ensure the reliability of the research instrument for data collection (Polit & Beck, 2019; Sekaran & Bougie, 2020; Sharma, 2022). Feedback from the pilot test helped refine the questionnaire by clarifying ambiguities and inconsistencies (Artino et al., 2018; Sharma, 2022). Similarly, Schindler (2021) highlights pilot testing's role in identifying design flaws and collecting representative data for sample selection. Twelve individuals, representing 10% of the sample, were randomly selected from homogeneous health facilities for the pilot test (Lewis et al., 2021). The pilot test, involving a draft questionnaire and invitation letter, achieved an 83% response rate, surpassing the 50% threshold for suitable analysis and publication (Bell et al., 2022; Sekaran & Bougie, 2020). This step ensured the questionnaire's effectiveness for the primary study, facilitating its completion and finalisation.

Validity

Validity refers to how accurately research findings represent the phenomenon under investigation (Flake et al., 2022), making it a fundamental aspect of evaluating any research (Farooq, 2018). Content validity, one of the five sources of validity evidence, ensures that an assessment instrument comprehensively represents the targeted constructs (Yusfi et al., 2021). Clear delineation of study objectives,

meticulous pre-testing of a draft questionnaire, and inclusion of questions from prior research were deployed to bolster validity (Buschle et al., 2021). Content validity, assessed through the degree of relevancy and representativeness of concept dimensions, was ensured by extensively defining the dimensions and components in the questionnaire (Sekaran & Bougie, 2020). This was supported by a thorough literature review in Chapter Two, as an exhaustive study of the literature contributes to establishing content validity (Bell et al., 2022; Polit and Beck, 2019; Yusfi et al., 2021).

According to Halek et al. (2017), assessing content validity involves gauging if experts find the language of a questionnaire familiar, ensuring appropriateness and identifying any misunderstandings or omissions. High validity levels in research instruments lead to precise data reflecting the investigation's subject, as anticipated with the pretested questionnaire in this study. Pretesting questionnaires, as noted by Taherdoost (2022), enhance their validity. Feedback from the examining panel during the preliminary research proposal presentation was utilized to make necessary adaptations, enhancing the questionnaire design. Input from academics and experts in relevant fields ensured theoretical justification for the selected constructs and variables.

Construct validity assesses the precision of questionnaires and tests in measuring theoretical variables or latent constructs (Hair et al., 2019; Mathieu et al., 2020). It determines how well an instrument works and how findings can be understood. Both convergent and discriminant validity were considered to establish construct validity in this analysis (Hair et al., 2019; Rönkkö & Cho, 2022). Quantifications were used to validate construct validity within the model, with

convergent validity examining the interrelatedness between different assessments of the same conceptual event and discriminant validity focusing on the uniqueness of a concept compared to others (Hair et al., 2019; Sekaran & Bougie, 2020). EFA was employed to assess the discriminant validity of the measurement instruments developed for the study (Finch, 2020).

This study evaluated construct validity and reliability using Exploratory Factor Analysis (EFA) and Cronbach's alpha. EFA assessed validity, while Cronbach's alpha measured internal consistency, suitable for single-test applications and cross-sectional studies (Barbera et al., 2020; Forero, 2014; Shrestha, 2021; Taber, 2018). Cronbach's alpha reliability coefficient assesses the reliability of a sum or average of q measurements, which could include questionnaires or test items in an acceptable sample size (Bujang, et al., 2018).

To clarify the use of Cronbach's alpha for average and overall sums in this study, the following points are considered:

Cronbach's Alpha for *average* refers to the mean value of Cronbach's alpha calculated across different subsets or subscales within a test or across multiple studies or samples. In other words, it indicates how consistently these items or measures assess the same underlying construct. It calculates Cronbach's alpha using the individual item scores. If the *average* Cronbach's alpha across different subscales or samples is high, it suggests that the individual parts or contexts in which the test was applied have reliable measures. However, if it is low, it might indicate variability in reliability across different parts or contexts.

Cronbach's Alpha for *overall* sum is Cronbach's alpha calculated for the entire set of items in a test or scale, without dividing it into subscales or subsets. It evaluates the reliability of the total score by summing all items, reflecting how well the total score represents the construct. In other words, it calculates a snapshot of the reliability of the entire instrument. The *overall* Cronbach's alpha gives a general indication of the reliability of the entire instrument. A high *overall* Cronbach's alpha suggests that the items in the full scale have a high level of internal consistency, meaning they measure the same underlying construct. A high overall Cronbach's alpha indicates that the entire test is reliable. However, if the overall alpha is low, it might suggest that some items in the test are not measuring the same underlying construct consistently.

Both measures (average, overall) are valuable for understanding different aspects of reliability, but they focus on different levels of granularity within the test or scale. In essence, *average* Cronbach's alpha provides insights into the consistency across different parts or contexts, *overall* Cronbach's alpha provides a snapshot of the reliability of the entire instrument.

In essence, both methods provide insights into the reliability of the measurement instrument, helping researchers apply Cronbach's alpha appropriately to their studies and specific contexts. By understanding these distinctions, researchers can effectively apply Cronbach's alpha to evaluate the reliability of measurements in their studies and context, whether assessing the average or the overall sum of multiple items.

The Kaiser-Meyer-Olkin (KMO) sampling adequacy value, typically ranging from 0.5 to 1.0, determines suitability for factor analysis, with values above

0.70 considered adequate (Morgan et al., 2020). Factor Analysis is a statistical method that explains variability by observed, correlated variables using fewer unobserved variables called factors. A significant Bartlett's test of sphericity further supports factorability. Average Variance Extracted (AVE) was used to assess convergent validity, with an AVE of at least 0.5 deemed sufficient (Mueller & Hancock, 2018).

Exploratory Factor Analysis (EFA) evaluates the validity of questionnaire items, allowing researchers to categorize, summarize, and interpret variables based on significant factors (Tavakol et al., 2023). This technique examines the internal structure of scales and questionnaires, commonly used in psychological and educational assessments (Tavakol & Wetzel, 2020). EFA involves calculating the KMO test of significance, typically falling between 0.5 and 1.0 for adequacy (Hair et al., 2019).

Confirmatory Factor Analysis (CFA) confirms a measure's internal consistency when the underlying latent variable's structure is known (Tavakol & Wetzel, 2020). EFA, on the other hand, explores relationships between elements without prior knowledge of the data structure, often used for generating theories (Orcan, 2018). Cronbach's alpha test was employed to ensure questionnaire reliability in this study (Hair et al., 2019).

Reliability

Reliability denotes the consistency of a research instrument in producing the same results or data when applied repeatedly to the same subjects (Mohajan, 2020; Ahmed & Ishtiaq, 2021). In this study, the observed variables within each factor were assessed for internal consistency across five broad categories. Methodologists

generally recommend a minimum coefficient of 0.65 to 0.8 or higher, as coefficients below 0.5 are typically deemed unacceptable, especially for purportedly unidimensional scales (Taber, 2018). Reliability coefficients of 0.7 or higher are typically considered sufficient for social, behavioural, and educational sciences (Hair et al., 2019). In this study, all study variables underwent reliability analyses, with Cronbach's alpha required to be higher than 0.7 for the variable items to be considered reliable (Hair et al., 2019; Ravinder & Saraswathi, 2020). Cronbach's coefficient ranges from 0 to 1.0, with 1.0 indicating complete reliability and 0.70 being the minimum acceptable threshold. The Cronbach's coefficient formula is like the Kuder-Richardson (K-R) 20 formula but is more generalized (Hair et al., 2019).

Well-designed surveys and interviews increase the likelihood of comprehension but do not ensure it for every respondent (Wronski et al., 2021). Similarly, Boynton and Greenhalgh (2004) caution against assuming universal comprehension. Pretesting offers an objective means to assess and improve comprehension, aligning with best practices in survey research. Refining survey instruments through iterative processes enhance respondent understanding. Pretesting the instrument was crucial for generating reliable data in this study. A pilot sample of 12 individuals with traits like the study subjects assessed the questionnaire's validity. Reliability ensures consistent results, allowing researchers to collect data as intended. In this study, all factors except three had Cronbach's alpha values ≥ 0.7 . Despite lower values for relative advantage ($\alpha = 0.5524$), senior management attitude ($\alpha = 0.5015$), and adoption support ($\alpha = 0.6837$), the overall Cronbach's alpha was 0.9183, indicating questionnaire reliability.

Ethical Considerations

Ethical guidelines were strictly followed to ensure transparency, replicability, and integrity. Formal approval was granted by the Pan Africa Christian University Graduate School and research licenses were obtained from NACOSTI. Additional approvals came from the Nairobi City County Ethics Review Board and the KNH-UoN ERC. Informed consent was obtained from volunteers, with no incentives offered, and participants were assured anonymity and privacy through serial number use. These steps minimised risk and upheld ethical standards throughout the study.

Data Analysis

The questionnaire underwent revisions to enhance the design and objectives. Data preparation involved identifying, handling, structuring, and fine-tuning raw data for rigorous analytical techniques (Johnson et al., 2024) consistency and comprehensiveness, as mentioned earlier (Sharma, 2022), aligning with the research (Laaksonen, 2018; Nisbet et al., 2018). Qualitative data from questionnaires underwent analysis using descriptive (described data providing characteristics, features, or attributes associated with it) and inferential statistics, presented in textual and visual formats such as tables and figures (Huston, 2020; Mishra et al., 2019; Rowell et al., 2020).

In hypothesis testing, a statistical test determines if there is a significant relationship between predictor variables and a single outcome variable in quantitative data. For example, ANOVA (Analysis of Variance) is a statistical method used to compare means across multiple groups to determine if there are significant differences between them.

To perform an ANOVA, several conditions must be met: The data should consist of two or more independent groups. Each group's data must be approximately normally distributed. The variance within each group should be roughly equal (homoscedasticity). Finally, the dependent variable should be measured on an interval or ratio scale.

What it implies: ANOVA tests whether the means of different groups are statistically different from each other. It implies that any significant difference in means is not due to random chance but rather because of the independent variable.

Implications:

Significant Results: If the ANOVA test shows a significant result, it implies that at least one group mean is different from the others, and further post-hoc tests may be needed to identify which groups differ.

Non-significant Results: If the test is not significant, it suggests there are no statistically significant differences between the groups' means.

Guiding Decision Making: The results can guide decisions in fields like healthcare, business, and education, where understanding differences between groups is crucial for strategy, treatment, or policymaking.

STATA Version 15.1 software was used for data cleaning, coding, and management, enhancing analysis accuracy and efficiency (Huston, 2020; Piubello et al., 2021; Waithima, 2020). This advanced statistical software simplifies calculations, visualizes patterns, and reveals insights. Further data analysis was conducted using the same program to create a data sheet for additional examination.

Exploratory Factor Analysis (EFA) reduces many variables into fewer factors by extracting maximum common variance and producing consecutive maximum variance of factors. This technique, deployed to assess questionnaire validity (Hair et al., 2019; Mathieu et al., 2020), explores the underlying structure of observed variables, assuming they are influenced by a smaller number of latent factors and unique error terms. For the i^{th} observed variable, represented by X_i , in a model with p observed variables and q latent factors, the equation is as follows:

$$X_i = \lambda_{i1} F_1 + \lambda_{i2} F_2 + \dots + \lambda_{iq} F_q + \varepsilon_i$$

Here:

λ_{ij} is the factor loading, indicating the correlation coefficient between the i^{th} observed variable and the j^{th} latent factor.

F_j represents the j^{th} latent factor.

ε_i is the unique error term specific to the i^{th} observed variable.

In factor analysis, latent factors represent underlying dimensions or patterns in the observed variables. In other words, Factor Analysis identifies hidden factors underlying observed variables. In this study, the correlation matrix was used to analyse relationships by the 26 observed variables related to cultivating organisational capabilities. Factors were then extracted based on a scree plot, validated using parallel analysis, and subjected to oblique rotation, considering correlated factors. Correlations above 0.30 were identified, and pairwise correlations > 0.8 for independent variables indicated potential multicollinearity. However, all factors-maintained correlations below 0.3, ensuring their retention. Factors were further assessed for sufficient variable loadings (> 0.4), inclusion of at least three variables

per factor, and clear thematic alignment. This process was repeated for variables related to cultivating innovation-oriented attributes, managers' behavioural tendencies, promoting organisational innovation, and adopting clinical innovations.

