FACTORSINFLUENCING GROWTH OF HEALTHCARE INFRASTRUCTURES IN NAKURU COUNTY, KENYA

Peter Munge Joseph

This Dissertation is Submitted in Partial Fulfillment of the Requirements for the Award of a Master of Business Administration (MBA) of St. Paul's University

2016

FACTORS INFLUENCING GROWTH OF HEALTHCAREINFRASTRUCTURE IN NAKURU COUNTY, KENYA

Peter Munge Joseph

This Dissertation is Submitted in Partial Fulfillment of the Requirements for the Award of a Master of Business Administration (MBA) of St. Paul's University

2016

DECLARATION

This dissertation is a product of my own work and is not the result of anything done in collaboration. It has not been previously presented to any other institution. I agree that this dissertation may be available for reference and photocopying, at the discretion of the University.

SIGNATURE OF STUDENT _____ DATE: _____

MBA/NKR/2175/15

Word Count: _____

We confirm that the work reported in this dissertation has been done by the student under our supervision.

Signature of lead Supervisor _____ Name Prof. Lily Njanja Date _____

Signature of Co-Supervisor _____ Name Dr. Paul O Gesimba Date _____

DEDICATION

This research is dedicated to my dear wife Ann Munge and my children Faith, Kevin, Samuel and Shalom for their moral support they have given me during the course of my studies.

ACKNOWLEDGMENT

First and foremost I am grateful to the Almighty God for giving me the strength, good health and sound mind to pursue my education. I would like to express my sincere gratitude to my research supervisors; Prof. Lily Njanja and Dr Paul O. Gesimba for their professional guidance and encouragement that has led me to the successful completion and compilation of the research project. Special thanks to the Chief Health Officer Nakuru County for authority to undertake study in the county, the officers in charge of various hospitals and health centers under study for their support, the employees interviewed who in their busy schedules responded to the questionnaires, to my family for moral support and sacrifices they have made throughout my time of study, sister Susan who made me go back to class, my colleagues at work, friends and anyone who have contributed in one way or another towards the successful completion of this work. May the Almighty God bless you.

ABSTRACT

Healthcare in Kenya is facing many problems such as too much waiting time in queues by patients due to shortage of healthcare providers, few healthcare facilities, distances from the available healthcare facilities, and cost of service delivery which most common Kenyans are unable to afford due to their levels of income which are too low. The challenge of growth in healthcare infrastructure remains the big question in both the minds of policy makers and Kenyans; in that the commitment by the central government for universal healthcare for all Kenyans to have accessible and affordable healthcare is not felt down in the county of Nakuru hence her residence are experiencing the problem of healthcare infrastructure. This is supported by the distance the residence of Nakuru county walk to get health services with an average distance to the nearest health facility being 8 kilometers, the doctor to patient ratio of 1:31251which is far less than the World Health Organization (WHO) prescribed limit of 1:1000 and also the mushrooming of private clinics in the county. These challenges prompt the study on the factors influencing growth of healthcare infrastructures in Nakuru County. New growth theory which holds knowledge and technology as drivers of growth, diffusion of innovation theory where new ideas are adapted which brings change to growth, needs theory by Abraham Maslow and leadership traits theory formed the foundation of the study. The study was to determine the factors influencing growth of healthcare infrastructures in Nakuru County by examining the relationship therein between innovation, technology, the leadership and employee's motivation with this growth. Descriptive research design was used by the study. This allowed the researcher to gather information in a manner that reduced cost of data collection also the design gave narration of facts and characteristics concerning individuals, groups and situations which were helpful in the research. Target population of the study was all 795 employees from the 15 hospitals below level five and 23 health centers distributed in the Nakuru County according to data from the county health department which comprised of 111 doctors, 142 clinical officers and542 nurses where stratified random sampling was used to get the research sample. The sample design was stratified as the population was not homogeneous. A questionnaire was used as an instrument to collect the primary data where closed ended questions were administered to the sample of 237 respondents under study. Data collected was analyzed with the use of multiple linear regression and descriptive analysis which was conducted to test the relationship of the independent variables with growth. Findings of the study revealed that innovation, technology, leadership, employees' motivation and quality management did not significantly contribute to the growth of healthcare infrastructure in Nakuru County. The study recommended that there is need to adapt innovation and embrace technology in the health sector, to have a strategic leadership which offers a competitive edge to health facilities and motivate employees through recognition and awards. Further research on the study should be conducted to find out the extent of level of innovation and technology and the effect of the aging manpower in the health sector which the study did not carry.

TABLE OF CONTENT

DECLARATION ii

DEDICATION iii

ACKNOWLEDGMENT iv

ABSTRACT v

TABLE OF CONTENT vi

LIST OF TABLES ix

LIST OF FIGURES x

ABBREVIATION OF ACRONYM xi

DEFINITION OF KEY OPERATIONAL TERMS xii

INTRODUCTION 1

CHAPTER ONE 1

1.1 Background of the Study 1

1.2 Statement of the Problem 2

1.3 General Objective 3

1.4Specific Objectives 4

1.5Hypotheses of the Study 4

1.6 Justification of the Study 5

1.7 Scope of the Study 5

1.8 Assumptions of the Study 5

1.9 Limitation of the Study 6

CHAPTER TWO 7

LITERATURE REVIEW 7

2.1 Introduction 7

2.2Theoretical Review: 7
2.3Empirical Review 12
2.4Conceptual Framework 29
2.4. Operationalization of the variables 30
2.5 Research Gap 31
CHAPTERTHREE 32
RESEARCHMETHODOLOGY 32
3.1 Introduction 32
3.2 Research Design 32
3.3 Target Population 32
3.4 Sample Size and Sampling Technique 33
3.5 Data Collection Instrument and Procedures 34
3.6 Pilot Study 34
3.7 Data Analysis 35
3.8 Research Ethics 37
CHAPTERFOUR 38
DATA ANALYSIS, INTERPRETATION AND DISCUSSION 38
4.1 Introduction 38
4.1 Demographic Analysis of the Population 38
4.3 Influence of Innovation on the Growth of Healthcare Infrastructures 40
4.4 Influence of Technology on the Growth of Infrastructures 42
4.5 Influence of Leadership in the Growth of Healthcare Infrastructures 43
4.6 Influence of Employees' Motivation on the Growth of healthcare infrastructures. 46
4.7 Descriptive Statistics on Influence of Quality Management Systems on healthcare infrastructures. 50

