# STRATEGIC MANAGEMENT PRACTICES AND TECHNOLOGICAL INNOVATIONS IN NAIROBI CITY COUNTY PUBLIC HEALTH FACILITIES

**BY**

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**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, FACULTY OF BUSINESS AND MANAGEMENT SCIENCE, UNIVERSITY OF NAIROBI**

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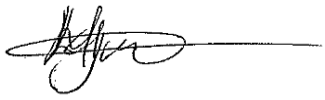
## DECLARATION & APPROVAL

I, Lena Kanyi Njuguna, hereby declare that this MBA research project title "Strategic Management Practices and Technological Innovations in Nairobi City County Public Health Facilities" is my novel conceptualization and has not been presented to any university, college or institution, for the conferment of any degree, diploma or certificate.

Signature  Date 29 November 2022

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SUPERVISOR'S APPROVAL

This research project by Lena Njuguna title "Strategic Management Practices and Technological Innovations in Nairobi City County Public Health Facilities" has been handed in for assessment with my endorsement as the appointed university supervisor.

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## DEDICATION

I dedicate this project to my dad, Mr. Njuguna Kimari.

# TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF ABBREVIATIONS

| | |
|---|---|
| **DCV** | Dynamic Capability View |
| **GDP** | Gross Domestic Product |
| **ICT** | Information Communication Technology |
| **IT** | Information Technology |
| **KNBS** | Kenya National Bureau of Statistics |
| **RBT** | Resource Based Theory |
| **SME** | Small and Medium Enterprise |
| **SPSS** | Statistical Package for Social Sciences |
| **TI** | Technological Innovation |
| **UNHCR** | United Nations High Commissioner for Refugees |

## OPERATIONAL DEFINITION OF TERMS

| | |
|---|---|
| Practice: | The actual application or use of an idea, belief, or method, as opposed to theories relating to it. In this study it relates to the application of strategic management. |
| Strategic Management Practices: | Actions involved in the continuous process of planning, follow-up, examination and evaluation of all that is needed for a firm to accomplish its goals and objectives. |
| Strategic Management: | The ongoing planning, monitoring, analysis and assessment of all necessities an organization needs to meet its goals and objectives. |
| Technological Innovation: | A new or improved product or process whose technological characteristics are significantly different from before. |

## ABSTRACT

This study sought to determine the effects of strategic management practices on technological innovations of Nairobi City County public health facilities. The facilities have faced challenges in strategy formulation, implementation and evaluation. Further, with the world going digital, the public health facilities have been left behind in technological innovations. The study relied on the resource-based theory (RBT), the dynamic capability view and the core competence or innovation theory. This research adopted the descriptive research design. Studied all the 80 public health facilities in Nairobi County involving employees in managerial positions as the respondents. From the 80 health facilities, the study adopted purposive sampling to select one manager from each facility. Questionnaires administered through interviewing method were used to gather the data. From the findings on strategic management practices, the study found that there was adequate knowledge and expertise. However, the facilities had neither technology innovation strategy nor adequate financial resources and change management measures. The top management were not committed and lacked adequate controls to monitor and ensure strategy milestones were met within the facilities. On technological innovation, the participants agreed that the hospital managements preferred tried and tested machinery and products or services due to the cautious nature of the management. They also rarely developed new processes despite developing new products and services though on small scale. They disagreed that processes and technique changed rapidly in their hospital due to technological innovation; and that they had been involved in development and improvement of technological procedure/processes for other hospitals. Correlation analysis showed that strategic management practices had a positive relationship with technological innovations. The study also found strategic management practices had a positive effect on technological innovations. The study concludes that the public health facilities in Nairobi County have poor strategic management practices which have led to poor technological innovations. The study further concludes that strategic management practices relate positively with technological innovations. The study concludes that strategic management practices possess a positive relationship with technological innovations among public health facilities in Nairobi County. From the regression analysis, strategic management practices have a positive effect on technological innovations among public health facilities in Nairobi County. The study recommends public health facilities in Nairobi City County formulate a technology innovation strategy; come up with change management policies; install adequate controls to monitor and ensure strategy milestones are met within the facilities; and develop new processes through adoption of modern technologies that are unique.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Technological innovation has reshaped the medical field and therefore the provision of health care services (Ogara, (2004). According to Thamhain (2013), systematic and strategic management strategies can be developed through harnessing technological innovation. This can be achieved by finding a viable connection between the influence of technological innovation and the strategic management practices in various hospital departments. In other words, technological innovation should be part and parcel of the strategic management practices in healthcare. Thus, the stakeholders in the health sector has to flip the applicable strategies to identify whether they feature a technological aspect either in their implementation or their support module.

The study was anchored on the resource-based theory (RBT) by Barney (1991), the dynamic capability view started by Teece et al (1997), competence and innovation theory. The RBT emphasizes on the importance of building internal environment of an organization for the creation and solidification of strategic actions. On the other hand, the dynamic capability view holds that, institutions work on improving and adding their resources in order to align with the changes that continually take place in a dynamic environment. Lastly, the core competence theory assists an organization to gain competitive advantage.

Technological innovation has an impact on strategic management practices in healthcare institutions. Public health facilities within Nairobi City County have experienced various challenges in their operations. In an attempt to mitigate the challenges, the facilities have adopted various strategic management practices. These have included strategic formulation, strategy implementation and strategy evaluation and monitoring. These facilities have also been moving towards technological innovations in an attempt to mitigate the challenges facing the public health facilities. This created the need to investigate how the strategic management practices have influenced the technological innovations within the public health facilities within Nairobi City County.

### 1.1.1 Strategic Management Practices

Strategic management refers to creation and actualization of objectives based on an entity's available resources, as well as consideration of external and internal environments (Hitt, Ireland & Hoskisson, 2012). Speziale (2015) states that revolutionary strategic management focusing on increasing the number of patients by accomplishing good outcomes at the bottommost costs and diverting from a physician-focused entity to an organization-run program is crucial in attending to modern health sector challenges. Health care organizations currently face a series of problems due to the growing difficulty of satisfying a progressive and demanding patient, as well as the necessity to modify the inner process to adjust to fast improvements in technologies and methods (Cesaroni et al., 2014).

Bartkus and Glassman (2008) states that strategic objectives are the principal final outcomes that an organization hunts to achieve its mission. Thus, making the incorporation of technology in the fortification of strategies only increases the value of the strategies therefore making the outcomes to have a high quality. Cady et al., (2011) opines that the primary stage in any tactical change is to illuminate the institution's vision, mission, and goal. Mission declares a unique purpose for the organization or motive for its existence. Vision symbolizes what the executives need the entity to accomplish in its mission. These relate to strategic planning which is a detailed plan that directs the organization in achieving a specific goal. Strategic planning involves strategy formulation, vision, mission, objectives and goals (Pearce & Robinson, 2008). The needs of the organization need to be assessed before coming up with a strategic plan.

Other strategic management practices adopted in this study relate to strategic resources, strategic leadership and strategy evaluation/monitoring. According to Waititu (2016), top management should make all efforts to persuade, inspire, empower, and assist people to contribute great insights for effective strategy implementation. Leadership commitment to an organisational strategic orientation is essential. Good leaders communicate company vision, encourage employee acceptance, offer individualized service and motivational inspirations, and specify goals (Gudo, Olel, & Oanda, 2015). Finance and its governance have a significant impact on the efficacy of strategic management.

Strategic resources are key to a successful strategy. Such resources include finance, human resources among other resources. As per Johnson, Scholes, and Whittington, among primary

challenges that businesses face in the interaction between strategies, finance, and human resources are administration for mission, financing business strategy, and shareholder financial ambitions (2016).

Strategy evaluation and monitoring is a critical strategic management practice. According to Rumelt (2000), strategy evaluation for several CEOs is little more than a rating of a company's performance. Strategic assessment and control refers to the process of assessing a particular strategy's effectiveness in achieving corporate goals and, as applicable, implementing the proper corrective measures. Control can be exerted by setting up crisis senior executives and emergency plans.

### 1.1.2 Technological Innovation

Technological innovation is a concept of technology which covers the technological features of a service or product (Schilling & Shankar, 2019). Innovation in technology is a process that is based on science and systems. The internal strengths of the company, such as its capacity for technical learning and its networking abilities within the external world, have a number of influencing elements that affect or are influenced by the process. The consequence would be the creation of new or enhanced products and/or production processes because it would maximize the firm's current resources and innovation opportunities (Goh, 2002). Research shows that globalization has led to an increase in advancement of technology, implying that there is new discovery each day (Oladimeji, et al., 2017). Such advancements occur quickly, leaving many professionals deliberating on whether to modernize or change the previous strategies (Olsen et al., 2012). Technological Innovation (TI) is the latest avenue through which modern employment opportunities are created, by facilitating people’s interactions through innovation (Roztocki & Roland, 2011).