Descriptive Analysis

This study analysed respondents' characteristics and descriptions of each research variable indicator to ensure coherence (George & Mallery, 2018; Mishra et al., 2019). Initial data analysis involved computing mean and standard deviation scores for each questionnaire item, providing descriptive statistics such as means, frequencies, percentages, and standard deviations to elucidate data characteristics. Descriptive data on the random variable (X) fell within a specified interval. For each of the five variables in the survey questionnaire, the calculated mean and standard deviation were associated with the random variable (X). These measures are crucial for characterizing normal distributions, representing central tendency and degree of variation.

Diagnostic Testing

Regression serves two purposes: quantification and prediction. In this study, regression analysis was used to evaluate predefined hypotheses (Vetter & Schober, 2018). Before conducting regression analysis, assumptions of the regression model were tested visually to ensure suitability for testing the study's hypotheses. Statistical tests impose assumptions on the data, which must be met (Montgomery et al., 2021). These assumptions include data normality. Given the complexity of variable relationships, it is crucial to test the assumptions of multiple regression analysis before generalising from sample data (Hair et al., 2019). Assumptions of multiple

regression analysis include multicollinearity, normality, and homoscedasticity, for instance, in a multivariate study, collinearity analysis involves examining the correlations among predictor variables. The correlation between any two predictor variables should be less than 0.5 to assess collinearity. If the correlation exceeds 0.5, it suggests high collinearity, indicating that the predictor variables may be similar or redundant. Ensuring these assumptions are satisfied enhances the reliability and validity of the study's findings. Accordingly, several steps were taken to test these assumptions and establish relationships between variables:

Testing for Normality

Normality refers to a dataset or distribution following a bell-shaped curve, where data is symmetrically distributed around the mean, with most values clustering near it. This assumption is important in many statistical tests and models.

Analysis:

The study analysed data in STATA 15.1 version, using graphical methods (histograms for skewness and kurtosis) and the Shapiro-Wilk test for normality (Hernandez, 2021; Karagiorgis et al., 2023; Knief & Forstmeier, 2021).

Interpretation:

The Shapiro-Wilk test assessed whether the sample followed a normal distribution, with the null hypothesis stating normality. If $p \leq 0.05$, the null is rejected, indicating non-normality; if $p > 0.05$, the null is not rejected, suggesting normality. A skewness value of 0 and kurtosis of 0 indicate perfect normality, while values within 2.00 to 3.00 of their standard errors suggest normal distribution at 95% significance

(King & Eckersley, 2019; Mohr et al., 2022). Given the large sample size (>50), the test may flag minor deviations as significant, which may not affect results. Moreover, the researcher chose to ignore these deviations as alternative diagnostics testing (e.g., histograms, Q-Q plots, skewness/kurtosis) suggest normality is not a major concern.

Testing for Heteroscedasticity

Heteroscedasticity occurs when the variability of residuals in a regression model is not constant across all levels of the independent variable(s), violating one of the assumptions of ordinary least squares (OLS) regression, which assume constant error variance (homoscedasticity) and potentially leading to inefficient estimates and biased tests.

Analysis:

Homoscedasticity was tested using a visual inspection of residuals by plotting them against fitted values or independent variables, is typically graphical. However, statistical tests like the Breusch-Pagan test or White's test can also be used to formally test for homoscedasticity. It involves plotting residuals against fitted values or another variable and checking for patterns or consistent spread. If the residuals are evenly scattered with no distinct patterns, it visually confirms homoscedasticity.

Interpretation:

Homoscedasticity is confirmed if the residuals are evenly spread horizontally, with no discernible patterns or consistent spread. However, if the spread increases or

decreases systematically (forming a cone or funnel shape), it suggests heteroscedasticity, indicating changing variance.

Testing for Multicollinearity

Multicollinearity occurs when two or more independent variables in a model are highly correlated, making it difficult to assess their individual effects on the dependent variable. In severe cases, it can lead to unreliable coefficient estimates and inflated standard errors.

Variance Inflation Factor (VIF):

VIF is a measure used to detect multicollinearity in a regression model. It quantifies how much the variance of an estimated regression coefficient is inflated due to the correlation with other independent variables. A high VIF (typically greater than 10) suggests that an independent variable is highly correlated with other predictors, indicating potential multicollinearity.

Tolerance:

Tolerance is the inverse of VIF and represents the proportion of variance in an independent variable that is not explained by the other independent variables in the model. It is calculated as 1 divided by the VIF. A tolerance value below 0.1 typically signals significant multicollinearity, as it suggests that a large proportion of the variance is explained by other variables.

Analysis:

The study assessed multicollinearity using Variance Inflation Factors (VIF) and Tolerance values. A VIF below 10 and Tolerance above 0.1 indicate low multicollinearity, while a VIF above 10 signals issues.

Implication:

The VIF values were within the acceptable range ($VIF < 10$; $Tolerance > 0.1$), indicating no issues with multicollinearity and confirming that there is no high correlation between the independent variables.

Regression Assumptions: All assumptions for multiple linear regression were met, ensuring the reliability of the model for this study.

Conclusion:

All regression assumptions—normality, homoscedasticity, and absence of multicollinearity—were met, ensuring the model's robustness and supporting valid predictions and generalizations.

Inferential Analyses

This study's inferential analyses aligned with research objectives, comprising Pearson Product-moment Correlation, univariable regression analysis, and multiple regression analysis. Univariable analysis using simple linear regression identified factors correlated with clinical innovation adoption. Variables with p-values < 0.05 were sequentially added to a multivariable linear regression model. This decision was made due to the study having four quantitative predictor variables and one determined quantitative outcome variable. Regression coefficients, their 95% confidence

intervals, and associated p-values were reported in both models. To address collinearity in the multivariable model, variables meeting inclusion criteria were pairwise assessed using variance inflation factor (VIF), with VIF values less than 5 indicating negligible collinearity. All explanatory variables exhibited VIF values below 5, signifying the absence of collinearity.

A positive regression coefficient (+1.0) denotes a positive correlation, while a negative coefficient (-1.0) indicates a negative correlation between clinical innovation adoption and independent factors. Multiple linear regression analysis, as highlighted by Schindler (2021), was utilised to establish relationships and develop a parsimonious forecasting model, while Pearson Product-moment Correlation gauges the strength and direction of linear relationships between variable pairs (Schober et al., 2018). The following regression model is outlined based on the literature review and the conceptual framework:

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

Where:

- Y = Adoption of clinical innovations (Dependent variable),
- X1 = Organisational capabilities (Independent variable),
- X2 = Cultivating innovation-oriented attributes (Independent variable),
- X3 = Managers' behavioural predilections (Independent variable),
- X4 = Promoting innovation in organisation (Independent variable),
- β_0 = Constant (Y-intercept),
- $\beta_1 - \beta_4$ = Regression coefficients scores for each independent variable,
- ε = Error Term (also known as Random or Stochastic Term).

Bivariate correlation precedes multiple regression analysis to examine relationships between variables (Baak et al., 2020). The survey variables, being quantitative with at least approximately interval characteristics and five values, are analysed using the Pearson product statistical method to determine the magnitude and linear relationship between them (Hair et al., 2019). A Pearson correlation coefficient (r) of -1.00 or +1.00 indicates perfect correlation, while -0.50 or +0.50 suggests moderate correlation (Bell et al., 2022; Janse et al., 2021).

Multiple regression analysis estimates the effect and direction of each predictor's relationship with the outcome variable at the population level. It quantifies how a one-unit increase in the predictor variable (X) relates to changes in the response variable (Y) (Bell et al., 2022; Hair et al., 2019; Scala et al., 2021; Schober & Vetter, 2020; Telo, 2023). In this study, multiple linear regression analysis identified the key predictors of sustained adoption of clinical innovations in Nairobi's public referral hospitals. The predictor variable is represented by the linear function $Y = a + bX$, where Y is the predicted value (dependent variable) and X is the predictor value (independent variable). Here, it represents the y -intercept, indicating the value of Y when X is zero, while b signifies the slope of the regression line. This slope indicates the rate of change of Y in response to changes in X . Thus, equation $Y = a + bX$ is referred to as the regression, estimating, or predicting equation.

Hypothesis Tests

Pearson's product-moment correlation and conventional multiple regression were used to assess hypotheses and address research inquiries. Developed based on the reviewed literature, these hypotheses were tested using standard regression

analysis procedures after ensuring data set appropriateness and testing crucial assumptions. The study utilized four predictor variables of strategic leadership: organisational capabilities, innovation-oriented attributes, managers' behavioural predilections, and promotion of innovation in the organisation, with sustained adoption of clinical innovations as the response variable. Regression coefficients and p-values were used to test hypotheses at a significance level of $\alpha = 0.05$, employing a two-tailed test at a 95% confidence level (Cooper et al., 2021).

Definition and Measurement of Variables: Operational and Conceptual

A conceptual definition outlines the precise aspects to be measured or observed in a study, providing clarity on the focus of the investigation. Conversely, an operational definition details the methods for capturing the value or meaning of a variable, specifying how to identify, create, measure, or assess it. In this context, the critical metrics involve the measurement of strategic leadership styles and the clinical innovation adoption process. By defining these elements conceptually and operationally, the study ensures a comprehensive and actionable approach to evaluating how leadership influences innovation adoption.

Bell et al. (2022) and Saunders et al. (2020) stress the importance of operationalizing variables for precise measurement. This study adhered to this principle by employing scales—some developed specifically for this research and others adapted from existing measures. According to Hair et al. (2019), at least three indicators per construct are necessary for robust identification. Accordingly, each variable in this study was operationalized with a minimum of three indicators. In the context of leadership and adoption, the indicators focused on leaders' attitudes

(openness and receptiveness to change), Intent Focus/Vision (strategic outlook and goals), intentionality/Intent to Adopt (deliberate efforts to foster adoption), and Perceived Result Demonstrability/Observable behaviour (timeliness of adopting actions). The study synthesized these themes into three critical factors: Intent Focus (vision and direction), Intent to Adopt (intentionality), and Plan to Adopt/perceived result demonstrability (behaviour and action). These factors were identified as pivotal in shaping how adoption processes evolve within an adoption scenario based on Kapoor et al. (2014) and Kumari et al. (2024), comprising 7 items. These components capture the full spectrum of intention to adopt, from strategic vision to actionable plans.

Below are the key indicators that underscore the critical role of leadership in influencing organisational and individual receptiveness and readiness for adopting new ideas and technologies. Leadership capabilities were measured using 26 items across three indicators—facilitating conditions, resources, and capacity—adapted from Camisón (2005) and Gault (2023). Innovation-oriented attributes were assessed with 21 items across three indicators—perceived impact/relative advantage, compatibility, and complexity—adapted from Chor et al. (2015) and Vagnani et al. (2019). Managers' Behavioural Predilections were evaluated with 4 items across three indicators—senior management attitude, affective attitude, and emotion—adapted from Chaudoir et al. (2013) and Fitjar et al. (2013). Affective attitudes are driven by emotions and feelings, while effective attitudes are focused on practical effectiveness and utility. Fostering Innovation in the organisation was measured with 23 items across three indicators administrative, product, and process innovation adapted from Gault (2023) and McCausland (2023).

Table 5 below depicts the definition and measurement of the study's variables.

Table 5

Definition and Measurement of Variables

	Variable	Indicators	No. of items	Item code	Scale of measurement
Independent variables	Leadership capabilities	Facilitating conditions	6	2 AO1-A26	Interval Scale
		Resources			
		Capabilities			
	Innovation Attributes	Relative advantage	2	1 BO1-B12	Interval Scale
		Compatibility			
		Complexity			
	Managers' Behavioural Predilections	Top management attitude	4	CO1-CO4	Interval Scale
		Affective attitude			
		Emotion			
	Promoting Innovation in Organisation	Administrative Innovation	3	2 DO1-D23	Interval Scale
		Product Innovation			
		Process Innovation			
Dependent Variable	Adoption of Clinical Innovations	Intent focus	7	EO1-EO7	Interval Scale
		Intentionality			
		Plan to adopt			

Chapter Summary

This chapter outlines the research strategy, emphasizing the positivist paradigm that combines quantitative methods and sampling approaches (Kuhn, 2021). It adopts a two-phase research design: first, collecting and analyzing quantitative data, followed by a descriptive-explanatory approach using surveys to explore phenomena and underlying reasons (Tanner, 2018). The chapter details the target population, sample, sampling procedures, data collection, analysis methods, and ethical considerations. It also ensures coherence across Chapters One, Two, and Three, revisiting methods and hypotheses. The study uniquely treats strategic leadership as independent variables in healthcare, focusing on its impact on clinical innovation adoption in Nairobi's public referral hospitals. The conceptual framework integrates theory, research, and practice, while the empirical review assesses leadership and innovation studies in the health sector, particularly in medicines and medical devices (de Solà-Morales et al., 2018).