4.8 Growth of Healthcare infrastructures in Nakuru County 51

4.9 Influence of Innovation, Technology, Leadership, Staff Motivation and Quality Management on Healthcare Infrastructure Growth..... 54

CHAPTERFIVE 59

SUMMARY, CONCLUSION AND RECOMMENDATIONS 59

5.1 Introduction 59

5.2 Conclusion..... 60

5.3 Recommendations 61

REFERENCES..... 74

APPENDICES 79

Appendix 1: Questionnaire..... 79

Appendix 2: Letter of Authority from Department of Health Nakuru County 83

Appendix 3: Authorization from National Commission for Science, Technology and Innovation (NACOSTI)..... 84

Appendix 4: Authority from County Commissioner..... 85

Appendix 5: Letter of Authority from the Ministry of Education, Science and Technology 86

LIST OF TABLES

Table 1:Operationalization of the variables 30
Table2: Sample Size 33
Table 3: Position of Respondent 38
Table 4: Number of Years in Service 39
Table 5: Analysis of Aspects of Innovation in Health Care 41
Table 6: Innovation brought growth in the Health sector 42
Table 7: Influence of Technology on Health Care Facilities' Growth 42
Table 8: Structure of Leadership in the Facilities Supporting Growth of the Healthcare Sector……44
Table 9: Employees Motivation in the Facility 47
Table 10: Reasons for De-motivation of employees in the Healthcare sector 48
Table 11: Long Service Awards negatively affecting the Growth of Healthcare Infrastructures……50
Table 12: Influence of Quality Management Systems 51
Table 13: Riders to Health Care Infrastructure in Nakuru County in Percentage 52
Table 14: Indicators of Growth of Healthcare infrastructures 53
Table 15: Correlation between Innovation, Technology, Leadership, employee motivation and Quality Management on Healthcare Infrastructure Growth …… 55
Table 17: ANOVA of the Predictors and the Dependent variable 56
Table 18: Full Regression Model 57

LIST OF FIGURES

Figure 1: Maslow's Hierarchy of Needs.Source: (Sababu, 2010) 8
Figure 2: Socio-technical view of organizations Source:Lucey, pg.52 11
Figure 3: Four leadership strategies that enable positive deviance..... 19
Figure 4: Factors influencing growth of health care infrastructure in Nakuru County 30
Figure 5: Residents of Nakuru County Seeking Medical Services from Public Hospitals40
Figure 6: Rating the Leadership of the Facility 44
Figure 7: Leadership Influencing Growth of the Healthcare Sector..... 45
Figure 8: Leadership of the Health Sector Influence Service Delivery 46
Figure 9: Management Recognition for Employees who excel..... 48
Figure 10: Availability of Long Service Awards..... 49

ABBREVIATION OF ACRONYM

BEM	Business Excellence Models
COK	Constitution of Kenya
OECD	Organization for Economic Co-operation and Development
OTs	Operating Theatres
N.H.I.F	National Hospital Insurance Fund
TQM	Total Quality Management

DEFINITION OF KEY OPERATIONAL TERMS

Healthcare infrastructure : These are physical and organizational structures and facilities in the healthcare sector.

Growth: Expansion in terms of increased facilities, employee retention, modern facilities, increased bed capacity, referrals, skilled manpower, availability of drugs.

Leadership : How running of the healthcare facilities affects their growth

Innovation: How modern is the facilities, improvement in invention and research and development

Technology: How the healthcare is knowledgeable and ready to embrace new modern machines in execution of services

Employee motivation: What incentives and stimulus are in place to motivate the healthcare employees both internal and external motivators

Quality management systems: The international standards specifying requirements for quality in management (ISO, 2015).

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Taking care of sick people has been part of human nature since time in memorial. Gradually, some of those people providing care became more skilled and were sought out by others. From these humble beginnings, the traditional healers, herbalist, bonesetter and more recently, doctors, nurses and other paramedical health workers of today have evolved. With growth in knowledge in medical science, the services offered by these practitioners have become more complicated, more specialized and more expensive. Special facilities, such as buildings (dispensaries, health centers' and hospitals) and various types of equipment's (x-rays, electro cardiograms) have been developed to cater for those more specialized functions (Wood, 2011). Healthcare is a global issue and governments are investing in healthcare infrastructure so that their citizens can get good health care. Systems across the globe have and are experimenting with old as well as new approaches to "fix" their health systems. In efforts to improve access, improve service delivery, bend the cost curve, increase accountability, and improve responsiveness.

Bhandari & Dutta (2007) points out the growth of healthcare in Kerala a district in India where key factors such as qualified competent employees, increasing disease burden, excellence accreditations, increasing acceptance of insurance policies in healthcare and the growing spotlight both in the government and the private sector into tier II and III cities is leading to growth.

A healthy individual leads to a healthy nation and for any growth to be witnessed in a country, its citizen's need to be healthy for them to be productive. Time and resources are being spent in search of good healthcare; researchers are going out in search for solutions so that man can be free from diseases and live a better life. The Obama healthcare signed into law in 2010 in the US is one example that the American government is initiating so that all Americans can be able to have healthcare at affordable means.

HealthCare in Kenya is facing many problems. The most publicized symptoms are excessive waiting times for patients due to scarcity of healthcare givers, few health facilities, lack of access of healthcare facilities due to distance, high cost of delivery of services that most common Kenyans are unable to afford due to widespread poverty and income inequalities. Growth of healthcare infrastructures is not witnessed in the devolved units of the government hence the need for the study to establish among many factors that can influence growth of healthcare infrastructures; innovation, technology, leadership, employees' motivation and quality management have influenced growth in Nakuru county.

The challenge of growth in healthcare infrastructure remains the big question in both the minds of policy makers and Kenyans; in that such commitment is not felt down in the counties such as Nakuru County hence her residents are experiencing the problem of healthcare infrastructure. The study was carried to find out how innovation, technology, leadership, employees' motivation and quality management systems among other factors do influence growth of healthcare infrastructures in Nakuru county. This challenge in healthcare growth is supported by the distance the residence of Nakuru county walk to get health services with an average distance to the nearest health facility being 8 kilometers, the doctor to patient ratio of 1: 31,251 and also the mushrooming of private clinics in the county. (Source: Ministry of Health Nakuru County). The big question is what affects the growth of healthcare infrastructure in the county after having such good healthcare strategies for the country?