According to Ferreira et al., (2015), technological innovation relies principally on fresh information that will be advanced on a technology base. This advancement could be led by unsettling innovations or increasing alterations triggered by both competitive forces and consumer wants. Innovation can be viewed as a creation and original commercialization of a fresh technological venture. In the line of transmission, the term innovation can be defined as the use of technologies that are easily accessible and can be transferred. In addition, diffusion also involves the process of continually increasing changes on a technology after the preliminary acquisition. In

some instances, diffusion carries a lot of similarities with innovation, since increasing changes may be viewed as clean innovation.

### 1.1.3 Public Health Sector in Kenya

The MOH and parastatal organizations are significant participants throughout the public health system. Privately for-profit, NGO, and FBO establishments are included in the private industry of healthcare system. A chain of more than 4,700 healthcare facilities around the nation provides healthcare operations, with roughly 51% of such establishments being part of the public sector systems. Healthcare facilities arelate to district hospitals, national referrals hospitals, province general healthcare facilities, health centers, and dispensaries (Mwamuye & Nyamu, 2014). The national referral hospitals offer advanced laboratory, curative, and rehospitalisation.

Usefulness of public health care service industry is always snowballing, with the industry heavily relying on technological development. However, Banta (2009) said that while public health care has been operating successfully in recent times, data has emerged gradually of ineffectual technologies, as well as the abuse and misuse of health technologies. New technologies have a significant impact on public health care services, particularly the Internet's role and the development of clinical information systems. Given that more healthcare consumers are purchasing electronic devices for information access, it may be argued that we are living in a period of enormous change (Coddington et al., 2000, p.146). Procedures in public health care services are likely to be repeated quickly and effectively, occasionally without human interaction.

In the public healthcare services, innovation in technology, especially the role played by the improvement of clinical information systems and the internet has a great effect. According to research, the consumers of healthcare services are a bit ahead of the profession by greatly embracing technology especially in the consumption of health information (Figueiredo & Eiriz, 2009). As expected, the recreation of the public healthcare services will be done with high speeds and impacts, at times with less or no human intervention. Technology with connection to health care can be well-defined to include surgical and medical procedures, devices and medical drugs used in the public healthcare; measures for rehabilitation and prevention of diseases; as well as the support and organizational systems through which health care is dispensed (Jonsson et al., 2002).

Internet connectivity and IT have been incorporated as the major driving factors for socio-economic growth by the Kenyan administration (Kevin et al., 2017). The national ICT policy of

Kenya looks at increasing the rate of ICT access to over 80% through the enactment the National Broadband Strategy budgeted for $2.9 billion on partnerships (Kevin et al., 2017).

### 1.1.4 Nairobi City County Public Health Facilities

Nairobi is the capital and largest city in Kenya that was first incorporated in 1900 as the Township of Nairobi. The Nairobi City County comprises of a total of 17 Sub Counties and eighty-five (85) county administrative units (wards) that are bordered by three counties i.e. Machakos. Kiambu and Kajiado. The estimated total population of the county is at 4.2 Million comprising of 2 million women and 2.2 Million males with an annual growth of 3.8%. Today, Nairobi City is the main central business district of Kenya with established city development such as modern financial and communication system, centre of all the major financial and learning institutions. In addition, the county boosts as the home of Kenya's industrial base which contributes for 20% of the Gross Domestic Product (GDP) (KNBS, 2019).

Currently, there are 672 health facilities in Nairobi City County at different levels in the county. However, there are 80 public health facilities within the county. There are seven hospitals and 73 health centers and dispensaries. Additionally, there exists several unregistered facilities operating in the undeserved and densely populated areas such as Mathare, Embakasi, Kasarani, Ruaraka and Kamukunji (UNHCR, 2017). Hospitals and nursing homes make up 9% and 7%, respectively, of the county's primary healthcare facilities, which also include private and governmental clinics (55%), dispensaries (20%), and other health institutions. 84% of the anticipated number of health facilities are represented by the 9%. 62% of the facilities are privately owned, 27% are non-profit, faith-based, or international organizations that support health research, and 12% are government-owned, including four hospitals that are controlled by the national government and provide specialized healthcare services. These include the Mathare Mental Health and Spine Injury Center, Kenyatta National Referral Hospital, and Kenyatta University Teaching, Referral, and Research.

## 1.2 Research Problem

The strategic management practices of an institution are key to technologies adopted within an institution. Strategic management gives direction by developing plans and policies that achieve set objectives and allocation of resources to implement innovation plans. An organization with relevant strategic management practices find themselves adopting relevant technological innovations in that technology is a key element of a corporate strategy (Antoniou & Ansoff, 2007).

Technology is a very critical part of every institution's operations be it low or high technology. Management must be committed to understanding the prevailing technology in the sector and formulate strategy that incorporates this technology to ensure success of the health facilities (Tassey, 2012). Such strategies guide technological innovations where good strategic practices enable an organization to determine the right innovations to adopt for specific (Bill, 2014).

The Nairobi City County public health facilities have been facing various challenges in their operations. The facilities have found themselves adopting obsolete technology in their operations which has made it hard for them to enjoy efficiency in their operations. The facilities have also faced challenges in strategy formulation, implementation and evaluation. The residents of Nairobi City County have complained of poor service delivery in public health facilities within Nairobi. With the world going digital, the public health facilities have been left behind in technological innovations. According to Muinga, et al. (2020), Nairobi city public health sector had less than 30% of their operations under modern technology. There is need for the public health facilities in Nairobi City County to adopt relevant strategic management practices and adopt technological innovations for increased efficiency.

There are gaps, according to the papers analyzed above. The research highlight knowledge gaps in areas where they discovered divergent results. For instance, Elmakkawy and Abdien (2021) examined how strategic management affected innovation in Egypt's five-star hotels and found that it might have both beneficial and detrimental consequences. Cavallo et al. (2014), who investigated the strategic management implications for the adoption of technology improvements in agricultural tractors, provided support for this. In her research on the effect of information technology on strategy execution in Saudi Arabia's public sector enterprises, Dasan (2019) found that strategic management techniques had a detrimental impact on technological innovation. In their 2017 study on strategic management of technology in the public health sector in Kenya and South Africa, Ogembo-Kachieng'a and Ogara discovered

The reviewed literature shows that knowledge gaps and research gaps. The studies show mixed results on how strategic management influence technological innovations. The studies also show conceptual gaps where the studies looked at different concepts other than strategic management and technological innovations. They also show contextual and methodological gaps where they were done in different sectors and adopted different methodologies. This study sought to find out

whether strategic management practices influence technological innovations in public health facilities in Nairobi City County. It sought to answer the question: how does strategic management practices affect technological innovation in public health facilities in Nairobi City County?

### 1.3 Research Objective

The objective of this study was to determine the effects of strategic management practices on technological innovations of Nairobi City County public health facilities

### 1.4 Value of the Study

The research findings will support future theoretical development on concepts associated with the application of technology innovation in strategic management practices in Nairobi public health facilities. The findings will act as reference point in guiding future studies when coming up with theoretical foundations associated with health care in Kenya. The study will provide theoretical framework by adding to knowledge on the effects of technological innovation on strategic management practices on the Nairobi County Health facilities. This will be through acting as a baseline for further research on impact of technological innovations on strategic management in healthcare. The study will also serve as a resource for future research in the areas of strategic management and technology innovation in the healthcare industry. This will support the development of theoretical frameworks that promote strategic management practices that rely on technological innovation.

The outcomes will provide insights to policy makers dealing with implementing technological innovations in health facilities around Kenya through strategic management practices. Policy makers like the ministry of health and the county government of Nairobi will be able to understand how strategic management and technological innovation relate within the public health sector. The policy developers will be informed how technological innovations influence all departments and therefore operations in a healthcare institution's setting. This understanding will enable them to formulate relevant policies that would improve the technological innovations within the public health facilities via strategic management practices. This will in turn make well though-of decisions in strategy management.

This study will make a contribution to practice which will be valuable to the managers of public health facilities in Nairobi City County and beyond. The study may create an understanding on

how strategic management practices affect technological innovations among public health facilities. The managers, in that case, would use the study in coming up with relevant strategies that would enhance technological innovations within the public health facilities. This study will also give recommendations after data analysis which can be adopted by the managers for improved technological innovations.

### 1.5 Chapter Summary

This chapter discussed the variables of the study that included strategic management practices and technological innovation. The chapter also gave a background to the study as well as the context of the study which is Nairobi city county public health sector. The research objectives as well as the value of the study is also discussed. The organization of the study closes the chapter.

### 1.6 Organization of the Project

This project is organized into five chapters. The first chapter introduces the research while giving the background as well as the research objective. The study value and objective are also indicated in this chapter. The second chapter reviews the literature related to strategic management practices and technological innovation. The third chapter gives the research methods adopted in the research. The fourth chapter represents the data analysis and interpretation of results related to the research objective. The last and fifth chapter represents the summary, conclusions and recommendations of the study.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1 Introduction

This chapter presents theoretical foundations and related literature that looks at existing and relevant literature regarding study of the impact of technological innovation on strategic management practices in the Nairobi County health facilities. This section gives an overview of previous studies to form framework. It commences with the presentation of the theoretical framework and covers both conceptual and empirical literature on strategic management practices and technological innovation.