CHAPTER FOUR: RESULTS AND DISCUSSION

Introduction

Chapter Four presents the research findings, focusing on key conclusions derived from observed data. It provides specific results and discusses trends, insights, and notable observations in relation to previous studies, enhancing credibility. The study explored the relationship between strategic leadership style and clinical innovation adoption in Nairobi's public referral hospitals. Specific objectives examined the relationship between organizational capabilities, innovation-oriented attributes, managers' behavioral tendencies, and innovation promotion. The chapter covers response rate, reliability, validity, data normality, demographic characteristics, descriptive statistics, correlations, regressions, and hypothesis testing, concluding with a summary. The findings have implications for innovation leadership in public referral hospitals, discussed in Chapter Five.

Response Rate

A higher expectation for a survey response rate $\geq 80\%$ is considered the best practice for generalizability (Draugalis et al. 2008; Fincham, 2008). The survey targeted 189 (a census) consented healthcare leaders across four selected Nairobi's public referral hospitals. This was accomplished using a face-to-face digitised questionnaire. ODK is a set of tools within the Open Data Kit (ODK) ecosystem, an open-source suite for field-based data collection. It includes tools like ODK Collect (an Android app for data collection) and ODK Aggregate (a server for managing data). ODK is commonly used in surveys, monitoring, and evaluation projects, streamlining data collection, form design, and analysis, especially in remote or low-

resource areas with limited internet access. Using a face-to-face digitized questionnaire refers to the process of administering a survey where the questions are presented on a digital device, such as a Smartphone, tablet or computer, while the surveyor interacts directly with the respondent. This method combines the advantages of traditional in-person data collection with the efficiency and accuracy of digital tools. It allows for real-time data entry, reduces human error in transcribing responses associated with paper-based methods and can instantly generate structured data for analysis. Additionally, the face-to-face interaction can help clarify any misunderstandings and improve response rates in qualitative data research (Aliyu et al., 2024). This lasted approximately 20 minutes each, which likely contributed to the high engagement of respondents and address any questions concerning the methods used to achieve this exceptional response rate.

All 189 distributed questionnaires were returned, resulting in a 100% response rate. This high response rate can be attributed to the researchers' prior training on the use of face-to-face digitised questionnaires, which enhanced participant engagement and reduced non-response. The effectiveness of this method is supported by the literature, which highlights its ability to improve response rates through direct interaction and the efficiency of digital data collection (Aliyu et al., 2024). An estimate of the response rate is calculated by dividing the number of people who answered a posed question by the total number of participants in the survey sample (Sharma, 2022). The researcher has elaborated on specific strategies employed to ensure maximum participation. The high response rate can be attributed to several strategies: the use of a digitalised questionnaire, a personalized introduction letter from the researcher accompanying the survey instrument, the professional

presentation of the questionnaire, and a cover letter detailing the study's significance to Nairobi's public referral hospitals. Additionally, respondents' engagement in the study topic likely contributed to the high participation rate. Overall, the face-to-face digitised questionnaire as previously explained in the response rate section, has several advantages that foster a more engaging and interactive survey environment, which can lead to higher response rates, improved data quality, and a better understanding of respondents' perspectives. Table 6 below denotes the response rate

Table 6

Response Rate

Strata for public referral hospitals N=2	No. of Valid Questionnaires Returned in 4 sampled hospitals n=189
<i>Large</i>	
Kenyatta National Hospital	48
<i>Medium</i>	
Mbagathi Hospital	57
Pumwani Hospital	45
Mama Lucy Hospital	39
Total	189

Results of Validity

The validity of research findings relies on their alignment with the investigated phenomenon (Blaikie & Priest, 2019; Flake et al., 2022; Holtom et al., 2022; Meyer et al., 2022). Key validity criteria include face, content, and construct validity (Bell et al., 2022). To enhance questionnaire validity, this study defined clear objectives, pre-tested the questionnaire for content validity, and used questions from previously validated studies across different cultures and settings to ensure construct validity. It is essential that participants understand the data collection tools as intended by the researcher (Saunders et al., 2020), and that the researcher accurately interprets respondents' intended answers.

Results of Face Validity

Face validity refers to how a test or measurement appears to measure what it is intended to, based on subjective evaluation. It is judged by experts or users, rather than statistical analysis or empirical evidence. While not rigorous, face validity is practical, intuitive, and cost-effective, providing a quick assessment of a measure's relevance and appropriateness. It is particularly important in psychological tests, as it can improve data quality and participant engagement. A questionnaire with high face validity ensures clearer responses and a more positive participant experience by avoiding confusing or irrelevant items (Allen et al., 2023). In this study, face validity was assessed by gathering informal feedback from experts in the field. Five doctoral-level students specializing in strategic application science provided insights on the clarity, comprehensibility, and appropriateness of the questionnaire for the target group. Their feedback led to refinements in statement wording, structure, and layout.

Additionally, anonymous referees provided valuable comments and suggestions that further enhanced the questionnaire's effectiveness. These steps ensured that the questionnaire had high face validity, making it more likely to accurately measure the intended constructs and enhancing participant engagement and data quality in the study.

Results of Content Validity

Content validity refers to the extent to which the information in a test or measurement tool fully covers the construct it is intended to measure (Sekaran & Bougie, 2020). It assesses whether the items in the questionnaire adequately reflect the constructs under study (Rothmund et al., 2023). As discussed earlier in Chapter Three, the researcher ensured content validity through two approaches: a comprehensive review and a pilot test. Before the pilot test, a panel of four university experts evaluated the initial draft questionnaire to ensure the relevance of each item. Additionally, Chapter Two of this study conducted an exhaustive literature review to confirm content validity, addressing key issues (Oldland et al., 2020; Rothmund et al., 2023).

Participants provided feedback on questionnaire clarity and their understanding of the questions, offering suggestions on statement wording, structure, and layout. Their comments underwent a thorough review, resulting in several adjustments. Content validity was further ensured through consultation with experts in the relevant field (Cooper & Schindler, 2021). Their responses were analysed using the Content Validity Index (CVI), calculated as $K \div N$, where K is the number of items rated as valid, and N is the total number of items in the questionnaire (Polit &

Beck, 2019). Pre-test results showed an average CVI of 0.938, indicating a congruency percentage of 93.8%, which is considered acceptable (Dalati & Marx Gómez, 2018). Similar methods for determining content validity have been employed in studies by Yusoff (2019) and Vakili and Jahangiri (2018). The rigorous validation process, including expert consultation and pre-testing, confirmed the questionnaire's strong content validity, ensuring it accurately measures the intended constructs in this study.

Results of Construct Validity

A construct validity test assesses whether the indicators used to measure a variable accurately reflect the intended construct (Hair et al., 2019). After data collection, principal component factor analysis with oblique rotation was conducted to assess construct validity. Previous studies have reported various organisational capabilities and attributes related to innovation, managerial behaviours, and factors influencing innovation adoption (Camison, 2005; Chaudoir, 2013). Exploratory factor analysis (EFA) was used to statistically test construct validity, exploring the underlying structure of observed variables. The results of exploratory factor analysis, complemented by Cronbach's alpha coefficients, affirmed the validity and reliability of the survey instrument. While most factors demonstrated strong internal consistency ($\alpha \geq 0.7$), a few fell slightly below this threshold. Overall, the questionnaire showed high reliability ($\alpha = 0.9$), ensuring robust measurement of the study's constructs.

Results of Reliability

The reliability results, as indicated by Cronbach's Alpha, are presented in Table 7 below.

Table 7

Reliability results for all Study Variables from the Pilot Testing

Factors	Cronbach's Alpha (α)	No of items	No. items deleted	No of cases	Comment
Leadership Capabilities	.8753	26	0	166	Reliable
Innovation-Oriented Attributes	.6180	12	0	178	Reliable
Managers' behavioural predilections	.5015	4	0	187	Reliable
Fostering innovation in organisational	.7846	23	0	164	Reliable
Adoption of clinical innovations	.6837	7	0	186	Reliable
Overall summing	.9183	72	0	137	Reliable

Cronbach's alpha and item-total correlations assessed the reliability and respondents' understanding (Saunders et al., 2020; Sharma, 2022), guiding decisions on item retention (Bell et al., 2022; Manikandan et al., 2022). The average Cronbach's alpha was 0.69242, indicating moderate internal consistency by the study's items,

although slightly below the typical threshold of 0.7 considered acceptable for research purposes. Consistently, no items were deleted based on earlier exploratory factor analysis results on retention. The overall sum Cronbach alpha (α) was 0.9183, suggesting very good internal consistency by all items when combined into a total score. These reliability measures indicate that while individual items show moderate consistency, the total score derived from all items is highly reliable. This underscores the robustness of the study's measurements in assessing the underlying constructs effectively.

Descriptive Results of the Public Referral Hospital Profiles

Table 8 below presents the results of respondents' hospital characterization by hospital type.

Table 8 : *Hospital Type and Gender*

Variable	Frequency	Per cent
Overall (%)	189	100
Hospital Type (%), n= 4		
Kenyatta National Hospital	48	25.4
Mbagathi Hospital	57	30.2
Pumwani Hospital	45	23.8
Mama Lucy Hospital	39	20.6
Gender		
Male	76	40.2
Female	113	59.8

This study utilized descriptive statistical analysis to present basic statistics and the distribution of public referral hospitals. These included percentages and frequencies, which helped in constructing profiles of the participating hospitals. The descriptive analysis provided a clear overview of hospital distribution by respondents, establishing a foundational understanding of participant profiles within Nairobi's public referral healthcare institutions.

Descriptive Findings of Study Variables

This section presents the descriptive results for all variables in the study. The analysis calculates the mean and standard deviation for each variable and questionnaire items. Table 9 below displays descriptive findings of study variables.

Table 9 : Descriptive Findings of Study Variables

Variable	N	Mean	Std. Deviation (σ)
Leadership Capabilities	189	3.74	.40
Shaping Innovation-oriented attributes	189	3.96	.40
Managers' Behavioural Predilections	189	3.32	.67
Fostering Innovation in the organisation	189	3.77	.56
Clinical Innovation Adoption	189	3.69	0.50

The study's sample mean score ($\bar{x}$) of the variable serves as a representative parameter for the population mean. It is determined by summing up the observations and dividing by their total number ($\bar{x} = (\sum x_i) \div n$). Meanwhile, the standard deviation provides a measure of variability from the mean in a normal probability distribution curve. It is worth noting that the area under the curve equals 1. An important aspect to consider is that the left and right tails of the distribution theoretically extend to infinity, emphasizing the potential range of values within the dataset.

The results for leadership capabilities show a mean score of 3.74 and a standard deviation of 0.40. The relatively low standard deviation indicates that most responses are closely grouped around the mean, suggesting a tight and consistent distribution. The positive skewness implied by this data suggests that while most scores are near the average, there are a few higher scores that pull the distribution slightly to the right. In summary, the mean score of 3.74 with a standard deviation of 0.40 indicates that most responses are tightly clustered around the average, with some exceptional cases contributing to a slight upward skew in the data.

The results for shaping innovation-oriented attributes show the highest mean score of 3.96 and the lowest standard deviation of 0.40. The high mean score indicates above-average performance, suggesting that respondents generally view innovation-oriented attributes positively. The low standard deviation of 0.40 indicates minimal variability, meaning that most responses are closely clustered around the mean. This suggests a high level of consistency in how respondents perceive the shaping of innovation-oriented attributes, with little dispersion in the data. Overall, the results indicate strong consensus and a generally positive view with limited variability in the responses.

The findings reveal that managers' behavioral predilections have a mean score of 3.32, which is relatively low, alongside a high standard deviation of 0.67. This combination suggests that, while the average response is close to 3.32, there is considerable variation in the data. The high standard deviation indicates that the responses are spread out more widely from the mean, suggesting significant diversity in the way managers perceive or exhibit behavioral preferences. This implies that there is no strong consensus or uniformity among the respondents, and their behaviors may differ considerably from one another. In summary, a low mean with a high standard deviation point to an average response of 3.32, but with considerable variability in the individual data points.

The results for the adoption of clinical innovations show a mean score of 3.69, with a standard deviation of 0.50. This indicates that, on average, respondents' views on clinical innovation adoption are relatively positive. The low standard deviation suggests that there is limited variability in the responses, meaning most scores are clustered closely around the mean. In other words, most respondents have similar opinions, with little dispersion from the average score of 3.69. This implies a higher degree of consistency in how clinical innovations are perceived or adopted, with most respondents falling within a narrow range around the average.