1.2 Statement of the Problem

The vision for a healthy nation in Kenya was contained in the 1965 landmark Sessional PaperNo.10 a blue print on social-economic development on African Socialism and its application that emphasized on the elimination of disease, poverty and illiteracy in Kenya. The universal 'free health for all' policy in Kenya saw a rapid expansion of the healthcare infrastructures, particularly in the 1970s and 1980s, and advances in health and social indicators (Wamai, 2009). Though the vision spelt out in the Sessional paper, 50 years down the lane, the goodies that goes with good healthcare infrastructures are yet to

be realized in Nakuru County. In 1994 the government published the Kenya Health Policy Framework Paper, which envisions providing "quality health care that is acceptable, affordable, and accessible to all in Kenya by 2010. One of the principles of the Constitution of Kenya, 2010 (G.O.K., 2010), is the right to healthcare for every individual. The Kenya Health Policy, 2012 – 2030 gives directions to ensure significant improvement in the overall health status in Kenya in line with the country's long-term development agenda, Vision 2030, the Constitution of Kenya 2010 and global commitments. This demonstrates the health sector's commitment, under the National government's stewardship of ensuring that the country attains the highest possible standards of health, in a manner responsive to the needs of the population (Apostolou, 2000).

There is need to fast track strategies and evidence-based interventions for improving health outcomes, complemented with improvements in infrastructures such as skilled and motivated employees, good leadership, innovation and embracing of the state of the art technology. To this end, the government is working towards achieving universal health coverage (UHC) for its citizens. But the challenge of growth in healthcare infrastructure remains the big question in both the minds of policy makers and the residence of Nakuru county in that such commitment is not felt in the devolved unit of the county as the doctor to patient ratio is too high at 1 doctor for 31,251 patients and the average walking distance to the nearest health facility of 8 kilometers (Source: Ministry of Health Nakuru County). The big question was what influences growth of healthcare infrastructures in the county as this was not felt even after having such good healthcare strategies for the country? The documentation on how innovation, technology, leadership, employees' motivation and quality management influence healthcare growth is not clear and therefore necessitating this study. The research intention was to determine the influence of innovation, technology, leadership and employees' motivation on growth of healthcare infrastructures in Nakuru County.

1.3 General Objective

The general objective of the study was to find out factors influencing growth of healthcare infrastructures in Nakuru County.

1.4 Specific Objectives

i. To determine the influence of innovation on the growth of healthcare infrastructures in Nakuru County.

ii. To find out the influence of technology on the growth of healthcare infrastructures in Nakuru County.

iii. To evaluate the influence of leadership in the growth of healthcare infrastructures in Nakuru County.

iv. To determine the influence of employees' motivation on the growth of healthcare infrastructures in Nakuru County.

v. To evaluate the influence of quality management systems on the growth of healthcare infrastructures in Nakuru County.

1.5 Hypotheses of the Study

i. **Null hypothesis1 Ho**: Innovation does not influence the growth of healthcare infrastructure in Nakuru County.

The alternative Hypothesis 1

H_1: Innovation influences growth of healthcare infrastructure in Nakuru County

ii. **Null hypothesis 2 Ho:** Technology does not influence the growth of health care infrastructure in Nakuru County.

The alternative Hypothesis 2

H_1: Technology influence growth of healthcare infrastructure in Nakuru County

iii. **Null hypothesis 3 Ho:** Leadership does not influence the growth of healthcare infrastructure in Nakuru County.

The alternative Hypothesis 3

H_1: Leadership influences growth of healthcare infrastructure in Nakuru County

iv. **Null hypothesis 4 Ho:** Employee's motivation does not influence the growth of healthcare infrastructure in Nakuru County.

The alternative Hypothesis 4

H_1: Employees motivation influences growth of healthcare infrastructure in Nakuru County

1.6 Justification of the Study

Growth is significance in any organization as it's a means of having a competitive advantage over competitors which is the strategic objective of any organization. Continuous improvement of a firm is vital for the firm to offer quality services and as healthcare still remains a critical issue in Kenya where not only are there few hospitals in the county but there is the challenge of the proximity as they are far and expensive for the reach of many residents. This makes it difficult for the residents of the county to access healthcare services with ease.

Employees and self-employed people in the Nakuru County contributes towards the health insurance scheme National Hospital Insurance Fund (N.H.I.F) but still there remains a challenge to access the services hence they don't get value of their money. The study was appropriate for use by the management of the Nakuru County, other counties, stake holders and other researchers to understand how these factors influence the growth of healthcare infrastructures in the counties.

1.7 Scope of the Study

The study was carried out in Nakuru County which has an area of 7,495.1 square kilometers with 161 health facilities and 1866 employees. The researcher collected data from the health department of Nakuru County's office, health officers in charge of the health facilities in the Sub Counties and healthcare staff working in hospitals below level five and health centers within the county.

1.8 Assumptions of the Study

The study was carried out on the assumption that the researcher got cooperation from the employees of the facilities under study and the respondents were literate and therefore

aware of what growth entails. This made the respondents therefore being able to understand the language by which the questionnaire was written.

The study was based on the assumption that all questionnaires were received positively and the respondents were able to answer the questionnaire to the best of their knowledge, understanding and correctly. The period of the research was between November, 2015 and May, 2016.

1.9 Limitation of the Study

The study was carried out in the vast county of Nakuru where distribution of the healthcare facilities was a challenge given the distance from one facility to the other which the researcher had to hire a vehicle to enable smooth administering of the questionnaires even to the remote parts of the county. Some respondents were asking for payment for them to respond where the researcher had to explain the importance of the research and it was a voluntary exercise for them to respond to the interview. The other limitation of the study was the assumption by the employees that the information would be used to victimize them which the researcher mitigated by consenting to them the information they give will not be used against them rather it's specifically for academic purposes. Also authority to carry out the research from the county commissioner and director of Education of Nakuru County gave the respondents courage to respond to the questions under study.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In this chapter the researcher will look on the literature that is relevant and affects growth both in the global and local perspective with specific recognition of the effects of leadership, employee's motivation, innovation and technology on growth of healthcare infrastructure. The theories in the relation to the study will be the concern of the researcher plus what other authors have written to enable the objectives of the study to be met which are the factors affecting growth of healthcare infrastructure in Nakuru County.