## 2.2 Theoretical Foundation

This study is anchored on the Resource Based Theory (RBT) by Penrose (1959), Weiner (1984), and Barney (1991) and it is supported by the Dynamic Capability Theory started by David Tees in the 1990s, and the core competence theory. These theories guide the study.

### 2.2.1 Resource Based Theory

The Resource Based Theory pioneered by Penrose (1959) and expended by Weiner (1984) and Barney (1991). The RBT theory holds that resources are clear and unambiguous and contain various technological innovations for successful strategic management. Penrose (1959) focused on diversifying strategy in management, effectively managing organization resources and creating dynamic opportunities. Weiner (1984) explained why firms with valuable, unused, scarce, and well-organized resources can create competitiveness and superior performance over others. Barney (1991) stated that RBT allows a company to build its resources indicating pooling resources and different entities into one another. Barney (1991), states that resources, including capital, finance, abilities of distinct employees, copyrights, equipment, and brilliant managers make the inputs necessary for an innovation strategy.

RBT theory is based on the intrinsic characteristics of an entity when describing the diversity of firms in terms of strategy and performance. In this regard, a firm appears to be systematized. Resources and capabilities are foundations of benefits to the organization. Resources are the accrued assets of a company, comprising inputs used to create, produce and / or market a company's products. According to Amit and Schumacher (1993), resources require legal protection. Therefore, companies exercise property rights over them, allowing them to work

independently. There are also resources in the manufacturing process that can help them shift from input to output that meets their needs (Grant, 1991).

Resource-based theory is more fundamental to formulating a strategic action than an external environment, in terms of an organization's internal environment, resources and capabilities (Camison, 2005). Instead of accumulating the resources needed to execute a strategy related to the circumstances and limitations in the exterior setting, resource-based theory advises that the firm's distinctive resources and abilities offer the foundation for the strategy. The chosen business plan should permit firms to make the best use of their essential capabilities with respect to prospects in the exterior setting (Robert, 2008).

One criticism of the theory is that RBV does not have sufficient supervisory effects or wall operational legitimacy (Preem & Butler, 2001). It appears to be telling executives to advance and acquire capital and develop a suitable business, but it is hushed on how to do so (Connor, 2002; Miller, 2003). An allied criticism is that RBT triggers the delusion of full control, which minimizes property rights concerns, overstating that executives can govern resources or value their prospects (McGuinness & Morgan, 2000). This theory befits analysis of the effect of strategic management practices on technological innovation in Nairobi city county public health facilities. It has been adopted in this research due to its focus on the importance of building internal environment of a firm for the formulation and strengthening of strategic actions. The environment in this case includes various technological innovations put in place to ensure effective strategic management in the Nairobi city county public health facilities.

### 2.2.2 Dynamic Capability Theory

This theory was developed by Eisenhardt and Martin (2000). It was founded on the assumption that entities are always trying to upgrade capital so as to adjust to fluctuations in changing surroundings. The context is the progression of an organization's resource-based view (RBV), which sees resources as the basis to greater company performance. Conferring to Teece, Pisano, and Shuen (1997), the dynamic competence approach inspects how companies can consolidate, shape, and rebuild their precise capabilities (interior or exterior) in new capabilities that adapt to variations in the unsettled environment (Helfat et al., 2007). This theory is based on the premise that companies with more active abilities always perform better. Therefore, working in a changing

environment for organizations requires the re-engineer to continually rebuild and rebuild their inner and outside specific capabilities to compete (Tees, 2014).

Evolving abilities are difficult to develop and move since they are quiet and fixed in the exclusive relationships and history of an organization. Dynamic capabilities are optimal at the right time, founded on a proper valuation of the content, specific processes, organizational culture and business environment, and technical possibilities around the organization (Tees, 2014). High dynamic capabilities are the procedures, business modules, techniques and management skills needed to influence great performance in changing, acquiring and changing an organization. Gathungu and Mwangi (2012) state that dynamic capabilities propel sustainable high performance in rapidly changing environment while enhancing innovations.

This theory fits into the study on analysis of the impact of technological innovation on strategic management in the healthcare sector. This is especially due to its view that institutions work on renewing and improving their resources in a bid to suit the changes that continually take place in a dynamic environment. The environment in this case includes external and internal factors that significantly affect strategy, while resources refer to technological innovations relating positively with strategic management in the healthcare sector.

### 2.2.3 Competence Theory

Prahalad and Hamel (2009) developed the competence theory. The theory asserts that every entity should explore its internal competences and include them in its strategic management (Juneja, 2015). Hence, the entity will employ strategies that no other entity can copy. The idea of competence-based strategic management is an integrative strategy theory which includes issues about the economy, organizations, and behavior in a framework that is flexible, systemic, cognitive, and all-encompassing (Sanchez & Heene, 2004). The theory further describes what constitutes a core competency, which has to do with it being difficult for rivals to replicate, remaining reusable across the markets and products that company serves, and having to add value to the final user or customers who benefit from it. The core competency seems to be the essential foundation for value added by firm, thus organizations should align overall strategy to tap into it.

In terms of the public healthcare sector, the application of the core competence theory will help to improve the quality of service delivery. Give that the facilities that are under the public healthcare sector do not compete, competition still applies, especially in a quest to comply with the

regulations of the sector. Therefore, a medical facility that employs the core competence theory manages to leverage on its core competencies and stand out from the rest in terms of quality service delivery.

### 2.3 Strategic Management and Technological Innovations

Strategic management practices support technology innovation by allocating resources for updating the technologies. Empirically, strategic management practices have shown mixed effects on the technological innovations. According to Zehir et al. (2015), innovation is thought to be heavily but not exclusively dependent on selection and implementation of strategies. Meanwhile, strategic management is a collection of management actions and decisions used by an organization to achieve increased innovation and retained competitive edge over competitors (Liu & Atuahene-Gima, 2018). In this regard, Alosani et al. (2020) recommended that business organizations should pay a huge attention to strategic management as it's critical success factor for improved innovation practices.

According to Tutar et al. (2015), strategic management is about the most significant feature in the triumph of any organization success and it helps to build a base essential to develop and raise innovativeness. Moghadam et al. (2018) added that the assets of the firms and their strategies have a greater influence on innovation than industry forces do. Further, the process of strategic management not only raises the competitiveness of the firms but also positively affect their profitability and innovativeness (Adams et al., 2019). Moreover, Zhou et al. (2021) clarified that organizations should provide a good strategic management to their organizations that will improve their innovation policies, taking into consideration all factors that can affect the actual performance.

Technological innovation is important in developing good management strategies in the healthcare sector and should therefore be systematic and strategic (Thamhain, 2013). However, Thamhain (2013) notes that sometimes the available technologies do not meet the needs of the entities that require them. In contrast, technologies are flexible and all healthcare facilities have to acquire technology that can be customized to their needs. Strategy in technological innovation is referred to as the linkage between various disciplines to design, develop, implement, monitor, and govern technological competencies to shape and achieve the strategic objectives of an organization (White

& Bruton, 2011). Thus, the customization of technology helps a medical facility to get the most appropriate technology and use it as part of its strategic management.

A study was conducted by Ogara (2004) to examine health care equipment issues in public hospitals and the factors that cause associated technology investments. The study reviewed equipment scheduling, purchasing and maintenance processes. Scrutiny of expert outcomes leads to commendations and advice on good equipment management actions in government hospitals. It also provided references for the modest use of devices in the public health field. Success in the health sector is not strictly limited to profitability. It also includes several other factors that include number of patients reached, efficiency of operations, patients' satisfaction, employee satisfaction among others (Tassey, 2012). Different technological strategies can be put in place to address these aspects of management strategy success.

### 2.4 Empirical Studies and Research Gaps

Elmakkawy and Abdien (2021) investigated how strategic management affected innovation in Egypt's five-star hotels. A structured questionnaire was used to gather information from 77 hotel managers using stratified random selection techniques, and SPSS software was used to test the proposed associations. The findings highlighted how each aspect of strategic management, including the design, execution, and evaluation of strategies, has a favourable and significant impact on innovative practices. It established that strategic management practices had a positive relationship with technological innovations.

The effect of information technology on the execution of strategy in Saudi Arabian public sector enterprises was examined by Dasan (2019). The study determined the dynamics of the strategy implementation problem in Saudi Arabia's public organizations and discovered that strategy implementation had a beneficial impact on organizational performance. The study provides a descriptive account for exploring drivers that have the most impact on strategic implementation and technological innovation. The study also showed that the IT driver such as automation of a process has a great impact on strategic management. The study conducted during this research resulted in better understanding of challenges surrounding strategy implementation. The study used mixed methods ie quantitative (questionnaires) and qualitative (interviews with midlevel managers) method which confirmed the positive and negative impact of strategy implementation on organization performance respectively in the public sector.