The results for fostering innovation in the organization show a mean score of 3.77 and a standard deviation of 0.56. This suggests that, on average, respondents have a positive view of innovation fostering within the organization. The low standard deviation indicates that the responses are closely clustered around the mean, reflecting minimal variability in how respondents perceive this aspect. The narrow spread further implies a high level of consistency, with most responses falling near the

average. In summary, the data demonstrates a tight distribution around the mean, indicating reliable and consistent perceptions of how innovation is encouraged within the organization.

In summary, the range between the lowest and highest mean scores, coupled with the low standard deviations, indicates consistent, high-level performance with minimal variability by examinations. The mean scores ranged from 3.32 to 4.0, with standard deviation scores ranging from 0.40 to 0.67, reflecting good variation in survey responses. All study variables demonstrated their presence. Ultimately, respondents determined whether their hospitals exhibited elements of strategic leadership; leadership capabilities, cultivating innovation-oriented attributes, managers' behavioural predilections, and fostering innovation in the organisation compared to other Nairobi's referral hospitals. The sections below focus on individual descriptive elements of strategic leadership and provide meaningful insights as they are deemed significant and relevant to this study.

Descriptive Results of the Leadership Capabilities

The findings reveal a range of mean scores related to leadership capabilities in Nairobi's public referral hospitals, reflecting different aspects of leadership performance. The highest mean score of 4.05 indicates strong leadership focused on quality-driven, patient-centered care, highlighting a commitment to improving healthcare outcomes. Conversely, the lowest mean score of 3.73, observed in areas like skill development and resource allocation, suggests these aspects may require more attention and improvement.

The relatively high standard deviation for resource allocation (1.00) and skill development (2.50) points to significant variability in responses, implying that there is inconsistency or disparity in how these leadership areas are perceived or implemented. These variations may suggest differing levels of effectiveness or understanding of leadership practices across the hospitals.

Overall, the cultivation of leadership capabilities scored a mean of 3.74, with a low standard deviation of 0.40, indicating that while there is generally a positive view of leadership, there is still room for improvement in some areas.

Practically, these results imply that while patient-centered leadership is strong, there may be a need to focus more on resource management and skill development to achieve more consistent leadership practices across hospitals. Efforts to reduce variability in these areas could lead to more effective and uniform leadership in the healthcare system.

Descriptive Results of Cultivating Innovation-Oriented Attributes

The findings on innovation-oriented attributes in Nairobi's public referral hospitals reveal a range of mean scores, with scores from 3.67 for openness to new ideas in patient care to 4.13 for comprehensive support and integration of hospital functions for internal healthcare markets. The highest mean score of 3.96, coupled with a low standard deviation of 0.40, was observed for compatibility and complexity, indicating a strong and consistent view that these factors are well aligned within the hospitals.

The relatively lower mean score of 3.72 for relative advantage, though still positive, suggests that there may be room for improvement in how the benefits of

innovation are perceived. With a standard deviation of 0.54, this result indicates slightly more variability in how respondents view the relative advantages of innovation, suggesting some inconsistency in its perceived value. The overall mean score of 3.97, with a low standard deviation of 0.40, highlights that innovation-oriented attributes are generally well-cultivated within the hospitals, with responses being consistent.

Practically, these results suggest that referral hospitals in Nairobi are effectively integrating innovation-oriented practices, especially in areas like compatibility and internal healthcare integration. However, there may be opportunities to further emphasize the relative advantages of innovation, ensuring that its benefits are more uniformly recognized and appreciated. This could lead to more widespread acceptance and implementation of innovative practices across the hospitals.

Descriptive Results of Managers' Behavioural Predilections

The results on managers' behavioral predilections in Nairobi's public referral hospitals reveal a range of mean scores, from 3.32 for items indicating the impact of top management attitudes, perceptions, opinions, and behaviors on the adoption of clinical innovations, to a high score of 5.00 for items reflecting employee encouragement when their expectations, emotions, and feelings are valued.

The low mean score of 3.32, combined with a relatively high standard deviation of 0.67, suggests that there is considerable variability in how respondents perceive the influence of top management behaviors on clinical innovation adoption. This could indicate that the impact of management attitudes is inconsistent across

different hospitals or departments, with some areas potentially requiring stronger leadership engagement to foster innovation.

On the other hand, the high score of 5.00 reflects a strong and consistent belief in the importance of employee encouragement in the adoption of clinical innovations. This suggests that managers who value and address employees' expectations and emotions contribute positively to the innovation process, and this approach is widely recognized as beneficial.

In practical terms, these results imply that there is a need for more consistent and positive management behavior, particularly in terms of top management's role in influencing innovation adoption. Strengthening leadership attitudes and behaviors could foster a more supportive environment for clinical innovations. Additionally, emphasizing the value of employee engagement and emotional support can further enhance the adoption process, promoting a more innovative and collaborative atmosphere across Nairobi's public referral hospitals.

Descriptive Results of Fostering Innovation in the Organisation

The findings on fostering innovation in Nairobi's public referral hospitals reveal varying levels of innovation across different areas. The mean scores ranged from 3.74 for items related to reward systems or incentives to 4.11 for items emphasizing a consistent focus on development and evidence-based projects, indicating a strong commitment to development and project-driven innovation.

However, administrative innovation received the lowest mean score of 3.77, with a standard deviation of 1.13, suggesting some variability in how administrative innovation is perceived and implemented. Process innovation, with a mean of 3.34

and a high standard deviation of 2.00, shows significant inconsistency in its adoption, indicating that this area may face challenges in being effectively integrated across the hospitals. On the other hand, product innovation scored relatively higher, with a mean of 4.02 and a standard deviation of 2.50, highlighting that while it is generally well-perceived, there is greater variability in its implementation and impact.

Overall, the mean score of 3.71 with a standard deviation of 1.39 for promoting innovation suggests that while there is a moderate level of innovation within the hospitals, there is considerable variation in how different types of innovation are fostered.

Practically, these results suggest that while there is a strong focus on evidence-based projects and product innovation, areas such as process and administrative innovation may require more attention and consistency. Addressing the inconsistencies in process and administrative innovation could help create a more uniform and sustainable innovation culture. Additionally, reinforcing the role of reward systems and incentives may further encourage innovation across various departments, helping to bridge the gaps in areas that are currently less consistent.

Descriptive Results for the Adoption of Clinical Innovations

The results show that the highest-rated item regarding intent to adopt clinical innovations emphasized the careful selection of innovations by hospital management, with support from senior management, yielding a mean score of 3.96 and a standard deviation of 0.50. This suggests that respondents view the involvement of senior management as a key factor in successfully adopting clinical innovations within the hospital.

Additionally, the respondents' experience, including life experience (age), hospital experience (tenure), and functional experience (functional specification), plays a role in their intent to adopt innovations. Participants with 10 to 15 years of work experience were more inclined to adopt clinical innovations compared to those with more than 20 years of experience, indicating that individuals with moderate tenure may be more open to change and innovation.

Practically, these results suggest that fostering a supportive environment for innovation, particularly through senior management's involvement, is crucial for the adoption of clinical innovations. Moreover, the findings imply that hospitals may benefit from targeting mid-career professionals (with 10 to 15 years of experience) for innovation initiatives, as they appear to be more receptive to adopting new practices. Efforts to encourage innovation in hospitals should therefore consider the varying levels of openness across different experience groups, potentially tailoring strategies to engage senior staff who may be less inclined to adopt new practices.

Results of Diagnostic Tests

Results of Normality

Table 10 below presents the statistical results of skewness and kurtosis, using the Shapiro-Wilk test, to assess data asymmetry prior to conducting the multiple linear regression analysis.

Table10*Results for Normality using Skewness and Kurtosis*

Variable	no	Skewness	Kurtosis	Shapiro-Wilk test (p-value)
		Statistic	Statistic	Statistic
Leadership Capabilities	189	-0.09	1.405	<0.001**
Shaping Innovation-Oriented Attributes	189	.20	3.73	0.002**
Managers' Behavioural Predilections	189	.23	2.73	0.01
Fostering Innovation in the Organisation Leadership	189	-0.66	2.13	<0.001**
Clinical Innovation Adoption	189	0.66	2.13	0.008**
**Indicates a high significant correlation coefficient at $p < 0.05$				

The findings of Shapiro-Wilk tests, which assess normality, are also included in the presented values. Their suggestive interpretation is also covered. The Shapiro-Wilk test's organisational capabilities value, which is less than 0.001**, indicates strong evidence against the null hypothesis that the data follows a normal distribution. In other words, a variable is normally distributed in some population. As with the earlier example, the score of 0.002** for cultivating innovation-oriented attributes indicates a p-value less than 0.002, suggesting strong evidence against the null

hypothesis of normalcy. Kolmogorov-Smirnov test serves the same purpose as the Shapiro-Wilk test despite varied statistical power.

A p -value of 0.01 for managers' behavioural predilections fails to support the null hypothesis, albeit to a significantly lesser extent than in the earlier situations with smaller p -values. Value of $< 0.001^{**}$ for promoting innovation in the organisation that is like the first example, this one also shows an extremely low p -value (< 0.001), indicating strong evidence against the normal distribution null hypothesis. Leadership Adoption of clinical innovations has a value of 0.008^{**} , like the others. The findings have a high statistical significance, as indicated by the two asterisks. Like the others, this points to a p -value of less than 0.008, which is a strong indicator that the null hypothesis is not supported. Smaller p -values indicate more evidence against normality.

In summary, these p -values from the Shapiro-Wilk tests indicate that the relevant datasets are unlikely to follow a normal distribution. A low p -value (typically below a chosen significance level, usually 0.05) from the Shapiro-Wilk test would lead to rejecting the null hypothesis (H_0), indicating that there is enough evidence to suggest that the data are not normally distributed, leading to accepting alternative hypothesis (H_01). The researcher decided to ignore deviations, as alternative diagnostic tests and visual data (e.g., histograms, scatter plots, box plots, Q-Q plots, skewness/kurtosis) indicated no significant issues with normality or outliers. Since all data points were considered important, no outliers were removed.

The Shapiro-Wilk test can be sensitive to sample size. For very large sample sizes, even small deviations from normality may result in the rejection of the null

hypothesis. The sample size may be sufficiently large to detect minor departures from normality that may not be practically significant. If the p-value is greater than the study's chosen significance level and graphical examination suggests normality, one can reasonably assume that the data are normally distributed. If the p-value is less than the study's chosen significance level or if the graphical examination indicates significant departures from normality, a researcher may need to consider alternative methods or appropriate data transformations for the data analysis (Ramachandran & Tsokos, 2020).

Next, a Histogram as a visualisation graph of the mean scores was plotted to check whether the assumption of normality was satisfied before proceeding with the regression analysis as depicted below in Figure 2.

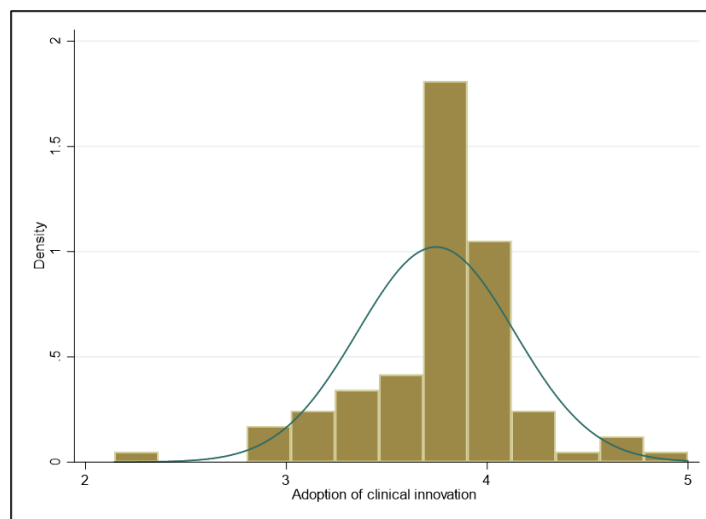


Figure 2 *Histogram of the Mean Scores for Clinical Innovation Adoption*

Leadership capabilities had a somewhat negative skewed value of -0.09. There is a little tendency for the data to be more concentrated on the right, as shown by the left side's tail being somewhat longer or fatter than the right. Cultivating innovation-oriented attributes had a score of 0.20, indicating a positive skew. There is a moderate

tendency for the data to be more concentrated on the left, as indicated by the right side's longer or fatter tail than the left. The managers' behavioural predilections displayed a positively skewed value of 0.23. Consistent with the preceding result, suggesting a slight inclination towards a greater leftward concentration of the data. The rating of promoting innovation in the organisation was -0.66, indicating a negatively skewed data set. There is a notable concentration of data on the right, as shown by the left side's tail being significantly longer or fatter than the right. Clinical innovation adoption had a score of 0.66, indicating a positively skewed data set. Analogous to the preceding negative skewness value, but pointing in the opposite direction, this number shows a notable leftward concentration of data. Skewedness values generally show less skewness when they are closer to 0 (symmetrical), and more pronounced skewness when they are farther from 0. A left-skewed distribution is implied by negative skewness and a distribution that is right-skewed by positive skewness. The skewness effect's strength can be inferred from the skewness value's size.