2.2 Theoretical Review

2.2.1 New Growth Theory

This theory is linked to the growth of healthcare which is the dependent variable of the study. Romer (1986) came up with a new theory of growth and called it the New Growth Theory as it is a view of the economy that incorporates two important points unlike the previous theories. First, it views technological progress being contributed by economic activities unlike the previous theories that saw technology as given as a result of non-market forces. New Growth Theory is often called "endogenous" growth theory, since it internalizes technology into a model of how markets function. Second, New Growth Theory also holds that unlike physical objects, knowledge and technology are illustrated by increasing returns, and these increasing returns are drivers of the process of growth.

New Growth Theory helps us make logic of the ongoing move from a resource-based economy to a knowledge-based economy. It draws attention to the point that the economic processes which create and disseminate new knowledge are critical to shaping the growth of healthcare infrastructures in the county. This theory can be seen to promote growth today in the sense that as more knowledge is acquired in the health sector, the shortage of knowhow in the sector will be a thing of the past and growth will be realized.

2.2.2 Abraham Maslow Hierarchy of Needs Theory

This theory is linked to employees' motivation which is one of the independent variables of the study. The human relations approach by humanist's Abraham Maslow saw that workers are aggravated to production by societal factors other than money in their quest to fulfill their needs. The needs theories argue that humans are motivated by insufficiency in one or more important needs categories. Human beings then try harder to supplement the insufficiency and thus become motivated. Maslow asserted that people have an intrinsic desire to satisfy a five step hierarchy of needs.

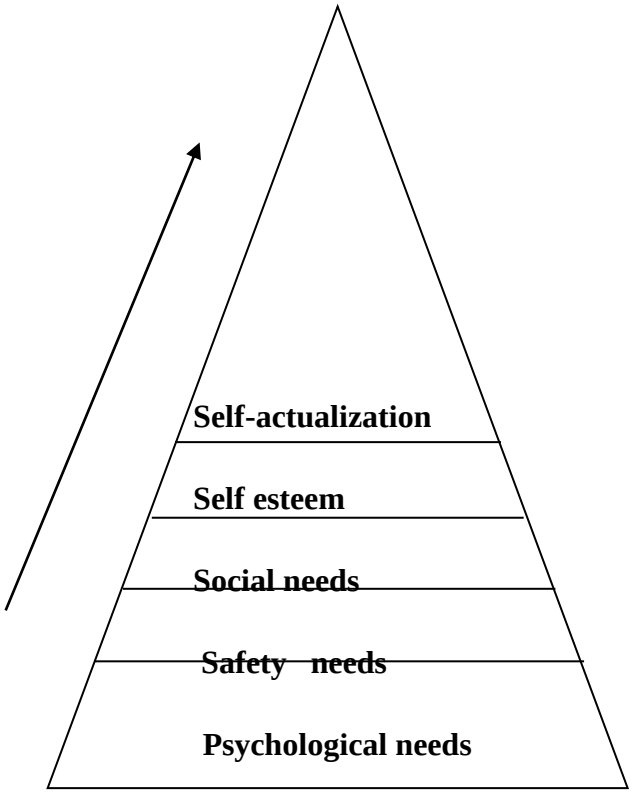


Figure 1: Maslow's Hierarchy of Needs.

Source: (Sababu, 2010)

These are psychological needs, safety needs, social needs, self-esteem and self-actualization. This theory indicates the need of the employees moving from a lower level motivates one to do much better in his work. Once the lower need is satisfied it no longer motivates the employee (Sababu, 2010). This satisfaction of the needs of the employees will promote motivation of the employees as they get the basic that is employed, job

security that the employer is assuring retention and continuation of salary to the employee motivates the employee to work. Provision of working equipment such machines for diagnosis, theatres, housing recognition and development which all amounts to good working conditions of doctors, nurses, and clinical officers will bring confidence to them as they offer their services.

2.2.3 The Traits Theory

This theory is linked to leadership in the healthcare which is one of the independent variables of the study. The traits theory came in where the advocates of the theory stated that leaders possess certain characteristics that other people do not have, and they summarized that leaders are born and not made based on the traits they exhibit.(Stogdill, 1974)Trait theory states that leaders have certain innate traits that enable them to lead, such traits as assertiveness, dependability, persistence and adaptability.

According to Lombardo & McCall (1983), researching on both successful and failed leaders identified four primary traits why leaders succeed or fail as emotional stability and composure, admitting error, good interpersonal skills and intellectual breadth. These traits as Lombardo and McCall found were well thought of in an organizational set up and will affect growth as the emotions, relationship, intellectual and listening of the leader to his/her subjects (employees) will create a conducive environment for performance and the opposite if the leader does not exhibit the traits to his/her subordinates.

In 1960 Douglas McGregor came up with the situational theory that encompasses style, behavior, situation and adaptation to the situation. McGregor assert the assumptions that the behavior of the employees in the organization will resolve the style the manager will use in leading and that most management actions flow directly from whatever theory of human behavior the manager holds. He called these assumptions Theory X and
Theory Y.

Theory X leaders assume people are basically lazy and by their very nature they dislike work. Since people have little aspiration and tend to shun responsibility, they avoid work

when possible. Managers must therefore use force and threats of punishment to attain organizational objectives. These autocratic leaders feel such rigorous control being to the organization's best interest (McGregor, 1960).

He saw Theory Y leaders on the other hand as those who believe the expenditure of physical and mental effort in work is as natural to people as resting or playing. People are not intrinsically shiftless; but experience has taught them to be lazy. It follows, then, that external control and threats of punishment are not the only ways or the best ways of motivating people to work toward the organizational objectives. Rather, if people are committed to the objectives, they will exercise intrinsic motivation so as to attain them.

2.2.4 Diffusion of Innovation theory

This theory is linked to innovation which was one of the independent variables of the study. Rogers & Shoemaker (1971), developed Diffusion of Innovation (DOI) Theory that originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. According to Rogers, the end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. His findings point out that a person does something differently than what he/she had previously being doing (i.e., purchase or use a new product, acquire and perform a new behavior). He further pointed out that adoption of a new idea, behavior, or product (i.e., "innovation") does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others.

Innovation has been classified in three categories thus- Incremental innovations where there are changes to an existing product or service. The changes to technology and business model are primarily aimed at protecting market share and maintaining margins. Competitors usually respond usually respond quickly to incremental innovations. Radical innovation involves introducing new products or services that develop into major new businesses or spawn new industries, or that cause significant change in a whole industry

and tend to create new values. Breakthroughs take people by surprise. They are rare events, arising from scientific or engineering insights. They are called "breakthroughs" because they do something that most people did not realize was possible.