Cavallo et al (2014) studied strategic management implications for the adoption of technological innovations in agricultural tractor. Over 300 questionnaires were filled by farmers that were randomly selected. Descriptive analysis was conducted with SPSS statistical software version 17. The findings indicated that technological innovation in farms were associated with large farms which were managed professionally and used large tractors and farming machinery. Strategic management influenced the adoption of technological innovations in the farms.

Gure and Karugu (2018) studied strategic management practices and performance of small and micro enterprises in Nairobi City County, Kenya. A descriptive research design was adopted for this investigation. It targeted small and medium-sized businesses run by young people in the 17 functioning sub-counties of Nairobi County. There were 100 business owners who responded to the survey. A sample of 30 respondents, representing 30% of the target population, was chosen, and they were evenly distributed among the sub-counties. Using a self-administered semi-structured questionnaire, primary data was gathered. Data analysis revealed that the generic competitive advantage strategies of Michael Porter—low cost leadership strategy, differentiation strategy, focus strategy, and combination strategy—used in the study had a substantial impact on the organizational performance of SMEs in Nairobi County.

Kabeya (2018) looked at strategies to implement innovations in hospitals. Eight middle-level managers from top-performing hospitals in the western part of the United States participated in the study. Semi-structured interviews, private notes, and an examination of primary data, such as publically available hospital reports, were used to gather data. The research results demonstrated the linkages between strategic management as pertinent to clinical practice innovation for raising organizational profitability and care quality.

Ogembo-Kachieng'a and Ogara (2017) studied strategic management of technology in public health sector in Kenya and South Africa. The planning, buying, and managing of equipment are all covered in this article. Expert observations and results analysis are used to generate recommendations and ideas for best equipment management practices in public hospitals. Additionally, it offers suggestions for the competitive use of equipment in the field of public health. 38 equipment maintenance specialists and 10 governmental institutions in all took part in the survey. A large percentage of the participants came from teaching hospitals. For analysis, descriptive statistics were employed. It is obvious that the quality of care patients receive is

strongly impacted by how health technology is managed in healthcare organizations. Technology innovations were not much impacted by strategic management.

Table 2.1: Summary of Empirical Studies and Research Gaps

| Study | Methodology | Key Results/ Findings | Research Gaps | Focus of Current Study |
|---|---|---|---|---|
| Strategic management of technology in public health sector in Kenya and South Africa (Ogembo-Kachieng'a & Ogara 2017). | Correlational research design | Strategic management had no significant effect on technology innovations | – Focused on both Kenyan and South African health sector<br>– Looked at Strategic management of technology<br>– Involved public equipment institutes | – Public health facilities in Nairobi City county, Kenya<br>– Looked at strategic management practices and innovations<br>– Involved public health facilities |
| Strategies to Implement Innovations in Hospitals (Kabeya, 2018). | Descriptive survey research design | Strategic management affects clinical practice innovation for improving the quality of care and organizationa l profitability<br>Involved both primary and secondary data sources | – Adopted a mix of secondary and primary data<br>– Focused on high performing hospitals in USA | – Nairobi city county public health facilities<br>– Adopt primary data |

| | | | | |
|---|---|---|---|---|
| Strategic management practices and performance of small and micro enterprises in Nairobi City County, Kenya (Gure & Karugu, 2018). | Correlational research design | Strategic management practices positively influence performance of SMEs | – Focused on performance<br>– Focused on SMEs | – Focused on technological innovations<br>– Done in public health facilities |
| Strategic management implications for the adoption of technological innovations in agricultural tractor (Cavallo, Ferrari, Bollani & Coccia, 2014). | Descriptive research design | Technology adoption was affected by strategic management | – Done on agricultural tractors<br>– Studied strategic management implications | – Done on public health facilities in Nairobi City county<br>– Studied strategic management practices |
| Impact of information technology on strategy implementation in public sector organizations in Saudi Arabia (Dasan, 2019) | Descriptive research design | Information technology affected strategy implementation negatively | – Focused on information technology and strategy implementation<br>– Done in Saudi Arabia<br>– public sector organizations | – strategic management practices on technological innovations<br>– Done in Nairobi city county Kenya<br>– Done on health facilities |

| | | | | |
|---|---|---|---|---|
| Impact of strategic management on innovation in Five-Star Hotels in Egypt (Elmakkawy & Abdien, 2021) | – Longitudinal design<br>– cross-sectional design | Innovation is influenced by strategic management | – Involved 5-star hotels<br>– Done in Egypt | – Involved public health facilities<br>– In Nairobi City county |

Source: Researcher (2022)

# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.1 Introduction

This chapter discussed the study's demographic, sample design, method of data collecting and data analysis. This represents the research methods for this research paper. This guides the way the researcher will undertake the study.

## 3.2 Research Design

This research adopted a descriptive survey research design. The design was found appropriate as it is a scientific technique which encompasses observation and description of the behaviors of subjects without influencing them (Malhotra, 2007). For this study, the researcher sought to analyze impact of strategic management practices on technological innovation, without influencing the variables in any way.

The descriptive survey research design allowed for use of numerical statistics for analysis, hence the researcher could employ a quantitative approach. This study adopts the use of numerical data which made the design relevant for the study. It also enabled the researcher to establish the way strategic management practices influence technological innovations within the public health facilities within the Nairobi city county.

## 3.3 Study population

All public health facilities in Nairobi City County were used as the population. According to the Nairobi City Council, there are 80 public health facilities in the County. They involved hospitals, health centres and dispensaries. This study involved employees of healthcare institutions in managerial positions within the city county as the respondents. Specifically, the researcher targeted managers working in different kind of health facilities. Difference in the facilities were brought about by the level. To what extent these variations affect the connection between technological innovation and strategic management was explained.

The research involved all public health facilities in the study. From the 80 health facilities, the study adopted purposive sampling to select one manager from each facility. This was based on the judgement of the researcher as to who was best placed to provide the information required for this study. This gave a sample of 80 managers who filled in the questionnaires.

### 3.4 Data Collection

Primary data constituted the foundation of the study. Questionnaires that are semi- structured was used to gather the data. This questionnaire had closed ended questions to enable the researcher to exhaustively analyse strategic management and technological innovation. The use of the questionnaire was preferred due to the ease of administration and capability to collect a lot of information in a short amount of time. The questionnaire had three parts. Questions about the respondent's and hospital's general information will be in the first part. The second part contained questions related to strategic management practices. The third and last section contained questions relating to technological innovation. The closed ended questions followed a Likert scale of 1-5 for the sections on strategic management practices and technological innovation while for the general information they had options from which one can tick.

Before data collection, consent was sought from the participants to ensure that only those willing and given consent was involved. The interviewing method was used to administer the questionnaires. This entailed the researcher/research assistant asking questions based on the questionnaire and filling in the response from the respondents. The researcher was able to direct study and increase response rate if they did this, thus it was preferred. To overcome the limitation of time, the researcher recruited research assistants who assisted in the administration of the questionnaire. Research assistants were trained on the research methodology, as well as on research ethics. Assistants were reminded to clearly explain the aim of the study to the respondents, as well as clarify any question or misunderstanding arising from the questions. Follow ups were done where the participants took long to give a consent.

### 3.5 Operationalization of Variables

The researcher operationalized the variables by showing the measures and scales for the studies. The data collection tool and data analysis technique was indicated as part of the operationalization framework.

Table 3.2: Operationalization of Variables

| Variable | Operational indicators | Measurement | Measurement scale | Data Collection Tool | Data Analysis |
|---|---|---|---|---|---|
| Strategic management Practices | • Strategic resources<br>• Management commitment<br>• Strategic implementation<br>• Strategy monitoring and Evaluation | Likert scale | Interval | Questionnaire<br>Section B | Descriptive statistics |
| Technological Innovations | • Online consultations<br>• Telemedicine<br>• Surgical equipment | Likert scale | Interval | Questionnaire<br>Section C | Descriptive statistics |

Source: Researcher (2022)

### 3.6 Data Analysis

Prior to data analysis, the collected data was processed. Quantitative data analysis method was used to analyse the data. Descriptive statistics, which include mean, standard deviation, frequency and percentage, were used to examine quantitative data. The data was further analysed via multiple regression analysis. This would enable the researcher to establish the effect of strategic management practices on technological innovations. The regression model took the form of:

$Y=\beta_0+ \beta X$

Y=Technological innovation

X=Strategic management practices

β=Regression coefficient

# CHAPTER FOUR: DATA ANALYSIS AND RESULTS

## 4.1 Introduction

This chapter presents data analysis as well as the outcomes. Discussions on the findings are also included. The chapter was based on the effects of strategic management practices on technological innovations of Nairobi City County public health facilities. From the 80 managers sampled by the study, a total of 52 filled and returned the questionnaires. This gave a response rate of 65% which is very good based on Mugenda and Mugenda (2003).