Results of Heteroscedasticity

To run a visual plot detection for heteroscedasticity, the researcher typically needed the residuals and the fitted (predicted) values of the regression model. Here is a breakdown of how heteroscedasticity is addressed in this study.

Fitted (Predicted) Values: These are the predicted values of the dependent variable based on the regression model. They were derived by plugging the independent variables into the regression equation.

Residuals: Residuals are the differences between the observed values of the dependent variable and the predicted values (fitted values). They were calculated as:

$$\text{Residual} = \text{Observed value} - \text{Fitted value}$$

To visually detect heteroscedasticity, it is necessary to plot the residuals on the y-axis and the fitted values (or the independent variable values, depending on the specific test) on the x-axis.

If there is a pattern (e.g., a fan or cone shape where residuals increase or decrease systematically as the fitted values increase), this suggests heteroscedasticity. Ideally, the researcher wanted the residuals to be randomly scattered around zero, with no discernible pattern, indicating homoscedasticity.

In summary, to perform visual detection for heteroscedasticity, the study needed:

The fitted values (predicted values of the dependent variable).

The residuals (differences between observed and fitted values).

Action: Plotting these values enabled the researcher to assess the presence of heteroscedasticity. The researcher then obtained the residuals and fitted values to begin addressing heteroscedasticity.

Residuals: Residuals were calculated as the differences between observed and fitted values. For example, observed values included 0.2145, 0.0857, 0.0783, and 0.2559, while fitted values were 0.4505, 0.5793, 0.5867, and 0.7433. These residuals were computed after applying the square root transformation, a remedy for heteroscedasticity detected before the transformation.

Conclusion:

Based on the relatively stable residual values (ranging from 0.4091 to 0.5867), heteroscedasticity appears to be less of a concern following the square root transformation. The residuals do not exhibit a significant increase in spread across the fitted values, indicating that the transformation effectively stabilized the variance.

Results of Multicollinearity

Table 11 below presents the findings for assessing multicollinearity, based on VIF and tolerance scores, in relation to the adoption of clinical innovations.

Table 1

Results of Multicollinearity Using VIF and Tolerance

Variable	VIF	Tolerance
Leadership Capabilities	1.7955	.5569
Shaping Innovation-oriented Attributes	1.5901	.6289
Managers' Behavioural Predilections	1.5343	.6518
Fostering Innovation in Organisation	1.7281	.5787

It is important to note that multicollinearity leads to errors in hypothesis testing (Hiebert et al., 2023; Shrestha, 2020), underscoring the importance of evaluating key assumptions in multiple linear regression. Acceptable values for the

Variance Inflation Factor (VIF) are below 10, while tolerance scores should exceed 0.1 (Dugard et al., 2022; Hair et al., 2019). What the results imply is explained in the following:

No Multicollinearity Issues: Since the Variance Inflation Factor (VIF) is below 10 and tolerance scores exceed 0.1, it indicates that the independent variables in the model are not highly correlated with each other. This means that the predictors are sufficiently independent, and multicollinearity is not distorting the regression results.

Reliable Coefficient Estimates: The absence of multicollinearity ensures that the estimated coefficients are reliable. With low VIF and high tolerance scores, the model's estimates of the relationships between variables are more precise and can be interpreted with confidence.

Stable Model Interpretation: The lack of multicollinearity helps in making valid interpretations of individual predictors. This ensures that the effects of each independent variable on the dependent variable can be isolated and accurately assessed.

In summary, these results imply that the model is stable and free from multicollinearity, meaning that the findings and interpretations derived from the analysis are valid and trustworthy.

Results of Inferential Statistical Analysis

Pearson Product-moment Correlation Between Leadership Capabilities and Clinical Innovation Adoption by Leaders in Nairobi's Public referral Hospitals

Table 12 presents the Pearson's Correlation Coefficient between leadership capabilities and clinical innovation adoption, with r representing the sample coefficient and p representing the population coefficient.

Table 12

Pearson Correlation Coefficient between Leadership Capabilities and Clinical Innovation Adoption

Variable	Pearson correlation coefficient (p -value) 2-tailed
Leadership Capabilities	$r = 0.5091$ ($p < 0.01$)

The results imply a moderate positive relationship between leadership capabilities and adoption support, with a correlation coefficient ($r = 0.5091$) and a statistically significant p -value ($p < 0.01$).

$r = 0.5091$ indicates a moderate positive correlation, meaning as leadership capabilities increase, adoption support tends to increase as well.

$p < 0.01$ confirms that this relationship is statistically significant, suggesting that the observed correlation is unlikely to have occurred by chance.

In summary, the data shows that stronger leadership capabilities are associated with greater support for adoption, and this relationship is statistically reliable.

Pearson Product-moment Correlation Coefficient Between Shaping Innovation-Oriented Attributes and Clinical Innovations Adoption

The results are displayed below in Table 13.

Table 13

Pearson Correlation Coefficient between Shaping Innovation-oriented Attributes and Clinical Innovations Adoption

Variable	Pearson correlation coefficient (p-value) 2-tailed
Innovation-oriented Attributes	$r = .3018$ ($p < 0.01$)

The correlation coefficient results indicated that cultivating innovation-oriented attributes score of $r = 0.3018$ ($p < 0.01$) showed a positive and statistically significant relationship with adoption support ($r = 0.39354$, $p < 0.01$).

Pearson Correlation Coefficient Between Managers' Behavioural Predilections and Clinical Innovation Adoption

Table 14 below presents the correlation between managers' behavioural predilections and clinical innovations adoption.

Table 14

Pearson Correlation between Managers' Behavioural Predilections and Clinical Innovation Adoption

Variable	Pearson correlation coefficient (<i>p</i> -value) 2-tailed
Managers' Behavioural Predilections	$r = 0.1114$ ($p=0.009$)

The results indicate that there is a weak positive relationship between managers' behavioral predilections and the adoption of clinical innovations in Nairobi's public referral hospitals.

Analysis:

Correlation ($r = 0.1114$):

The correlation value of 0.1114 indicates a weak positive relationship between the two variables. In other words, as managers' behavioral preferences shift, there is a slight tendency for the adoption of clinical innovations to increase, but the effect is not very strong. The value is closer to 0 than to 1, which means that while the relationship exists, it is weak and likely not the primary driver of innovation adoption.

Significance ($p = 0.009$):

The p -value of 0.009 is statistically significant (typically, a p -value of less than 0.05 is considered significant). This indicates that the observed correlation is unlikely to have occurred by chance, and there is confidence that the relationship between managers' behavioral predilections and innovation adoption is real.

Interpretation:

Positive but Weak Relationship: The findings suggest that while there is a positive relationship, the weak correlation means that managers' behavioral tendencies

only explain a small portion of the variation in clinical innovation adoption. Other factors are likely influencing innovation adoption more strongly.

Statistical Significance: Despite the weak correlation, the relationship is statistically significant. This means that even though the effect size is small, it's unlikely to be a random occurrence, and it is worth further investigation.

Conclusion:

The results suggest that managers' behavioural preferences do influence the adoption of clinical innovations in a statistically significant way, though the relationship is not strong. Other factors beyond managers' behaviours are likely also important in driving the adoption of innovations in these hospitals.

Pearson Product-moment Analysis Between Fostering Innovation in Organisation and Clinical Innovations Adoption

Table 15 below illustrates the Pearson correlation, showing the relationship between the dimensions of innovation in organizations and clinical innovation adoption.

Table 15

Pearson Correlation analysis between Fostering innovation in the organisation and Clinical Innovation Adoption

Variable	Pearson correlation coefficient (p-value) 2-tailed
Fostering innovation in the organisation	$r = 0.3866$; $p < 0.001$

The findings have several important implications:

Encouraging Product Innovation: The positive correlation ($r = 0.3866$; $p < 0.001$) suggests that fostering product innovation leads to greater adoption of clinical innovations. Healthcare organisations should prioritize this to drive the uptake of new practices and technologies.

Evidence-Based Decision Making: The significant p-value ($p < 0.001$) confirms that the correlation is unlikely to be due to chance, supporting its inclusion in strategic decisions.

Strategic Focus: Organisations can enhance clinical innovation adoption by focusing on product innovation. Investing in organisational innovation helps implement new clinical technologies effectively.

Resource Allocation: Leaders should allocate resources to product innovation, as it indirectly boosts the adoption of clinical innovations. This may involve investing in R&D, training, and systems to support innovation.

In summary, promoting product innovation is key to advancing clinical innovation adoption and should guide organisational strategy and resource planning

Table 16 presents the ANOVA results and R-squared (R^2) coefficient, indicating the regression model's moderate fit in achieving the research objective.

Regression Analysis

Table 16

Results of R-squared (R^2) Coefficient Analysis

Predictor Variable	Coefficient
I	0.2145
II	-0.0783
III	0.0857
IV	0.2559

Note: Mean outcome = 1.397; Predicted outcome ($\beta_0 = 1.335$) $\approx$ 1.459.

Explained sum of squares (ESS) = 0.0038; Total sum of squares (TSS) = 0.0848.

$R^2 \approx 0.045$ (calculated as $ESS \div TSS$).

Here, ANOVA and R^2 are being discussed together, but R^2 specifically relates to the regression model's fit. ANOVA (Analysis of Variance) is a statistical method used to compare means across multiple groups to determine if there are significant differences between them. The R^2 coefficient is used to measure the fit of a regression model. This allowed the study to measure the dispersion of data points around the regression line, also known as the coefficient of determination (R^2). In other words, it assesses the performance of model fit. Higher values signify less deviation between observed and fitted data, representing the proportion of dependent variable variation

explained by the linear model. It is recommended that R^2 be complemented with other validation techniques like the use of nonmodeled training data to ensure the model's robustness and generalisability such as to arrive at adjusted R^2 . While the literature is cautious about overly interpretation of R^2 , the study deployed R^2 as a ratio of the ESS/TSS formula for predictors and outcome variables. So, the coefficient of determination is approximately 0.449 (45%) and the Adjusted R -squared (R^2) is approximately 0.426 (43%).

In summary, a value of Adjusted R -squared of 0.426 might be considered quite good if predicting human behaviour or other complex systems. It also suggests that the model provides a moderate fit to the data, meaning that the predictor variables explain a moderate amount of the variability observed in the dependent variable. The R -squared value always falls between 0 and 100% meaning:

0%: This indicates a model that does not explain any of the differences in the response variable compared to its average. Essentially, the average of the dependent variable predicts its values as well as the regression model does.

100%: This signifies a model that explains all the differences in the response variable compared to its average. In other words, the regression model perfectly captures and explains all the variability in the dependent variable around its mean.

Considering ANOVA (Analysis of Variance) and R -squared (R^2) values from this study suggest the following:

Model Fit and Variance Explanation: The R^2 value of approximately 0.449 (45%) suggests that the model explains about 45% of the variation in the dependent variable.

In the context of ANOVA, this indicates that the variation in the dependent variable is partially explained by the independent variables or predictors in the model, with the remaining 55% of the variation potentially attributed to factors not included in the model (error or residual variance). The total variation in the data is divided into two parts: between-group variance, which is explained by the model or predictors, and within-group variance, which represents the unexplained or residual variation, reflecting random error. With an R^2 of 0.449, it can be interpreted that 45% of the total variance is attributable to the differences between the groups (due to the predictors), while 55% remains unexplained, which would be considered the residual error in the ANOVA sense.

Statistical Significance: R^2 in ANOVA could also inform the overall F-statistic test, which is used to assess whether the model explains a significant portion of the variance compared to the residual error. If R^2 is relatively high and the corresponding p-value from the F-test is low, it suggests that the model is a significant predictor of the dependent variable, i.e., the group differences are meaningful and not due to random chance.

Adjusted R^2 : The adjusted R^2 value of 0.426 (43%) adjusts the R^2 for the number of predictors in the model. This is particularly relevant in ANOVA when comparing models with different numbers of independent variables or predictors. It helps in understanding if adding predictors improves the model fit or if it is overfitting the data.

Implications:

The significant portion of the variance explained by the model (45%) suggests that the independent variables have a moderate impact on the dependent variable.