2.2.5 Technology Theory

This theory is linked to technology which was one of the independent variables of the study. Lucey (2005), points on the work of Trist who came up with the theory of social technical view of organizations and pointed out that any production system in an organization requires both a technological organization that is equipment, processes and methods and a work organization relating to those who carry out the necessary tasks to each other. He further pointed out that in addition to technical sub-system, every organization has a social subsystem which consist of the aspiration, expectations, interactions and value systems of the members.

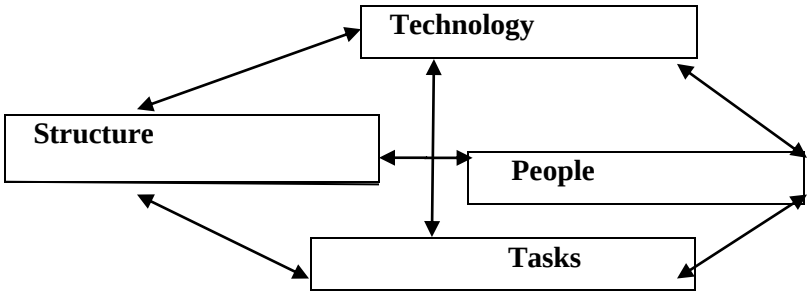


Figure 2: **Socio-technical view of organizations**

Source: Lucey, pg.52

Doyle (2010)advocates the importance of technology on the impact of poverty and disease and points on how cell phones have by the year 2008 had a subscription of over 3.3 billion worldwide with the bulk of those who do not own coming from Africa and Asia. Doyle further says that the improvement in communication and efficiency, amplified across those additional three billion people could raise the gross national

product (GNP) for these countries and reshape the global economy confirming the importance of technology on growth.

These findings by Doyle and others can be equipped to the level cell phones technology has brought to Kenya where Kenya is witnessing tremendous growth in her economy courtesy of the mobile phones technology in particular the transfer of money popularly known as Mpesa. This is an indication of how technology can turn around and bring growth of healthcare infrastructure if embraced in the sector.

Technology in the field of health has allowed data to be displayed spatially, thereby providing support for improved decision making and policy implementation. Information technology and education are therefore important in Africa's healthcare (Falola & Heaton, 2008)

2.3 Empirical Review

2.3.1 Growth of Healthcare Infrastructures

Slywotsky and Wise (2002) proposed that companies have "hidden assets" that they could apply to satisfying "higher order" needs in their markets. Where they said that most executives spend years learning to create growth using services, facilities, and working capital and spend much less time thinking about how to use a combination of relationships, market positioning, infrastructures, and information which comes out as their hidden assets to create value for patients which will lead to growth. They saw all these as the secrets for growth of any business where market position will put the business on how much is her capital base compared with other Hospitals and health centers.

Hertog (2007) supported Armstrong's argument as he agreed with the public interest theory which suggested that government regulations is a response to public demands for government to rectify situations of market failure through imperfect competition, market disequilibrium, information asymmetry or markets that are undesirable for social reasons. This theory assumes that; the market outcome represents a "failure" of some sort, and the

market is not capable of fixing the problem itself, the government is capable of fixing that failure so that the optimal efficient outcome will be achieved, and that the benefits of doing so will outweigh the additional costs created by the intervention.

Hahn (2006) noted that financial regulations happen in response to market failure, with regulation correcting the inefficiency while Dale (1997) argued that the theoretical underpinning for public intervention in economic matters is traditionally based on the need to correct market imperfections and unfair distribution of resources.

Some public hospital in Kenya poor state of customer service and high turnover accompanied by low morale among staff making it difficult to guarantee 24 hours service which results to low patients satisfaction, increased cost of service delivery due to wastage occasioned by inefficiencies Owino & Korir (1997) which forces those seeking services from these facilities to look for alternative providers (privately owned facilities). This affects potential patients to the facilities which affect the growth of the hospitals and health centers (Tam, 2005).

(Argote, 2000) emphasis on the need to have a highly skilled physician, nurses, subordinate staff and administrators in healthcare facilities for production of high quality services and for effective improvement in the facilities which will lead to growth of the healthcare sector. This he found that it can be realized when there is procedural hiring of qualified personnel in these facilities. Treating of the employees as partners in the operations of the facilities will enhance employee retention accompanied by good effective recruitment policies. Allowing opportunities for employee's development by the management is another factor for employee's retention Brown & Duguid (2003). To promote quality, the management of the healthcare facilities needs to put good measures in recruitment of qualified personnel to work in the facilities and find ways to bond these employees in terms of team formation among all the staff Brown & Duguid (2003).

2.3.1 Innovation in Growth of Healthcare Infrastructures

Firms can increase their competitiveness through building a portfolio of different innovation-related capabilities, as they will become better positioned to meet new marketplace challenges and evolving consumer demands (Holtzman, 2014). It is likewise

suggested that developing networks with customers, partners and others along the supply chain can enhance the process of innovation.

On the distinct feature of healthcare from industrial sector innovation, Clive and Fortune concluded that successful innovation system, and related public policy, would focus on connecting R&D producers, innovators, and users, wherever they are found, whether in organizations located within the private or the public sector"(Savory & Fortune, 2014)

Innovation also plays a critical role in every day's business and it is regarded as key characteristics of growth, this is mainly due to the mind-set of the leader. Innovative companies are able to respond within the bounds of the knowledge about existing products or services to changes of taste by the customers within their niche market. Studies shows that developed countries allocate about 3% of Gross Domestic Product (GDP) to research and development activities some developing countries including China, India and Brazil have rapidly increased their R&D expenditure to levels with those of the world's most developed countries (Davidson *et al*, 2000)

Braconier. Nicoletti and Westmore (2014) Sees innovation particularly important for future growth a view which any aggressive manager or leader should adhere to. Studies of long term economic development across countries show that multi-factor productivity growth becomes a more important driver of growth in relative terms as countries exhaust some of the possibilities for productive investment in tangible capital as their population ages. The contribution of labor input to growth has diminished as a factor of production, as the labor force has started to decline. Moreover, the rate of increase in the human capital stock is expected to slow in the future (Organization of Economic Cooperation and Development, 2015) For these reasons, many OECD countries are increasingly emphasizing innovation-led productivity as the main source of future growth.

The idea of incremental change and planned progression is less extreme and less obviously innovative than totalizing change of the revolutionary model. In order to plan sustainable organizational change, a manager has to take into account the organization's

resources, including its human resources, as well as its markets, both real and potential. These boundaries provide a reality check and reference point which stimulates rather than inhibits new initiatives (Bilton, 2012).