Table 4.3: Response Rate

| | Frequency | Percent |
|---|---|---|
| Filled & Returned | 52 | 65.0 |
| Not returned | 28 | 35.0 |
| Administered | 80 | 100.0 |

Source: Researcher (2022)

## 4.2 General Information

The general information is very important in social research. This section analyzes the general information of the participants based on years of experience, location of facility, level/type of facility, management level and education level in Nairobi City County. The outcomes are presented in the subsequent sections.

Table 4.4: Years of Experience

| Years | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Less than 5 | 7 | 13.5 | 13.5 | 13.5 |
| 5-10 | 13 | 25.0 | 25.0 | 38.5 |
| 11-15 | 11 | 21.2 | 21.2 | 59.6 |
| 16-20 | 11 | 21.2 | 21.2 | 80.8 |
| 21 and above | 10 | 19.2 | 19.2 | 100.0 |
| Total | 52 | 100.0 | 100.0 | |

Source: Researcher (2022)

The study wanted to determine the number of years of experience by participants in each facility. Most of the participants as shown by 25.0% indicated that had 5-10 years. In addition, 21.2% indicated 11-15 years, 16-20 years indicated 21.2% while 19.2% indicated 21 and above years. Finally, the participants indicated 13.5% had less than 5 years of experience. This indicates majority of the participants had more than 10 years of experience.

Table 4.5: Location of facility

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Starehe | 7 | 13.5 | 13.5 | 13.5 |
| Embakasi | 9 | 17.3 | 17.3 | 30.8 |
| Westlands | 6 | 11.5 | 11.5 | 42.3 |
| Langata | 6 | 11.5 | 11.5 | 53.8 |
| Kasarani | 3 | 5.8 | 5.8 | 59.6 |
| Mathare | 8 | 15.4 | 15.4 | 75.0 |
| Makadara | 5 | 9.6 | 9.6 | 84.6 |
| Kibra | 5 | 9.6 | 9.6 | 94.2 |
| Dagoreti | 3 | 5.8 | 5.8 | 100.0 |
| Total | 52 | 100.0 | 100.0 | |

Source: Researcher (2022)

The study sought to establish the location of the facility of the respondents. From the finding, the participants as shown by 17.3% indicated that their facilities were in Embakasi. On the other hand, 15.4% indicated they are in Mathare, 13.5% indicated Starehe, 11.5% indicated Westlands and Langata, in each case. However, 9.6% indicated Makadara and Kibra, while 5.8% indicated in Kasarani and Dagoreti. This indicates most public health facilities are located in Embakasi.

Table 4.6: Level/type of facility

| Level | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| One | 16 | 30.8 | 30.8 | 30.8 |
| Two | 13 | 25.0 | 25.0 | 55.8 |
| Three | 7 | 13.5 | 13.5 | 69.2 |
| Four | 9 | 17.3 | 17.3 | 86.5 |
| Five | 5 | 9.6 | 9.6 | 96.2 |
| Six | 2 | 3.8 | 3.8 | 100.0 |
| Total | 52 | 100.0 | 100.0 | |

Source: Researcher (2022)

The researcher sought to establish the level of public health facilities in Nairobi City County. The findings showed that most participants (30.8%) indicated their facilities as level one. On the other hand, 25.0% indicated level two,17.3% indicated level four, 13.5% indicated level three facilities, 9.6% indicated level five facilities while 3.8% indicated that level six facilities. This indicates majority of public health facilities in Nairobi City County are level one.

Table 4.7: Management Level

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Top management | 11 | 21.2 | 21.2 | 21.2 |
| Middle management | 16 | 30.8 | 30.8 | 51.9 |
| Operative management | 25 | 48.1 | 48.1 | 100.0 |
| Total | 52 | 100.0 | 100.0 | |

Source: Researcher (2022)

The researcher sought to establish the level of management of the participants. From the findings, 48.1% specified their management levels as operative. On the other hand, 30.8% indicated middle while 21.2% indicated top management. This indicates that the hospitals have majority of their management in the operative level.

Table 4.8: Education level

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Diploma | 29 | 55.8 | 55.8 | 55.8 |
| Graduate degree | 18 | 34.6 | 34.6 | 90.4 |
| Master’s degree or higher | 5 | 9.6 | 9.6 | 100.0 |
| Total | 52 | 100.0 | 100.0 | |

Source: Researcher (2022)

The purpose of this research was to determine the participants ' education levels. The participants were requested to specify one ‘s highest education levels in attempt to determine the participants ' educational level. According to the results, 55.8% of participants said that they'd completed high school. However, 34.6% indicated they had graduate degree, while 9.6% indicated that they had master’s degree. This indicates that majority of managers in public health facilities in Nairobi city county have diplomas.

### 4.3 Strategic Management Practices

Table 4.9: Statements on Strategic Management Practices

| | N | Mean | Std. Deviation | CV |
|---|---|---|---|---|
| My firm has a technology innovation strategy in place | 52 | 2.0192 | .91802 | 45.4645 |
| The hospital has adequate financial resources to carry out the strategy | 52 | 1.9615 | .83927 | 42.7872 |
| There is adequate knowledge and expertise within the hospital to implement strategy | 52 | 4.2885 | .77552 | 18.0837 |
| Top management of the Institution are doing their utmost to meet strategy milestones | 52 | 1.8654 | .88625 | 47.5099 |
| The facility has a strategic plan in place | 52 | 3.6923 | .98097 | 26.5680 |
| There are adequate controls to monitor and ensure strategy milestones are met | 52 | 1.6923 | .78061 | 46.1272 |
| There is enough measure to manage continuous change in the environment to ensure strategy implementation | 52 | 1.8954 | .97073 | 51.2150 |

Source: Researcher (2022)

From the finding, the participants agreed that there was adequate knowledge and expertise within the hospital to implement strategy by a mean of 4.2885 and a standard deviation of 0.77552. The

participants further agreed as shown by a mean of 3.6923 and a standard deviation of 0.98097 that the facilities had a strategic plan in place. However, the participants disagreed that the firms had a technology innovation strategy in place by a mean of 2.0192 and a standard deviation of 0.91802. They also disagreed that their hospitals had adequate financial resources to carry out the strategy by a mean of 1.9615 and supported by a SD of 0.83927; there were enough measures to manage continuous change in environment to ensure strategy implementation in their facility as shown by mean of 1.8954 and standard deviation of 0.97073top management of the institutions were doing their utmost to meet strategy milestones by a mean of 1.8654 and a standard deviation of 0.88625; there were adequate controls to monitor and ensure strategy milestones are met shown by a mean of 1.6923 and a standard deviation of 0.78061.

### 4.4 Technology Innovation

Table 4.10: Statements on technology innovation

| | N | Mean | Std. Deviation | CV |
|---|---|---|---|---|
| We use the latest technology in delivering health services | 52 | 2.000 | 0.840 | 42.009 |
| The speed of service delivery if fast due to technological innovation | 52 | 1.846 | 0.849 | 45.992 |
| We are able to adopt new processes with the latest technological innovations | 52 | 2.039 | 0.593 | 29.081 |
| Processes and techniques change rapidly in our hospital due to technological innovation | 52 | 1.731 | 0.689 | 39.824 |
| We have been involved in development of new treatment procedures due to technological innovation | 52 | 4.173 | 0.760 | 18.207 |
| The management looks at creating new products or services that create an entirely new process | 52 | 4.000 | 0.840 | 21.004 |
| Management creating new products or services that, for the first time, allow the hospital to enter an established market | 52 | 4.058 | 0.698 | 17.195 |
| We use unique technological approaches and process as compared to other hospitals | 52 | 2.077 | 0.788 | 37.956 |

| | | | | |
|---|---|---|---|---|
| We adopt processes and techniques from other hospitals and change them to fit our technological needs | 52 | 4.077 | 0.904 | 22.177 |
| We have been involved in development and improvement of technological procedure/processes for other hospitals | 52 | 1.846 | 0.894 | 48.429 |
| The hospital management prefers tried and tested machinery and products or services | 52 | 4.231 | 0.807 | 19.079 |
| The management prefers low-risk procedures with normal and certain rates of success | 52 | 4.058 | 0.777 | 19.160 |
| The management promotes cautious positions in order to minimize costly decisions when faced with uncertainty | 52 | 4.135 | 0.715 | 17.288 |
| New processes are rarely developed | 52 | 4.115 | 0.646 | 15.706 |
| Changes in process or product has been on small scale and nature | 52 | 3.962 | 0.907 | 22.887 |

Source: Researcher (2022)

From the finding, the study showed that further they agreed that the hospital management prefers tried and tested machinery and products or services as shown by a mean of 4.2308 and a standard deviation of 0.80721; they had been involved in development of new treatment procedures due to technological innovation by a mean of 4.1731 and a standard deviation of 0.75980; and that managements promoted cautious positions in order to minimize costly decisions when faced with uncertainty shown by a mean of 4.1346 and supported by a standard deviation of 0.71480. They also agreed that new processes were rarely developed in their facilities as shown by a mean of 4.1154 and standard deviation of 0.6437; management preferred low-risk procedures with normal and certain rates of success as shown by a mean of 4.0577 and a standard deviation of 0.77746; and that the management create new products or services that allow the hospitals to enter an established market by a mean of 4.0577 and a standard deviation of 0.69771.