The remaining unexplained variance (55%) suggests that other factors, not included in the model, might be influencing the dependent variable.

The adjusted R^2 helps provide a more accurate measure of model performance, especially when adding more predictors, ensuring that the model does not become too complex without significantly improving explanatory power.

These values in an ANOVA sense point to moderate evidence for the model's predictive power, but further validation with nonmodeled data or cross-validation would be necessary to confirm its generalizability.

The implications for this study that provided the data are as follows:

Moderate Model Fit: The R^2 value of approximately 0.449 (45%) indicates that the model explains about 45% of the variation in the dependent variable. This suggests that the independent variables (predictors) in the study have a moderate impact on the outcome. While the model captures a fair amount of the variance, there is still a significant portion (55%) of variation that is unexplained, suggesting that other factors not accounted for in the model could be influencing the outcome.

Unexplained Variance: The remaining 55% of the variation not explained by the model points to residual error or factors that were not included in the study. This could imply that while the study has identified some important predictors, there may be other relevant variables or complexities that the model has not yet accounted for. It

is important for the future study to consider potential confounders or overlooked factors that could improve the model's explanatory power.

Model's Predictive Power: The adjusted R^2 value of 0.426 (43%) adjusts for the number of predictors used in the model and indicates that after accounting for the complexity of the model, it explains 43% of the variance. This suggests that the model is reasonable in terms of explanatory power but also indicates that there is still room for improvement, possibly by refining the model or adding more relevant predictors.

Need for Further Validation: Given the moderate R^2 value, it is recommended that the study complement the R^2 analysis with other validation techniques, such as using nonmodeled training data or applying cross-validation methods. This will help ensure the model is not overfitting the data and can generalize well to other data sets.

Cautious Interpretation of Results: While the R^2 and adjusted R^2 values provide some insight into the model's performance, the study should be cautious in over-interpreting these values. R^2 alone does not guarantee that the model is robust or fully explains the underlying processes. The researchers should consider further analysis and explore other statistical techniques to validate and refine the model.

Implications for Future Research: The study suggests that there is potential for improving the model by incorporating additional predictors or exploring other relationships that may explain the unexplained variance. Future research could focus on identifying other factors influencing the dependent variable and refining the model to increase its explanatory power and predictive accuracy.

In summary, the study shows a moderate relationship between the predictors and the outcome but also reveals areas for improvement, further validation, and refinement of the model to ensure its robustness and generalizability.

Variables Included in the Multiple Linear Regression Model

The study examined the relationship between strategic leadership style and clinical innovation adoption in Nairobi's public referral hospitals. Regression analysis was conducted with clinical innovation adoption as the dependent variable and four strategic leadership elements—leadership capabilities, innovation-oriented attributes, managers' behavioral predilections, and fostering innovation—as predictors. All variables were included in the analysis.

Parsimonious Model

The regression analysis identified the most concise model for the study, as outlined below:

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

Where:

Y = Clinical innovations adoption (Dependent variable or predicted outcome),

X1 = Leadership capabilities (Independent variable),

X2 = Shaping innovation-oriented attributes (Independent variable),

X3 = Managers' behavioural predilections (Independent variable),

X4 = Fostering innovation in the organisation (Independent variable),

β_0 = Constant (Y-intercept),

$\beta_1 - \beta_4$ = Regression coefficients for each independent variable,

ε = Error Term (also known as Random or Stochastic Term).

Table 17

Results for Multiple Regression on the Relationship between Strategic Leadership Style and Clinical Innovation Adoption by Leaders in Nairobi's Public Referral Hospitals

Variable	Coefficient	95% confidence interval (CI)		p-value	VIF	Tolerance
		Lower limit	Upper limit			
Constant (β_0)	1.335					-
Leadership Capabilities	.2145	.0512	.3777	0.010**	1.7955	
Shaping Innovation-Oriented Attributes	.0857	0.0444	.158	0.195	1.5901	0.6289
Managers' Behavioural Predilections	0.7830	0.1547	-0.0018	0.05**	1.5343	.6518
Fostering Innovation in Organisation	.2559	.1540	.3578	<0.001**	1.7281	.5787

**Indicates a significant regression coefficient at $p < 0.05$

Predictors: (Constant), Leadership Capabilities, Innovation-Oriented Attributes, Managers' Behavioural Predilections, Fostering Innovation in Organisation

Dependent variable: Clinical Innovations Adoption

Thus, the equation for multiple linear regression is:

$$Y = 1.335 + 0.2145X_1 + 0.0857X_2 + -0.0783X_3 + 0.2559X_4$$

Results of Hypothesis Testing

Results of Testing Hypothesis 1

The hypothesis testing results ($\beta = 0.2145$; 95% CI [0.0512, 0.3777], $p = 0.01$) indicate a statistically significant positive relationship between leadership capabilities (predictor) and clinical innovation adoption (outcome). This suggests that leadership capabilities play a crucial role in facilitating the adoption of clinical innovations in Nairobi's public referral hospitals. Specifically, for every unit increase in leadership capabilities, clinical innovation adoption is expected to increase by 0.2145 units. The result is statistically significant, as evidenced by the p-value of 0.01, which is below the standard threshold of 0.05. Furthermore, the narrow confidence interval (95% CI [0.0512, 0.3777]) suggests that the estimate is precise and increases confidence in the true nature of this relationship.

The positive and statistically significant result affirms that leadership capabilities have a measurable and consistent impact on clinical innovation adoption, making it a critical factor to consider. Leaders with enhanced capabilities, as indicated by the $\beta = 0.2145$, are likely to possess the necessary traits to influence and achieve desired outcomes within their organizational contexts, further supporting the importance of strong leadership in driving innovation.

This finding also fails to support the first null hypothesis (H01), which suggested no relationship between leadership capabilities and clinical innovation adoption, indicating that the relationship observed is not due to chance. The results of

this study align with Vagnani and Volpe's (2017) research, which highlighted the essential role of leadership in healthcare settings, particularly in relation to the adoption of clinical innovations. This supports the notion that leadership capabilities are pivotal in facilitating innovation adoption, which was the first specific objective of this study.

Moreover, the findings are consistent with Justus et al. (2021), who observed that leadership capabilities are a key predictor of innovation and performance, and Chesbrough (2020), whose strategic leadership and entrepreneurial viewpoints emphasize the role of leadership capabilities in resource allocation to drive innovation. The results also resonate with Ngongoni et al. (2023), who identified leadership capabilities—particularly in terms of resources and skills—as significant factors influencing decision-making processes and innovation adoption. Their study noted key challenges, such as financial constraints and inadequate human resource capacity, which hinder the scaling of innovations in the healthcare sector. These challenges further underscore the importance of leadership capabilities in overcoming barriers to innovation.

In line with the work of Amiri et al. (2023) and Dongling et al. (2022), who emphasize the importance of knowledge management (KM) resources and capabilities as critical drivers of organizational performance and innovation, this study underscores the need for organisations to strategically identify, enhance, and utilize these resources. For healthcare organizations seeking a sustainable competitive advantage, leveraging leadership capabilities to drive clinical innovation is essential not just for current success but for navigating future challenges and opportunities.

In conclusion, the findings confirm that leadership capabilities significantly impact clinical innovation adoption in Nairobi's public referral hospitals. This is consistent with prior research, and the study underscores the importance of strategic leadership in fostering innovation. Leadership capabilities emerge as a crucial factor in overcoming challenges and driving successful innovation initiatives, supporting the broader literature on the relationship between leadership and innovation.

Results of Testing Hypothesis 2

The results ($\beta = 0.0857$, 95% CI [-0.0444, 0.2158], $p = 0.195$) revealed a positive association between innovation-oriented attributes and clinical innovation adoption, but the p -value of 0.195 indicates that this relationship is not statistically significant at the $\alpha = 0.05$ level. This means that while there is a weak positive association, the result does not provide enough evidence to reject the null hypothesis (H02), which posited that no significant relationship exists between innovation-oriented attributes and clinical innovation adoption by leaders in Nairobi's public referral hospitals.

The β value of 0.0857 suggests a weak positive association, indicating that shaping innovation-oriented attributes may have some influence on clinical innovation adoption. However, because the p -value exceeds the 0.05 threshold for statistical significance, this relationship is inconclusive. The 95% confidence interval of [-0.0444, 0.2158], which includes 0, further emphasizes the uncertainty of the result. The inclusion of 0 in the confidence interval suggests that the true relationship could be null, explaining the lack of statistical significance.

These findings imply that while innovation-oriented attributes may influence clinical innovation adoption, they do not have a strong or reliable impact in this context. This result aligns with Vagnani and Volpe's (2017) research, which highlighted the inconsistency often observed in the relationship between cultivating innovation-oriented attributes and the adoption of clinical innovations. Their study, like this one, suggests that fostering innovation-oriented attributes alone may not necessarily drive clinical innovation adoption. In this case, innovation-oriented attributes seem to be insufficient on their own to significantly impact adoption outcomes.

Furthermore, the findings contribute to the broader literature by reinforcing the complexity of the relationship between innovation attributes and adoption, as highlighted by Chakraborty et al. (2023). They point out the crucial role of strategic leadership beyond just decision-making, and this is consistent with Dearing and Singhal (2020), who found that fostering innovation-oriented attributes supports innovation diffusion, leader adoption, and positive defiance. These findings suggest that the relationship between innovation-oriented attributes and clinical innovation adoption may be more intricate and context-dependent than initially assumed.

In conclusion, while the results indicate a positive association between innovation-oriented attributes and clinical innovation adoption, the lack of statistical significance ($p = 0.195$) means the relationship remains inconclusive. The study's second objective—to examine this relationship—found no sufficient evidence to reject the null hypothesis (H_02), suggesting that shaping innovation-oriented attributes does not have a strong enough effect on clinical innovation adoption in Nairobi's public referral hospitals.

Results of Testing Hypothesis 3

The results ($\beta = -0.0783$, 95% CI [0.1547, 0.008], $p = 0.045$) imply that there is an inverse relationship between managers' behavioural predilections and clinical innovation adoption. Specifically, a one-unit increase in managers' behavioral predilections leads to a decrease in clinical innovation adoption, assuming other variables remain constant. The p -value of 0.045, which is below the 0.05 threshold, suggests that this relationship is statistically significant and unlikely to be due to chance. The smaller p -value (< 0.05) provides strong evidence against the null hypothesis, indicating a meaningful relationship. The negative coefficient and marginally significant p -value fail to support H_{03} , confirming the significance of the observed relationship.

The implication of these results ($\beta = -0.0783$, 95% CI [0.1547, 0.008], $p = 0.045$) is that there is a statistically significant inverse relationship between managers' behavioral predilections and clinical innovation adoption making it an important factor to consider in the context of the study. Specifically, as managers' behavioural predilections increase by one-unit, clinical innovation adoption decreases, assuming other factors remain unchanged. The p -value of 0.045, which is below the 0.05 threshold, indicates that this relationship is unlikely to be due to random chance and provides strong evidence against the null hypothesis. This suggests that the observed negative relationship is meaningful. However, the findings also suggest that the negative association does not support the hypothesis H_{03} , reinforcing the significance of the observed inverse relationship.

Therefore, the study concluded that managers' behavioural predilections were negatively and significantly associated with the clinical innovation adoption by leaders in Nairobi's public referral hospitals. These findings are consistent with Ajzen's (2018) and Albarracin's (2001) studies that highlighted that individuals' attitudes significantly predict their intentions and behaviours, particularly when it comes to adopting new behaviours or innovations. This suggests that understanding and shaping attitudes can be crucial for promoting adoption. Similarly, this study's findings are consistent with Vagnani et al. (2019), confirming that innovation attributes significantly impact adoption decisions, with the effect varying based on managerial behaviours, resource availability, and the innovation life cycle stage.

Results of Testing Hypothesis 4

The results of the study ($\beta = 0.2559$, 95% CI [0.1540, 0.3578], $p < 0.001$) indicate a positive and statistically significant relationship between fostering innovation in the organisation and clinical innovation adoption by leaders in Nairobi's public referral hospitals. Specifically, for every unit increase in fostering innovation, clinical innovation adoption by leaders is expected to increase by 0.2559 units, assuming other factors remain constant. The narrow 95% confidence interval of [0.1540, 0.3578] suggests a precise estimate, with high confidence that the true value of this relationship lies within this range. The p-value of less than 0.001 further strengthens the results, providing strong evidence against the null hypothesis, confirming that this positive relationship is statistically significant and not due to random chance.