Organizations are treating innovation as critical component in all healthcare organizations (Lansisalmi, *et al.*, 2006). This phenomenon is revolutionizing the healthcare making invalid the old assumptions and creating new prospects for innovation and enhancement of the existing processes (Govindarajan, 2007). There has been experienced increase in innovation in the healthcare sector in the last century which was aimed at improving life expectancy, diagnostic and treatment, quality life cost effectiveness and efficiency in healthcare sector (Varkey, Horne and Bennet, 2006). Included in the efficiency in the healthcare is according to (Varkey and Athyal, 2005) is medications as well as surgical interventions [Varkey, Horne & Bennet, 2006].

Three components that makes up innovation in healthcare; these are product, structure and process (Varkey, *et al.,* 2008). What the customer/ client pay for is the product innovation referred to as the clinical procedure innovation that consists of goods and services offered. Process innovation on the other hand entails innovation in the production or delivery method. Which (Varkey, *et al.,* 2008) found that the customer does not pay directly for process but the process is required for delivery of a product or service. Thus a process innovation can be referred to as value addition to the stakeholders in the healthcare. Thirdly structural innovation affects both the internal and external infrastructures and creates new business empires.

Pirkanmaa Hospital District(2004); Warne & McAndrew (2002) in their study have argued that there is need for innovation in healthcare given the universal shortage of nurses and other practitioners in the sector which is also exhibited by the aging workforce in the sector which is due for retirement in the near future. Varkey *et al.* (2008) identified a weakness in the healthcare that despite much has been written on the process of innovation; very little information concerning innovation process in healthcare is witnessed.

Observation by Omachounu (2015) indicates that innovation in the healthcare is initiated by patients who need quality service, healthcare organizations who do research, physicians and other healthcare professionals. He further points out that the government put in its input to innovation when it wants to force change in the healthcare facilities when mitigating health concerns and challenges that goes with health of her citizens Need is identified in the healthcare and if it cannot be solved internally multinational companies investing in technology are called upon to help. Healthcare Innovation Company improves an imperfect attempt at innovation from healthcare facilities and processes it into a better product, and then sells it back to the healthcare facilities. There is a need to understand the internal process of innovation in healthcare facilities such as a nursing home, hospital, home health center. These facilities do not own a research & development department and therefore they must rely on raw talent and inventiveness of their staff and work teams.

Omachounu (2015) observed the presence of two principal dimensions of healthcare innovation thus operational and environmental dimensions. According to Omachounu these dimensions either motivates or affect the initiation of innovation in healthcare facilities. He referred efficiency and effectiveness in service delivery, improvement in clinical results, shortage of nurses, patient's satisfaction and safety as what constitutes operational dimensions. The organizational culture, legal acceptance, doctor acceptance, partnership and collaboration he referred them as environmental dimension.

2.3.3 Technology in Growth of Healthcare Infrastructure

In healthcare the application of computers and information science in all simple and biomedical sciences has been viewed as the technology in the health sector. Medical informatics refers to the application of informatics to all healthcare disciplines as well as to the practice of medicine. Use of information and computer technology to support nursing practicing has been echoed as nursing informatics which includes direct delivery of healthcare, research and management which supports growth of the healthcare. Nursing informatics enables the combination of data, information, and knowledge to support patients, nurses, and other healthcare givers involved in the decision-making

process. New and emerging technologies will continue to have an effect on the healthcare delivery system as knowledge continues to evolve.

Access the learning situations that support this new technology will be a challenge for both the academia and healthcare organizations. To offer learning that mimics these situations requires a commitment from leaders in both areas. To counter the nursing shortage, enhanced quality care, and the drive for electronic health recording will continue to drive technology in health care, all care givers will need to be more and more involved in information system technology (Hebda & Maascara, 2005) which will go a long way in reducing healthcare costs such as administrative costs.

The role of Information and Communication Technologies (ICTs) in improving the general management of health information cannot be downplayed. This is affirmed by the ability of ICTs to capture, store, retrieve, analyze and transmit large volumes of health information across various locations (Norman, Aikens & Binka, 2011). The adoption of ICTs in healthcare delivery, which could generally be referred to as e-health, has not only been crowed generally as eminent in improving the reliability and effectiveness of health information, but it has also been gloated for strengthening healthcare delivery systems through its various tailor-made innovative applications and program such as the electronic health records (Yusif & Soar, 2014).

Although the introduction of ICTs in healthcare delivery is not a new global paradigm, its adoption and promotion has particularly become relevant in resource constraint developing countries whose healthcare systems are characterized by severe financial, infrastructural, technical and human resource constrictions (Yusif & Soar, 2014). Studies conducted in various developing countries report that the use of ICTs in healthcare delivery leads to better access to healthcare facilities on the part of both patients and healthcare professionals and improved quality of healthcare delivery, which consequently translates into productive labour and the development of the country as a whole (Khan, Shahid, Hedstrom & Anderson, 2012; Oyeyemi & Wynn, 2014). Governments and

various policy makers across developing countries have also recognized the essence of ICT in improving the general healthcare of their countrymen, and particularly so, as many developing countries are striving to meet the Millennium Development Goals (MDGs).

Goh *et al*. (2012) looks on the application of a new clinical certification system to develop a model of how to attain an effective routinization of the new IT, while Mukhopadhyay et al. looks beyond early application to identify the users of an IT-enabled doctor referral system that has already been thoroughly routinized which is what influence improvement through learning-by-doing.

Goh *et al.* (2012) use example from the findings of (Pentland and Feldman 2007) and adaptive structures (DeSanctis and Poole 1994; Markus 2010) to hypothesize healthcare information systems (IS) as a mediation that changes the flow of events in a chronicle format. They suggest a changing process model that routinized healthcare IS and that which defines the channels through which IS and routines network. This will help in the promotion of leadership and personal innovativeness which leads to growth.

Many Organization Economic Cooperation and Development (OECD) countries have adopted the electronic data enterprise system for various purposes such as billing, record tracking, insurance claim processing etc. Utilizing healthcare IT administrative costs can be reduced significantly, which also increase customer satisfaction and system efficiency (Neha & Shah, 2011).