They also agreed that their facilities adopted processes and techniques from other hospitals changing them to fit their technological needs by a mean of 4.0769 and a standard deviation of 0.90415; managements looked at creating new products or services that created entirely new processes as shown by a mean of 4.0000 and supported by a standard deviation 0.84017; and that

changes in processes or products had been on small scale and nature by a mean of 3.9615 and standard deviation of 0.90665

The participants disagreed by a mean of 2.0769 and a standard deviation of 0.78830 that their facilities used unique technological approaches and process as compared to other hospitals. They further disagreed that by a mean of 2.0385 and a standard deviation of 0.59282 that their facilities were able to adopt new processes with the latest technological innovations; their facilities used the latest technology in delivering health services shown by a mean of 2.000 and a standard deviation of 0.84017; and that the speed of service delivery in their facilities fast due to technological innovation by a mean of 1.8462 and a standard deviation of 0.84910. They also disagreed that processes and technique changed rapidly in their hospital due to technological innovation by a mean of 1.7308 and a standard of 0.68928; and that they had been involved in development and improvement of technological procedure/processes for other hospitals by a mean of 1.8462 and a standard deviation of 0.89409.

### 4.5 Correlation Analysis

The study sought to establish the relationship between strategic management practices and technological innovations among public health facilities in Nairobi city county. This was done using Person correlation analysis.

Table 4.11: Correlation Analysis

| | | Strategic management practices | Technological innovations |
|---|---|---|---|
| Strategic management practices | Pearson Correlation | 1 | |
| | Sig. (2-tailed) | | |
| | N | 52 | |
| Technological innovations | Pearson Correlation | .679** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 52 | 52 |

Source: Researcher (2022)

From the correlation analysis, strategic management practices showed a positive and significant effect on the technological innovations among the facilities. This was represented by a correlation

coefficient of 0.679 and a pvalue of 0.000. The significant value was below 0.05 showing that the correlation coefficient was significant.

### 4.6 Regression Analysis

The researcher adopted regression analysis to establish effect of strategic management practices on technological innovations among public health facilities in Nairobi city county, Kenya. This produced model summary, Anova tables as well as the coefficient table.

Table 4.12: Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .679[a] | .461 | .451 | 2.29911 |

a. Predictors: (Constant), Strategic management practices

Source: Researcher (2022)

The modelling summary shows that the correlation (R) was 0.679. This shows that strategic management practices have a strong relationship with technological innovations. The model showed an R square value of 0.461 showing that strategic management practices contribute 46.1% to the changes in technological innovations among public health facilities in Nairobi city county. This means that other factors exist which contribute the 53.9% to the changes in the technological innovations among public health facilities in Nairobi city county.

Table 4.13: Analysis of Variance

| ANOVA[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 121.933 | 1 | 121.933 | 23.068 | .000[b] |
| | Residual | 264.295 | 50 | 5.286 | | |
| | Total | 386.228 | 51 | | | |

a. Dependent Variable: Technological innovations

b. Predictors: (Constant), Strategic management practices

Source: Researcher (2022)

From the Anova table, the model showed F statistics (23.068) with a pvalue of 0.000. This shows that regression model is significant. Hence, strategic management practices have a significant impact on technological innovations among public health facilities in Nairobi city county.

Table 4.14: Regression Coefficients

| Coefficients[a] | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -17.101 | 5.918 | | -2.890 | .006 |
| | Strategic management practices | .686 | .122 | .679 | 5.621 | .000 |

a. Dependent Variable: Technological innovations

Source: Researcher (2022)

$Y=\beta 0+ \beta X$

Y=technological

X=strategic

β=regression coefficient

The regression coefficient table shows a constant term of -17.101. This shows that where the strategic management practices are constant the technological innovations among public health facilities in Nairobi city county would stand at -17.101 (p=0.006). Further, the strategic management practices show a regression coefficient of 0.686. This shows that increased strategic management practices by a percentage would cause a 68.6% change in technological innovations.

## 4.6 Discussion of Results

### 4.7.1 Linkage to Theory

The study established that there was adequate knowledge and expertise within the hospitals to implement strategy. However, they lacked adequate financial resources which hindered technological innovations. The findings support the RBT theory which holds that resources are clear and unambiguous and contain various technological innovations for successful strategic management. Barney (1991), states that resources, including capital, finance, abilities of distinct employees and brilliant managers make the inputs necessary for successful innovation strategy. The study also found that the facilities lacked adequate controls to monitor to ensure strategy milestones were met within the facilities. This is in support to the assertion of the RBT which

supports controls where the management executives can govern resources for successful innovations.

The study found that top management were not doing their best to meet the strategic milestones and ought to have supported the strategic management practices that would enhance technological innovations within their facilities. This supports the dynamic capabilities theory study done by Gathungu and Mwangi (2012) where they state that dynamic capabilities propel sustainable high performance in rapidly changing environment while enhancing innovations. The study also found that there were no enough measures to manage continuous change in environment in their facilities. The dynamic competence approach inspects how companies can consolidate, shape, and rebuild their precise capabilities (interior or exterior) in new capabilities that adapt to variations in the unsettled environment.

The study found that strategic management practices had positive relationship with technological innovations. The facilities were indicated to have been involved in development of new treatment procedures as a result of the technological innovations adopted by the facilities. This is in line with competence theory which asserts that every entity should explore its internal competences and include them in its strategic management.

### 4.7.2 Linkage to Empirical Studies

The study found that strategic management practices had positive relationship with technological innovations among health facilities. This means that strategic management practices and technological innovations among the facilities relate positively. They similar to Elmakkawy and Abdien (2021) who established that strategic management practices possessed a positive relationship with technological innovations.

The study found that strategic management practices had a significant effect on technological innovations among health facilities. This shows that improving the strategic management practices would enhance the technological innovations among the facilities. The findings are similar to Cavallo et al (2014) who found that strategic management influenced the adoption of technological innovations. However, the findings were different from those of Ogembo-Kachieng'a and Ogara (2017) who found that technology innovations were not much impacted by strategic management.

# CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents summary of findings. The chapter also makes conclusions grounded on findings while making recommendations to guide policy and practice. Areas for further research are also indicated in this chapter.

## 5.2 Summary of the Study

On strategic management practices, study found that there was adequate knowledge and expertise within the hospitals to implement strategy with a strategic plan in place. However, the participants indicated that their facilities had neither technology innovation strategy incorporated nor adequate financial resources to implement the strategic plan. The participants said that there were no enough measures to manage continuous change in environment in their facilities. The findings postulated that, according to the respondents, the top management were not doing their best to meet the strategic milestones. The facilities were indicated to lack adequate controls to monitor and ensure strategy milestones were met within the facilities.

On technological innovation, the respondents agreed that the hospital managements preferred tried and tested machinery and products or services. The facilities were indicated to have been involved in development of new treatment procedures as a result of the technological innovations adopted by the facilities. The managements were also indicated to have promoted cautious positions in order to minimize costly decisions when faced with uncertainties. However, the participants indicated that new processes were rarely developed in their facilities with the management preferring low-risk procedures with normal and certain rates of success. Despite this, they noted that the management created new products or services that allowed the hospitals to enter established markets.

They further agreed that their facilities adopt processes and techniques from other hospitals and change them to fit their technological needs despite the managements expecting to create new products or services for entirely new processes. The participants indicated that the changes in processes or products were on small scale among their facilities.

The participants disagreed that their facilities used unique technological approaches and process as compared to other hospitals and able to adopt new processes with the latest technological

innovations; their facilities used the latest technology in delivering health services; and that the speed of service delivery in their facilities was fast due to technological innovations. They also disagreed that processes and technique changed rapidly in their hospital due to technological innovation; and that they had been involved in development and improvement of technological procedure/processes for other hospitals.

Correlation analysis showed a correlation coefficient that was strong and significantly positive. This indicates that strategic management practices had a positive relationship with technological innovations. The regression analysis shows that strategic management practices had a positive and significant regression coefficient. This shows that strategic management practices had a positive effect on technological innovations. This indicates that improved strategic management practices enhanced technological innovations among the public health facilities in Nairobi city county.