The significance of these findings implies that fostering innovation within the organisation is a key factor in driving clinical innovations adoption by healthcare leaders in Nairobi's public referral hospitals. This suggests that when leaders prioritize and foster a culture of innovation within their organisations, clinical innovations are more likely to be adopted, resulting in improvements in healthcare practices and service delivery. In practical terms, fostering an innovation-friendly environment, supported by leadership at various levels, can create the necessary conditions for implementing new technologies and practices effectively.

This outcome concurs with the broader literature on innovation, particularly the work of Damanpour (2020), who examined the antecedents, processes, and outcomes of innovation. Damanpour emphasizes the crucial role of organisational culture, leadership, and external factors in fostering innovation. The findings of this study support his argument by showing that a supportive culture and effective leadership are essential for the successful adoption and implementation of innovations. Specifically, the study highlights how fostering innovation within the organisation positively influences clinical innovation adoption, reinforcing the importance of creating an organisational culture that values and encourages innovation at all levels.

The β coefficient of 0.2559 further supports the idea that fostering innovation plays a pivotal role in driving clinical innovation adoption. This result is significant when considered in conjunction with other factors such as leadership capabilities, innovation-oriented attributes, and managers' behavioral predilections. In fact, when accounting for all these factors, the study suggests that clinical innovation adoption by leaders will increase by 1.335 units for every one-unit increase in fostering

organizational innovation, emphasizing the strong positive relationship between these two variables.

The fourth objective of the study was to evaluate the relationship between promoting innovation within the organization and clinical innovation adoption. This study contributes to the growing body of research on strategic leadership styles—such as Transformational, Visionary, Transactional, Participative, and Ambidextrous leadership—and their influence on organizational innovation. Recent research by Alblooshi et al. (2021), Cadeddu et al. (2023), Carlucci et al. (2020), Lidman et al. (2023), and Weintraub and McKee (2019) have highlighted the importance of leadership styles in driving innovation. These studies suggest that strategic leadership styles not only shape organisational culture but also influence innovation outcomes by promoting an environment conducive to knowledge sharing, employee engagement, and collaborative behaviours.

Similarly, Dongling et al. (2022) argue that these leadership styles are instrumental in achieving long-term strategic goals, and they significantly influence organisational innovation by affecting organisational climate, employee behaviours, and the sharing of knowledge within an organisation. This study adds to this literature by demonstrating that fostering innovation within the organisation—whether through leadership initiatives, resource allocation, or cultural change—has a direct and significant effect on the adoption of clinical innovations in healthcare settings.

In conclusion, the study provides compelling evidence that fostering innovation within the organisation is positively correlated with clinical innovation adoption by leaders in Nairobi's public referral hospitals. The strong statistical

significance of the results, coupled with the alignment of these findings with previous research, underscores the importance of strategic leadership in fostering innovation and improving healthcare delivery. The study suggests that leaders in healthcare organizations focus on fostering an innovation-friendly culture by utilizing leadership styles that promote creativity, risk-taking, and the adoption of new ideas to ensure successful clinical innovation implementation. Al Wali et al. (2023), Bojesson et al. (2021), and Coffin and Tang (2023) found that, like all organisations, hospitals must integrate research-based findings into their operations and innovation efforts to achieve success. By doing so, they can enhance organisational performance and contribute to the continuous improvement of healthcare services.

Chapter Summary

To maintain consistency across chapters, all methods and hypotheses were restated. Face validity was ensured through feedback from doctoral-level students and supervisors, which guided adjustments to the questionnaire prior to pre-testing. Content validity was established through a comprehensive literature review, expert evaluation, and pre-testing, resulting in a content validity index that confirmed acceptability. Construct validity was verified using exploratory factor analysis (EFA) and the Kaiser-Meyer-Olkin (KMO) measure, ensuring that the study's objectives were accurately measured. Reliability analysis, conducted with healthcare leaders during a pilot test, yielded an acceptable response rate and satisfactory Cronbach's alpha values, indicating good internal consistency.

CHAPTER FIVE: SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

This section integrates the study's variables, research objectives, and conceptual framework to ensure coherence. It explores the relationship between strategic leadership styles and clinical innovation adoption in Nairobi's public referral hospitals. The conclusions, based on the research process, methodology, and key findings, interpret results within existing theories. These insights guide future research, policy, and practical applications.

Summary of Major Results

This section represents a summary of the major findings of the study.

Relationship between Leadership Capabilities and Clinical Innovation adoption by leaders in Nairobi's Public Referral Hospitals

The first specific objective of the study investigates the relationship between leadership capabilities and clinical innovation adoption by leaders in Nairobi's public referral hospitals. Results indicated that leadership capabilities had the strongest and most significant relationship with clinical innovation adoption. Regression analysis further confirmed a positive influence of leadership capabilities on clinical innovation adoption by leaders in Nairobi's public referral hospitals.

Implications:

The findings emphasize the critical role of leadership capabilities in driving the adoption of clinical innovations. Healthcare administrators should prioritize

leadership development programs to enhance key capabilities such as strategic vision, decision-making, and adaptability. Strengthening leadership skills will enable hospital leaders to more effectively embrace and implement clinical innovations, leading to better healthcare outcomes.

In summary:

The strong positive relationship between leadership capabilities and clinical innovation adoption underscores the importance of cultivating effective leadership in healthcare settings. Investing in leadership development is essential for fostering innovation and improving clinical practices, ultimately enhancing the quality of patient care in Nairobi's public referral hospitals.

Relationship between Cultivating Innovation-Oriented Attributes and

Clinical Innovation Adoption by Leaders in Nairobi's Public Referral Hospitals

The second specific objective of the study was to examine the relationship between cultivating innovation-oriented attributes and clinical innovation adoption by leaders in Nairobi's public referral hospitals. The study found a significant negative association between innovation-oriented attributes and clinical innovation adoption.

Implications:

The negative relationship suggests that fostering innovation-oriented attributes alone may not enhance clinical innovation adoption. Healthcare administrators should reassess their strategies to align these attributes with practical adoption processes, ensuring a more balanced approach.

Conclusion:

The negative association highlights concern about the effectiveness of current strategies for fostering innovation in healthcare leadership. Future efforts should refine how innovation-oriented attributes are integrated into leadership practices to support the successful adoption of clinical innovations and improve healthcare delivery in Nairobi's public referral hospitals. Relationship between Managers' Behavioural Predilections and clinical innovation Adoption by Leaders in Nairobi's Public Referral Hospitals

The third objective of this study was to examine the relationship between managers' behavioral predilections and clinical innovation adoption in Nairobi's public referral hospitals. The findings revealed a negative and statistically significant relationship between managers' behavioral traits and clinical innovation adoption.

Implication:

The results suggest that managers' behavioral preferences may impede the adoption of clinical innovations. This underscores the need for policymakers and healthcare administrators to recognize the influence of managerial behavior on innovation processes. Training programs targeting managerial attitudes toward risk, change, and leadership may help reduce this barrier.

In summary:

The negative association between managers' behavioral traits and clinical innovation adoption highlights a key challenge in implementing innovations in healthcare. Addressing this requires interventions to shift managerial behaviors and

enhance openness to new practices, which is essential for integrating innovations and improving patient care outcomes.

Relationship between Fostering Innovation in Organisation and Clinical Innovations Adoption by Leaders in Nairobi's Public Referral Hospitals

The fourth objective of this study was to assess the relationship between promoting innovation in the organization and clinical innovation adoption by leaders in Nairobi's public referral hospitals. The study found a positive and statistically significant relationship between fostering innovation and clinical innovation adoption.

Implications:

These findings highlight the importance of cultivating a culture of innovation to facilitate clinical innovation adoption. Healthcare administrators should focus on creating an environment that supports innovation, as this influences leadership's openness to new clinical practices.

In summary:

The positive relationship between fostering innovation and clinical innovation adoption underscores the value of promoting an innovative organizational culture. Supporting innovation within healthcare settings can enhance leadership engagement with new practices, leading to improved patient care and outcomes.

Conclusions

Conclusions are based on the findings. The data is interpreted to provide new insights. These insights focus on the relationship between strategic leadership and

clinical innovation integration in Nairobi's public referral hospitals. Key findings, what they imply, and conclusions are outlined below.

Relationship between Leadership Capabilities and Clinical Innovation Adoption by Leaders in Nairobi's Public Referral Hospitals

The first objective of the study was to assess the relationship between leadership capabilities and clinical innovation adoption. Results imply a strong positive relationship; leadership capabilities significantly influence clinical innovation adoption by leaders.

In the first conclusion, the study highlights a strong positive relationship between leadership capabilities and the adoption of clinical innovations. The results underscore the significant role of leadership skills in driving the successful integration of clinical innovations, emphasizing the importance of effective leadership in fostering innovation within clinical settings.

Relationship between Cultivating Innovation-Oriented Attributes and Clinical Innovation Adoption by Leaders of Nairobi's Public Referral Hospitals

The second objective examined the relationship between cultivating innovation-oriented attributes and clinical innovation adoption. Results imply a significant negative association; meaning cultivating innovation-oriented attributes is inversely related to clinical innovation adoption by leaders.

In conclusion, the study reveals a significant negative association between cultivating innovation-oriented attributes and the adoption of clinical innovations by leaders. This suggests that focusing on developing innovation-oriented traits may

enhance awareness, knowledge, and empower informed decision-making, thereby promoting the effective use of evidence rather than hindering it.

Relationship between Managers' Behavioural Predilections and Clinical Innovation Adoption by Leaders in Nairobi's Public Referral Hospitals

The third objective assessed the relationship between managers' behavioural predilections and clinical innovation adoption. Results imply a negative relationship; meaning managers' behavioral traits impede the adoption of clinical innovations by leaders.

In the third conclusion, the study indicates a negative relationship between managers' behavioral predilections and the adoption of clinical innovations. The results suggest that certain behavioral traits of managers may hinder the successful implementation and integration of clinical innovations, emphasizing the need to address these traits to promote effective adoption.

Relationship between Fostering Innovation in the Organisation and Clinical Innovations Adoption by Leaders in Nairobi's Public Referral Hospitals

The fourth objective assessed the relationship between fostering innovation and clinical innovation adoption by leaders in Nairobi's public referral hospitals. Results imply a positive relationship; meaning fostering innovation within the organisation enhances clinical innovation adoption by leaders.

In the fourth conclusion, the study demonstrates a positive relationship between fostering innovation and the adoption of clinical innovations by leaders in Nairobi's public referral hospitals. The results suggest that creating an environment

that encourages innovation within the organization significantly supports the successful adoption of clinical innovations by leaders.

Recommendations

Conclusions stem from the study's findings, whereas recommendations translate those conclusions into actionable (doable) steps. This section offers practical recommendations for management, policy, and future research, grounded in the evidence and discussions presented in the study. By linking findings with specific actions, these recommendations aim to drive effective management practices, inform policy decisions, and guide future research endeavours.

Managerial Recommendations

Strategic leaders in Nairobi's public referral hospitals must adapt to evolving external and internal challenges to maintain their critical role in healthcare delivery. Key recommendations for enhancing strategic management and innovation are outlined below:

Firstly, leaders must understand the role of visionary leadership. Leaders must create and communicate a clear vision for the future to align the organization's goals with long-term strategic objectives and encourages innovation by setting ambitious targets and motivating the team to achieve them.

Secondly, leaders must incorporate Decision-making and Risk management. Effective leaders need to make informed decisions based on data, insights, and a thorough understanding of the internal and external environment. Risk management is also crucial, as leaders must navigate uncertainties, especially when pursuing innovative strategies or entering new markets.

Thirdly, Resource Allocation: Leaders must prioritize financial, human, and technological resources to support key initiatives. Efficient allocation ensures successful projects and fosters innovation.

Collaboration and Team Building: Leaders should create a collaborative environment that promotes diverse perspectives and teamwork. This encourages the growth of innovative ideas.

Change Management: Leaders must guide the organization through change. Managing resistance and motivating employees ensures smooth transitions and embraces innovation.

Focusing on these areas helps leaders foster strategic management and continuous innovation.

Policy Recommendations

Effective healthcare policies must empower public hospitals, build concurrent capacity and capabilities, and promote innovation to improve performance.

Firstly, new leaders, including recent graduates and young professionals, should use tools like the Bolman and Deal Leadership tests (1991, 1997). This assessment helps identify personal strengths, leadership styles, and alignment with work environments, enabling leaders to tailor their strategies and development effectively.