2.3.4 Leadership in Growth of Healthcare Infrastructure

A poor leadership style affects the relationship between the stakeholders in an organization which leads to poor performance which affects the growth of the business. Tannenbaum and Schmidt (1973) came up with a theory in leadership which recognizes that an appropriate leadership depends on the leader, those following and the situation prevailing concurring with Koontz and Weihnch who came up with the three styles leadership thus autocratic, democratic and free-rein of which noncompliance with this

will lead to misunderstanding between the leader and the subordinates which will affect the production as there will be no team work hence stagnant or minimal growth.

There is need for the leadership to have traits under which it will be able to offer conducive environment for the employees to give out their full potential for the growth of the business. This can be seen in the figure below.

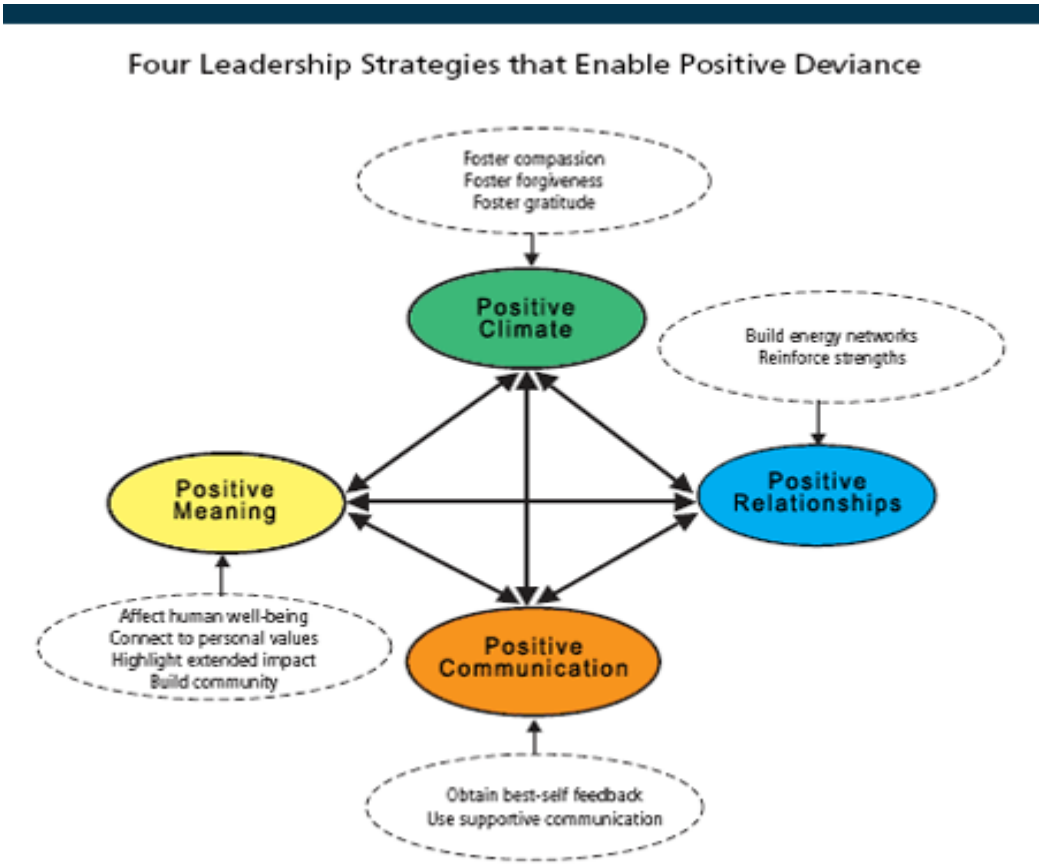


Figure 3: Four leadership strategies that enable positive deviance

Source: Cameron (2008)

Listening skills by leaders were recognized by D'Souza, (1994) who stated that listening provides a strong element in leadership; hence strong leaders are effective listeners which encourage interpersonal relationship. Drucker, (1999) say listening skills will affect the growth as when there is no effective relationships, the workgroup will not be effective

hence affecting the relationship with customers. This non relationship with customers will affect the sales of any business hence low profits which will lead to no or slow growth. Peter Drucker commenting on the basic competence of effective leaders, say "*I would put the willingness, ability and self-discipline to listen";* which he considers as the first competence in a leader. Drucker, (1999)

Both theories D'Souza's and Drucker's indicates that there is need for a leader to have good listening skills to be effective and bring up a good relationship with customers and subordinates which will increase productivity of goods and services which will lead to growth of the business.

Chung-Hsiung; Sue-Ting; Chang & Guan-Li Chen (2009) identified that leadership style can affect organizational commitment and work satisfaction positively and work satisfaction intern can affect organizational commitment and work performance positively. Leadership is largely culturally orientated, embracing traditional beliefs, norms and values and a preoccupation.(Murray, 2007). Leadership style is significantly influenced by the leaders immediate and extended family, clan and tribe Goh, Sheng & Geoffrey (2005). This study finds the linkages between organizational leadership and business ethics, thereby making a contribution toward increasing the quality of organizational life which may have a positive influence on both members of the organization and the wider community. The style of leadership will affect growth of an organization in that as it embraces the beliefs, norms and value it will be adhering to the vision and mission which will lead to the fulfillment of the objective.

Leadership is seen to work whereby people's contributions as well as skills and physical resources can be acquired, looked at and exploited efficiently in order to achieve specific objectives and values. The purpose of leadership is to guide individuals in diverse positions, working differently with different abilities to act together for and towards a common goal. Leadership is a social, engaged decision making process that legitimates authority and provides power. Leadership influences both the profits of an organization and the cognition, stances and emotional life of the members' in organizations and thereby modifies reality. Leadership can be seen as coaching, mentoring, guiding,

serving, teaching, and educating. Leadership is always context-bound affected by culture and the operation environment, and must be seen as a service occupation, which should produce suitable and optimal working environment and help people eliciting their best qualities. Leadership is based on scientific evidence and tacit knowledge and it evokes security in those associated with the task (Drucker, 2002).

A leader must be able to observe the interaction, culture and working atmosphere in the workplace. Leadership includes also managerial competence and requires skills in managing leader's own performance; the ability to constantly learn and develop, organize, delegate, and solve problems. Other areas where leadership expertise is required are communication; interaction skills, and the ability to listen, leading people and managing tasks; ability to coordinate and make decisions, manage conflicts and relationships in a fair and equitable manner, business management; competence in business knowledge and strategic thinking, innovation and change management; ability to create, design and delineate, take risks and be a visionary (Laaksonen *et al*., 2012).