### 5.3 Conclusions of the Study

From the findings, researcher concludes that strategic management practices affects the technological innovations among public health facilities in Nairobi County. Despite the public health facilities in Nairobi City County having a strategic plan, they lack a technological innovation strategy. The study also concludes that the public health facilities lack adequate funds and other financial resources to implement the strategy. The facilities have also failed on the measures for change management with inadequate top management support for technological innovation. The study also concludes that the public health facilities in Nairobi City County have poor monitoring and evaluation on the strategy implementation among the facilities. From the inferential statistics, strategic management practices possess a positive relationship with technological innovations among public health facilities in Nairobi County.

On technological innovation, the study found that the hospital managements preferred tried and tested machinery and products or services. This leads to the conclusion that there are low technological innovations within the public health facilities in Nairobi City County. Despite the public health facilities in Nairobi City County being involved in development of new treatment procedures, the managements are cautious positions of technological innovations to avoid costly decisions. Researcher further concludes that public health facilities in Nairobi City County rarely develop new processes they adopt and customize processes and techniques from other hospitals to

fit their technological needs. Further, the management of public health facilities in Nairobi City County have created new products or services with the changes in being on small scale.

The study further concludes that public health facilities in Nairobi City County lack unique technological approaches and process. The facilities adopt obsolete technologies in service delivery. This has made the facilities to experience low speed of service delivery. The study also concludes that the processes and technique within public health facilities in Nairobi City County change slowly due to lack of technological innovations. Public health facilities in Nairobi City County have not been involved with other hospitals to develop and improve technological procedure/processes. From the regression analysis, strategic management practices have a positive effect on technological innovations among public health facilities in Nairobi County.

## 5.4 Implications of the Study

### 5.4.1 Implication to Theory

The theoretical underpinnings of examination of strategic management will be affected by this investigation. The ideas of strategic change management and innovation would benefit from this investigation. The findings of this investigation could enhance and broaden the application of underlying premises underlying current strategic management theories. This research may also produce outcome that rejects the assumptions of the theories creating a criticism to the theories. This research will also add to literature on strategic management and technological innovations. The literature would support the scholars in their assignments and enable other researchers to exploit the gaps in the literature in future studies.

### 5.4.2 Implication to Practice and Industry

This research will have practical as well as industrial implications. This study will enable the management of public health facilities understand how strategic management practices relate to the technological innovations within their facilities. This would enable them to work towards improved technological innovations through effective strategic management practices. The public health sector may also experience improved technological innovations through effective strategic management practices.

### 5.4.3 Implication to Policy Development

This project will have policy implications as policy makers understand how technological innovations is influenced by strategic management practices. The findings would guide the policies directed towards increased technological innovations among the health facilities in Kenya. This displays that research will have implications on policies developed by public health facilities within Nairobi City county as well as other policy makers like the Ministry of Health.

### 5.5 Recommendations of the Study

From the findings, the researcher recommends that public health facilities in Nairobi City County formulate a technology innovation strategy that will guide innovations within the facilities. They also need to create long term relationships with other stakeholders. This will enable the facilities to acquire adequate financial resources to implement the strategic plans. The study also recommends that public health facilities in Nairobi City County establish change management policies that would enable them to deal swiftly and ensure technological innovations within the facilities.

The management of the public health facilities in Nairobi City County should give full support to the technology innovation strategy. They should also install adequate controls to monitor and ensure strategy milestones are met within the facilities. The managements should also be risk takers in order to support technological innovations to within the public health facilities in Nairobi City County. It further recommends that public health facilities in Nairobi City County should develop new processes through adoption of modern technologies that are unique. This would lead to increased speed of service delivery. The public health facilities in Nairobi City County

### 5.6 Limitations of the Study

The study was faced by a number of limitations. The first related to the unwillingness of the participants to provide information for the study. This was overcome by having an introductory letter from the university with an assurance that the data was for academic purpose only. The study also faced the limitation related to the credibility of the data provided by the respondents. This was overcome by comparing the responses and cleaning the data where the respondent seems out of place. The study also faced the challenge of limited time available for the data collection. This was overcome by having research assistants to assist with collecting data. This enabled researcher to conclude the data collection on time.

## 5.7 Areas Suggested for Future Research

This study makes a recommendation that other researchers undertake studies based on other factors influencing technological innovation among public health facilities. Further research ought to be done on private health facilities within Nairobi County. Other researchers can undertake a similar study based on other counties other than the city county of Nairobi.

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## APPENDICES

### Appendix I: Introduction Letter

Lena Kanyi Njuguna

P.O Box 448

Kiambu

TO WHOM IT MAY CONCERN

Dear Sir/ Madam

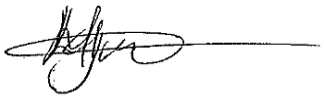
RE: PERMISSION TO COLLECT DATA

I am a post graduate student at University of Nairobi, specializing in Strategic Management. I am undertaking a research of influence of technological innovations on strategic management practices in the healthcare sector in Kenya. I intend to collect the data/information from healthcare facilities in Kenya.

To fulfil requirements of this course, I am appealing to your institution to allow me to collect data through questionnaire from the management or equivalent. The information will be treated with strict confidence and be used for academic purposes only.

Thank you in advance for your consideration

Yours Faithfully



Lena Kanyi Njuguna

D61/12181/2018

**Appendix II: Data Collection Authorization Letter**

# UNIVERSITY OF NAIROBI

## FACULTY OF BUSINESS AND MANAGEMENT SCIENCES

***OFFICE OF THE DEAN***


Telegrams: "Varsity",
Telephone: 020 491 0000
VOIP: 9007/9008
Mobile: 254-724-200311

P.O. Box 30197-00100, G.P.O.
Nairobi, Kenya
Email: *fob-graduatestudents@uonbi.ac.ke*
Website: *business.uonbi.ac.ke*


Our Ref: **D61/12181/2018**

November 15, 2022

**TO WHOM IT MAY CONCERN**

**RE: INTRODUCTION LETTER: LENA KANYI NJUGUNA**

The above named is a registered Master of Business Administration Student at the Faculty of Business and Management Sciences, University of Nairobi. She is conducting research on: **"Strategic Management Practices and Technological innovation in Nairobi City County Public Health Facilities."**

The purpose of this letter is to kindly request you to assist and facilitate the student with necessary data which forms an integral part of the Project.

The information and data required is needed for academic purposes only and will be treated in **Strict-Confidence**.

Your co-operation will be highly appreciated.

**PHILIP MUKOLA (MR.)**
**FOR: ASSOCIATE DEAN, GBS & R**
**FACULTY OF BUSINESS AND MANAGEMENT SCIENCES**

*PM/fmi*

**Appendix III: Questionnaire**

I am currently studying a Master of Business Administration in Strategic Management at University of Nairobi. I must conduct research on the Strategic Management Practices and Technological Innovations in Nairobi County as part of the requirement for the degree granting. Please answer all questions on the following questionnaire honestly. The information submitted is confidential, will be handled as such and will only be used for this research.

Section 1: Demographics

1. Years of experience [_____]
2. Location of facility [_____]
3. Level/type of facility

Level [1] [2] [3] [4] [5] [6]

4. Management level 1. Top management [ ] Middle management [ ] Operative management [ ]
5. Education level
   Diploma [ ] Graduate degree [ ] Master's degree or higher [ ]

   Please read below statement carefully and tick where appropriate where 4 is strongly agree and 1 is Strongly disagree.

SECTION II: STRATEGIC MANAGEMENT PRACTICES

6. The following are statements on strategic management practices. Please read each statement carefully and tick "Where: 4 = Strongly agree, 3 = agree, 2 = Disagree, 1 = Strongly disagree".

| | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| My firm has a technology innovation strategy in place | | | | |
| The hospital has adequate financial resources to carry out the strategy | | | | |
| There is adequate knowledge and expertise within the hospital to implement strategy | | | | |
| Top management of the Institution are doing their utmost to meet strategy milestones | | | | |
| The facility has a strategic plan in place | | | | |

| | | | | |
|---|---|---|---|---|
| There are adequate controls to monitor and ensure strategy milestones are met | | | | |
| There are enough measure to manage continuous change in the environment to ensure strategy implementation | | | | |

SECTION 3: TECHNOLOGICAL INNOVATION

| | 4 | 3 | 2 | 1 |
|---|---|---|---|---|
| We use the latest technology in delivering health services | | | | |
| The speed of service delivery if fast due to technological innovation | | | | |
| We are able to adopt new processes with the latest technological innovations | | | | |
| Processes and techniques change rapidly in our hospital due to technological innovation | | | | |
| We have been involved in development of new treatment procedures due to technological innovation | | | | |
| The management looks at creating new products or services that create an entirely new process | | | | |
| Management creating new products or services that, for the first time, allow the hospital to enter an established market | | | | |
| We use unique technological approaches and process as compared to other hospitals | | | | |
| We adopt processes and techniques from other hospitals and change them to fit our technological needs | | | | |
| We have been involved in development and improvement of technological procedure/processes for other hospitals | | | | |

| | | | | |
|---|---|---|---|---|
| The hospital management prefers tried and tested machinery and products or services | | | | |
| The management prefers low-risk procedures with normal and certain rates of success | | | | |
| The management promotes cautious positions in order to minimize costly decisions when faced with uncertainty | | | | |
| New processes are rarely developed | | | | |
| Changes in process or product has been on small scale and nature | | | | |