Secondly, strategic leaders should create policies that embrace constructive conflict and challenge the status quo. Additionally, establish clear criteria for evaluating proposals based on impact, cost-effectiveness, and alignment with strategic

goals. Thirdly, implement centralised review processes, tiered approval systems, and ongoing evaluations to support innovation. Streamline regulatory processes and build strong vendor relations to facilitate new technology adoption. Fourthly, develop recommendations for healthcare policies that address both innovation adoption and subsequent implementation challenges and public health issues like vaccine hesitancy. Develop policies that align with leadership styles promoting openness, creativity, and collaboration. This approach enhances innovation capabilities and supports sustainable growth in a competitive landscape.

Areas for Further Research

The following research directions are recommended to advance the understanding of strategic leadership's impact on innovation adoption:

Firstly, as mentioned earlier, the study suggests that there is potential for improving the model by incorporating additional predictors or exploring other relationships that may explain the unexplained variance. Future research could focus on identifying other factors influencing the dependent variable and refining the model to increase its explanatory power and predictive accuracy.

Longitudinal or multi-wave approaches should be employed to assess the long-term effects of strategic leadership styles on clinical innovation adoption. Additionally, methodological considerations can utilise qualitative (individual interviews, polls or focus groups with healthcare leaders to gain in-depth insights into their perceptions and attitudes towards innovation) or mixed methods to obtain richer, more comprehensive data.

Secondly, key focus areas to investigate include human capital development, leadership capabilities, innovation-oriented attributes, managerial behaviour, and innovation facilitation. Thirdly, expand research to include more counties and private hospitals in Kenya to enhance generalisability. Conduct comparative studies with the private sector to refine the strategic leadership framework. Examine mediators between strategic leadership styles and leader qualities in clinical innovation. Fourthly, explore the implications of inverse coefficients and AI integration to understand their impact on decision-making and innovation, moving beyond traditional leadership behaviours.

These recommendations aim to expand the understanding of strategic leadership style and its impact on improving clinical innovation and decision-making, addressing aspects that go beyond the scope of this dissertation.

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APPENDIX I : SURVEY INSTRUMENT

Please respond to the following statements by selecting the option that best reflects your agreement or disagreement with each statement by checking the appropriate single box (✓).

A: Demographic Information

Please take a moment and give us some demographic information.

Description: This section collects basic demographic information about managers/leaders to better understand their characteristics in the healthcare setting.

Instructions: Please select the most appropriate response to each statement about your healthcare leadership:

1. Hospital cadre type:

- ☐ Senior manager
- ☐ Middle manager
- ☐ Departmental Head

2. Years in specific role or function (tenure)

- ☐ Less than 5 years
- ☐ 5 to 10 years
- ☐ 10 to 15 years
- ☐ 15 to 20 years
- ☐ More than 20 years

3. Please indicate your gender

- ☐ Male
- ☐ Female
- ☐ Years at the current hospital
- ☐ Less than 5 years
- ☐ 5 to 10 years
- ☐ 10 to 15 years
- ☐ 15 to 20 years
- ☐ More than 20 years

B1: Organisational Resources (OR)

Description: This section gathers information on your hospital's resources, focusing on their role in facilitating conditions, resources, and leadership capability.

Instructions: Please indicate your level of agreement with the statement: "*My leaders actively empower their employees,*" using the numbered scale provided:

No .	Statement	1 Strongly disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly agreed
.1.	Leaders encourage employees to be creative, and to think 'outside the box'.					
2.	Leaders use competencies in a novel rather than just familiar circumstances.					
3.	Employees learn from what leaders					

	do.					
4.	Leaders demonstrate initiative.					
5.	Leaders develop confidence in employees' abilities.					
No .	Statement	1 Strongly disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
.1	Our organisation commits adequate time and resources to prepare for and manage change.					
.2	Only a few key people in our organisation are involved in organisational change processes.					
3.	Our CEO visibly supports the change process to prepare the organisation for the future.					
4.	Our leaders' vision and values align with change preparedness.					
5.	Leadership is viewed as a minor management skill in our organisation.					
6.	Leaders in our hospital are engaged in developing human capital.					

7.	Our leaders drive intellectual capital development.					
8.	Leaders implement team-based structures as a key feature of the organisation.					
9.	Employee ownership is a leadership responsibility					
No.	Statement		1 Strongly disagree	2 Disagree	3 Undecided	5 Strongly Agree
1.						
.	Employees feel their skills are valued and utilised.					
2.	At our hospital, developing employee skills for innovation is not a key objective.					
3.	In our organisation, on-the-job learning is valued more than formal leadership training.					

4.	Leaders overlook employees' non-technical needs, such as emotions and values, favouring cognitive abilities.					
5	Leaders in our hospital recognise managing change as a complex and essential function.					
6	Leaders in our hospital invest little effort in developing effective managers.					
7	Leaders in our hospital help managers develop their strategic leadership styles.					
8	Leaders in this hospital use self-managing teams to boost efficiency and effectiveness.					
9.	Leaders in our hospital promote resilience					

	through flexibility and knowledge of changes in an unpredictable environment.					
10.	Leaders in our hospital adopt an innovation based on perceived impact compared to existing practices.					
11.	Our leaders adopt innovations based on their perceived usefulness.					
12.	Our leaders' perceptions of a new product's ease of use and learning drive its acceptance and adoption.					
13.	Leaders' perceived benefits of innovation and improved patient satisfaction and experience make our hospital adopt it.					
14.	Leaders' knowledge of Innovation adoption can reduce healthcare costs for our hospital.					

15.	Innovations that align with our hospital's values and needs increase leaders' adoption intent.					
16.	Leaders will adopt innovations if they align well with prior supplier experiences.					
17.	Leaders in our hospital view multi-component clinical innovations as complex.					
18.	Leaders in our hospital agree that a clinical innovation is not complex if it lacks multiple components.					
19.	Leaders in our hospital see clinical innovations as complex if staff find them difficult to understand or use.					
20.	Leaders are seen as slow to apply clinical innovations with minimal impact.					
	Leaders in our hospital					

21.	are perceived as slow to adopt new clinical innovations because of the inability to translate new knowledge into daily practice.					
22.	Employees perceive leaders adopting a new clinical innovation as risk-taking in my hospital.					
23.	Adopting the new clinical innovation would be a brave action for my hospital.					
24.	In our hospital, the characteristics of innovation do not influence our decision to adopt.					

B4: Fostering Innovation in Organisation (IO)

Description: This section aims to obtain information on promoting organisational innovation in terms of promoting product innovation, promoting administrative innovation, and promoting process innovation.

Instructions: Please select the most appropriate response to indicate your level of agreement with the following statements:

No.	Statement	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
Promoting Product Innovation (PI)						
1.	Our organisation has strong preferences that create an environmental climate to encourage employee production of evidence-based information.					
2.	At our hospital, managers leverage staff support to translate evidence into daily bedside practice.					
3.	Our organisation has strong preferences for evidence-based information					

4.	Adopting practices based on the strength of new evidence is a crucial part of innovation and often leads to a better result than a rigid application of practice by our hospital.					
5.	In our hospital, managers have little preference for evidence-based practice information.					
6.	Our hospital considers the characteristics of the quality context of the Clinical practice guidelines to be important.					
7	An organisation's leadership style committed to introducing innovation is important to our					

	hospital.					
8	Our hospital has the absorptive and assimilative capacity (i.e. human and social capital) to use innovative and existing knowledge.					
No .	Statement	1 Strongly Disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
Promoting Administrative Innovation (ADI)						
1	This hospital places a renewed emphasis on organisation leadership in the use of context-specific clinical practice guidelines for healthcare purposes and administrative operations.					
2.	This hospital uses employee recognition programs and					

	rewards (e.g., perks, thank-yous) to encourage desired behaviours and innovative ideas in healthcare and administration.					
3.	Our hospital aims to adopt new technologies (e.g., computers, and remote imaging) to enhance healthcare, work procedures, and administrative operations.					
4.	Our hospital pays particular attention to administrative innovations to facilitate the functioning of health services, administrative workflows and processes.					
5.	Our hospital punishes passive people who have no ideas for new administrative innovations for health and administrative interventions.					

6.	Our hospital highlights the need for administrative innovations for health and administrative processes.					
7.	Our hospital is always the first to initiate administrative innovations for health care and administrative operations and our followers respond to them.					
Promoting Process Innovation (PRI)						
1.	Our hospital is creating new mentoring and coaching programs to support employees in adopting innovations.					

2.	Our hospital promotes the exchange of knowledge within the team and interpersonal communication between employees.					
3.	Our hospital insists on the need for open innovation in the service of development.					
4.	Our hospital implements an incentive system to encourage specific behaviours in employees to develop innovative ideas.					
5.	Our hospital often develops new technologies (internet, databases, etc.) to improve our evidence-based processes.					

6.	Our hospital emphasises providing new services and innovative approaches to patient care.					
7.	Our hospital often uses new treatment paths with perceived demonstrable benefits compared to what is currently being done to improve well-being processes.					

C: Clinical Innovation Adoption (CIA)

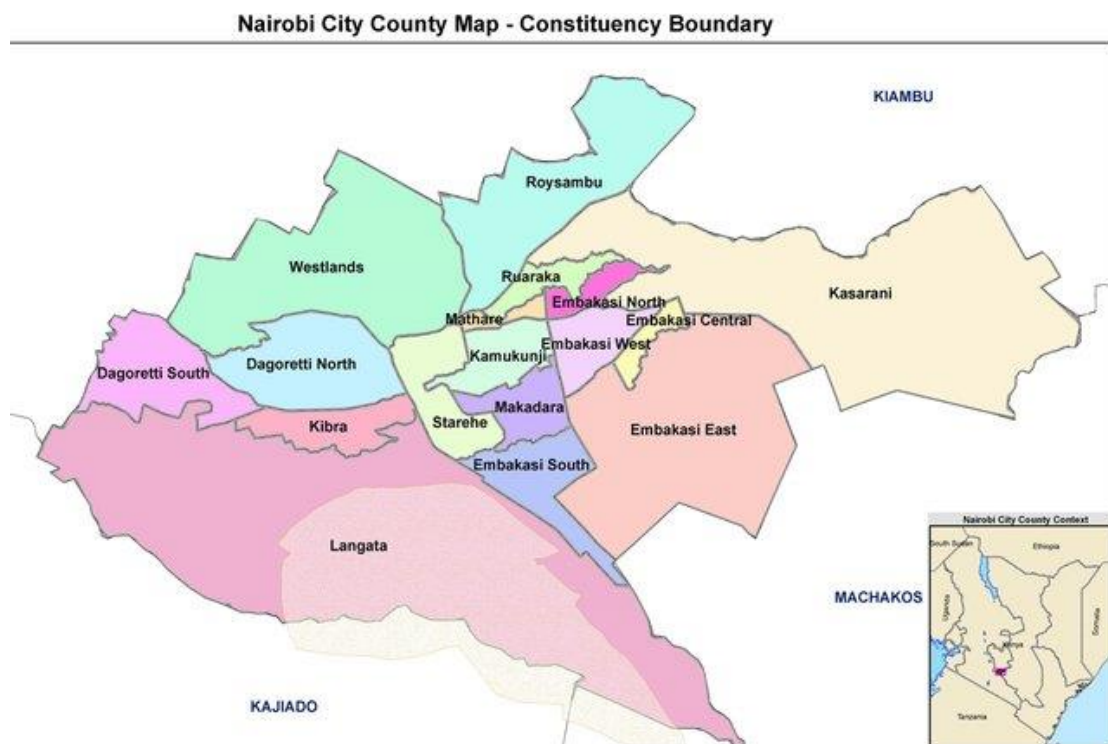
Description: This section is intended to obtain information about the sustainable innovation leadership decision in terms of Intent Focus (vision, direction), Intention to Adopt and Perceived Demonstrability Results (observable).

Instructions: Please select the most appropriate response to indicate your level of agreement with the following statements:

No.	Statement	1 Strongly disagree	2 Disagree	3 Undecided	4 Agree	5 Strongly Agree
	Intent Focus (IF)					
11	Our leaders support the adoption of clinical innovations across our hospital.					
22	Our hospital shares its vision and sense of direction with employees on adopting innovation.					
33	In our hospital, managers consider that the adoption of clinical innovations is not important.					
Intentionality (Intention to Adopt) (IA)						
44	Our hospital takes time for employees to understand the purpose of their intent to innovate.					

5.	5.	Our hospital supports employee willingness to embrace clinical innovations.					
Perceived Demonstrability Results (PDR)							
.	66	Our hospital has improved innovation adoption performance and plans to adopt it.					
7.	6.	In our organisation, employees have the requisite opportunity to develop self-efficacy for embracing complex clinical innovations.					

APPENDIX II NAIROBI CITY COUNTY AREA OF STUDY



APPENDIX III NACOSTI LICENCE AND PERMISSION LETTER

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
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