Thank You

**Appendix IV: Public Health Facilities In Nairobi City County**

1. Kenyatta National Hospital
2. Mbagathi Hospital
3. Pumwani Maternity Hospital
4. Mama Lucy Kibaki Hospital
5. Mathari National & Teaching Hospital
6. Kenya Defense Forces Memorial Hospital
7. National Spinal Injury Referral Hospital
8. Eastleigh Health Centre
9. Biafra Clinic
10. Pumwani Majengo Health Centre
11. Shauri Moyo Health Centre
12. Muthurwa Clinic
13. Bahati Health Centre
14. Jerusalem Clinic
15. Ngara Health Centre
16. Rhodes Chest Clinic
17. Kariokor Clinic
18. Pangani Clinic
19. STC Casino Health Centre
20. Huruma Lions Health Centre
21. Lagos Road Dispensary
22. Mathare Police Depot Health Centre
23. Mathare North Health Centre

24. Kariobangi North Health Centre
25. Kasarani Clinic
26. Kahawa West Health Centre
27. Babadogo Clinic
28. NYS Health Centre
29. GSU HQ Health Centre
30. Kamiti Prison Health Centre
31. Ruiru PSTC
32. GSU Ruiru Dispensary
33. Westlands Clinic
34. Kangemi Clinic
35. Karura Clinic
36. Lady Northey Health Centre
37. Kabete Approved School Health Centre
38. State House Dispensary
39. Mjiwa Huruma Dispensary
40. Muguga Clinic
41. Waithaka Clinic
42. Riruta Clinic
43. Ngong Road Clinic
44. Woodley Clinic
45. Dagoretti Approved School Health Centre
46. Langata Health Centre
47. Jinnah Clinic

48. Karen Health Centre
49. Langata Women Prison Health Centre
50. Nairobi West Prison Health Centre
51. Uhuru Camp Health Centre
52. Kibera DO Health Centre
53. Kibea Amref Health Centre
54. GSU Kibera Health Centre
55. Kayole 1 Estate Health Centre
56. Kayole 2 Health Centre
57. Umoja Health Centre
58. Embakasi Health Centre
59. GSU Embakasi Health Centre
60. APTC Embakasi Health Centre
61. Dandora 1 Health Centre
62. Dandora 2 Health Centre
63. Njiru Health Centre
64. Kariobangi South Dispensary
65. Makadara Health Centre
66. Mbotela Health Centre
67. Jericho Health Centre
68. Hono Clinic
69. Ofafa Clinic
70. Maringo Clinic
71. Loco Health Centre

72. MOW Dispensary

73. Kaloleni Dispensary

74. Railway Training Institute Dispensary

75. South B Clinic

76. Police Band Dispensary

77. Dandora 2 Health Centre

78. Mbotela Health Centre

79. Nairobi Remand Home Health Centre

80. Lunga Lunga Health Centre

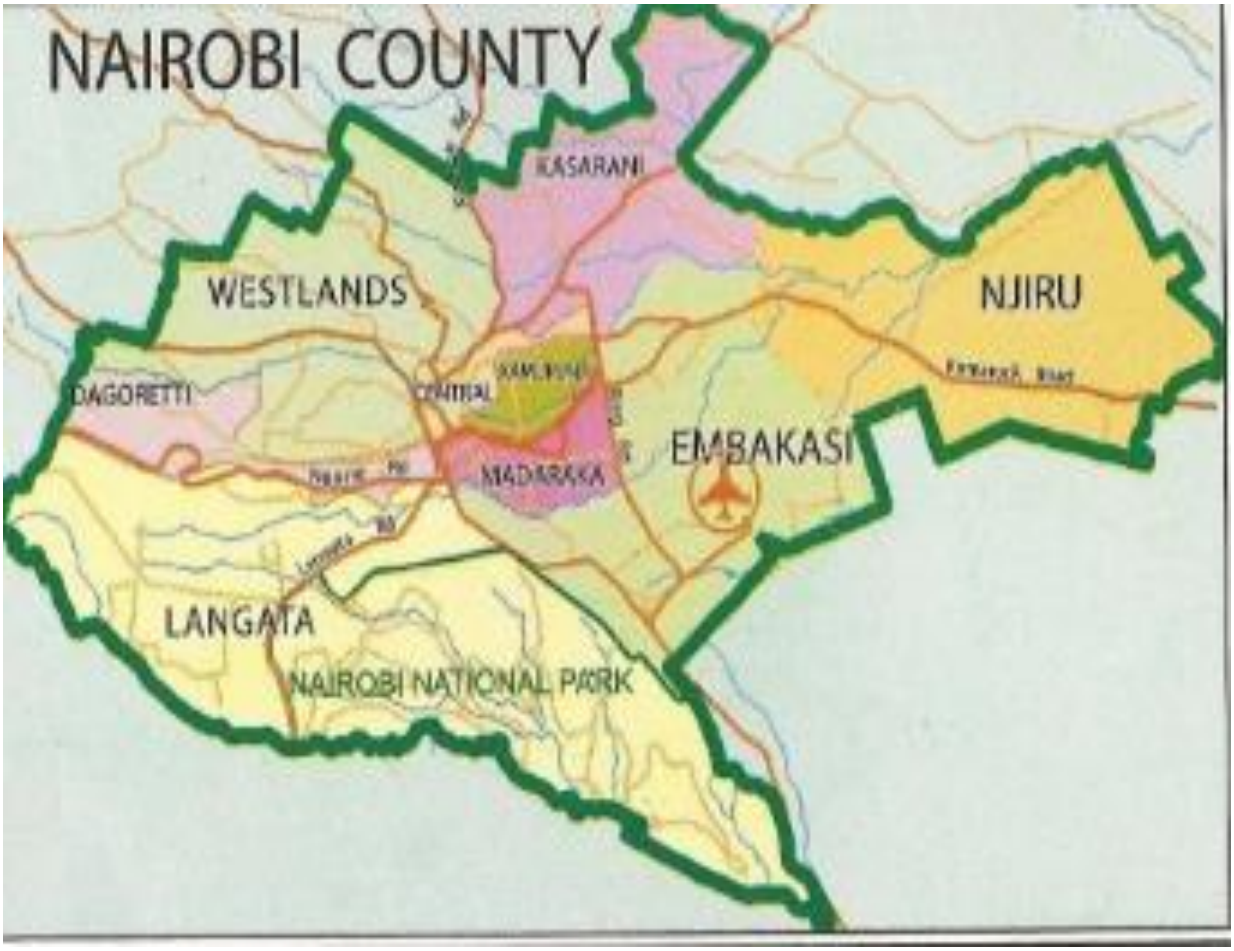
**Appendix V: WorkPlan**

| Activity/Month | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Supervisor Allocation | | | | | | |
| Proposal Generation | | | | | | |
| Proposal presentation & Corrections | | | | | | |
| Data Collection | | | | | | |
| Data Analysis | | | | | | |
| Project Writing and Presentation | | | | | | |

**Appendix VI: Budget**

| Activity | Amount |
|---|---|
| Stationary and related items | 5,000 |
| Internet services | 13,000 |
| Transport and logistics | 10,000 |
| Data entry assistants | 18,000 |
| Field supervisor | 16,000 |
| Research assistants | 20,000 |
| Project photocopy | 10,000 |
| Project binding | 4,800 |
| Miscellaneous | 9,680 |
| **Total** | **106,480** |

**Appendix VII: Map of Research Area**



**Appendix VIII: Turnitin Report**

**29TH NOVEMBER 2022.**

STRATEGIC MANAGEMENT PRACTICES AND TECHNOLOGICAL INNOVATIONS IN NAIROBI CITY COUNTY PUBLIC HEALTH FACILITIES by LENA KANYI NJUGUNA D61/12181/2018

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**Appendix X: Proposal Correction Form**

UNIVERSITY OF NAOROBI
SCHOOL OF BUSINESS

PROPOSAL CORRECTION FORM

Student Name LEHA WANYI NJUGUNA

Registration Number D61/12181/2016

Department SCHOOL OF BUSINESS

Specialization STRATEGIC MANAGEMENT

Title of Project Proposal STRATEGIC MANAGEMENT PRACTICES AND TECHNOLOGICAL INNOVATIONS IN NAIROBI CITY COUNTY PUBLIC HEALTH FACILITIES

The student has done all the corrections as suggested during the Proposal Presentation and can now proceed to collect data.

Name of Supervisor PROF JAMES GATHUNGU Signature _____ Date 27/9/22.