The focus in the social and health care leadership is currently on change and financial management. Networking, cooperation and human resource management are going to increase. Attention is paid to interpersonal skills and well-being at work, and resources for this will be increased. In local management, the importance of relational competence is emphasized (Heikka, 2008).

Leadership in the health care organizations is done in different levels, through high command, and middle and local management. The corresponding for the overall operation and development of an organization is called high command, middle management being responsible for the activities of certain departments (head of department, matrons) and nurse managers and assistant nurse managers representing the local management. Political decision-making, economy and EU-politics also affect health care leadership strongly. (Reikko, Salonen&Usitalo, 2010).

2.3.5 Employee Motivation in Growth of HealthCare Infrastructures

In the study of the role of intrinsic motivation on change of behavior of clinicians it was found that there is a correlation between external rewards and intrinsic motivation amongst doctors. The indifferent reception to the potential benefits of self-motivation in healthcare policymaking could be qualified to the shift in global trends focusing on the positive effects of physical rewards on doctors as evidenced in developed countries such as the US (Pay-For-Performance scheme) and UK (Quality and Outcomes Framework) where financial inducements have been validated as a way to improve performance in healthcare service system.

According to (Ward, 2007), for the improvement in performance of the whole organization to be realized, organizations must improve at individual level. Departments or divisions in the organizations must perform well for them to achieve overall performance level. Organizations in all over the world have designed different processes to improve performance level from functional to employees and up to organizational level to perk up overall organizational performance. Organizations are also required to manage performance of its employees and functions by setting up key performance indicators (Good & Carin, 2004).

Employee involvement portrays each employee asa different person, not just a component in a mechanism, and every employee is apprehensive in serving the business so as to meet its objective. Every employee input is recognized by the organization and the management and employees mutually recognize each other in the running of the business (Apostolou, 2000).

Involvement of workers in decision-making in teams, capacity building and making system with greater labor-management, trusting the results from these systems also create a result in which decisions are seen as having greater acceptance by employees to workers. This legality effect would also lead to a prediction of a decrease in complaint under high production work systems, apart from any effect on the fundamental level of disagreement in the work place (Colvin, 2003).

Employee involvement means forethought of task exercised by the employee as doing his work. (Jones & Kato, 2005), in their research discover that; employee involvement and willpower creates better course presentation through different channels including improved open effort, the opening of raised appearance work place norms are most outstanding view and a variety of complements leads a lot on the change in leadership plan. Experienced employees might sense provoked that their abilities are not being fully used and leave an organization for a green pasture elsewhere if their fate is not solved. This leads to employee turnover which affects the organization. This is well explained by the mass exodus of the Kenya's health practitioners to the USA and Europe in the 1990s and early 2000.

Ability is defined as the power to meet the desired goals by the organization and to carry out tasks.(Blackwood. Bryson & Merritt, 2006). Capacity building is not just increasing new ideas in an organization but helping employees to attain their routine levels so as to achieve the organizational and employee goals. Capability development helps organization to position themselves in the markets and also helps the employee to learn more skills and improve their understanding (Blackwood. Bryson & Merritt, 2006).

For organizations to perform well, their employees' talents must be developed, and for developing employees' abilities organizations need to improve the capabilities of employees (Mathiprakasam, 2003). Developing skills includes capacity building of the employees to empower them with better developed capabilities. Competences of the employees are not only the skills associated to technical areas and abilities of employees but also other sides of employee development which includes the mind-set and ability. Competency development in different organizations is developed for specific objectives where organizations focus on short term and long term objectives by employee development. To improve the performance of employees as also that of the organizations, organizations are using different methods to advance these skills in line with their vision and mission. Right development of the workforce can help to learn the skills which

increase their job performance and in the long run it also improves organizational performance.

Frederick-Recascino & Hall (2003) points out that though many people are unable to relate the relationship between performance and motivation, they do also agree that it is difficult to achieve high levels of performance without it. Thus the link between motivation and performance can be equally an underlining one. This, however, begs a number of questions to do with perception, ability and stress. He agrees that motivated employees can do more work but reiterates that the same employee needs to be monitored so that they don't spend most of their energy on aspects of work they find exciting but that which is in line with the organization objective. Motivated employees may be more productive, provided they have the requisite skills to do the job and the perception to realize whether they have or not. It is just as important to take steps to improve ability by means of good hiring procedures and capacity building as a form of motivation (Karan, 2009).

Motivation implies to a force to move forward, to do more, but overdoing can be harmful in both the short and the long term. Work life balance is the answer to this. In the short-term, we need sufficient pressure to concentrate well and do the job quickly and efficiently, but not so much to allow stress to intrude and concentration becomes difficult. Motivated and qualified workforce is crucial in increasing the productivity and quality of healthcare services in order to contribute on achieving health targets. Priority programs have a stake in skilled and motivated employees, as they are implemented primarily by a health facility's existing health staff (Franco *et al*., 2002).

In the present competitive markets learning is an important component in the marketing for organizations. According to (Lyytinen. Rose & Yoo, 2002), for an organization to develop in all aspects it has to adapt organizational learning. There is need for managers to ensure that during the learning process; employees are learning according to the organizations' needs. The setting up of medical colleges in every county in the country will go a long way to empower healthcare workers with skills which will boost the growth of the facilities by providing better infrastructures, as well as ensuring the

availability of functioning medical equipment. The setting up of medical colleges in every county in the country will go a long way to empower healthcare workers with skills which will boost the growth of the healthcare by providing better infrastructure, as well as ensuring the availability of functioning medical equipment.

According to Burton (2012), there are seven elements in employee motivation which can go a long way towards enhancing their work and how they integrate their interest with those of the organization;

The first element is having a strong set of values. These values, he explains, come from the organization itself as well as from the employees. They should be clear and acceptable by all for them to bring motivation.

The second element is that the employees come first, which should be clear and be entrenched in the mission statement of the organization. This gives the employees confidence as they offer their services to the organization in terms of job security and to the organization reduces conflicts with employees.

The third is recognition and reward. The rewards and recognition should correspond with the job done. Staff feels motivated when the management recognizes their efforts towards the growth of the organization.

The fourth element is the mission of the organization which should not only be written and enforced to all employees but most importantly, it should be believed throughout the organization and all the employees should feel comfortable to associate themselves with it.

The fifth element is the hiring process. The process should be sincere and honest as much as possible and above all it should be above board. People should be employed on merit in line with the stipulated guidelines of hiring the employees.

The next element is that there should be a well distributed leadership, this means, according to Keri that strong leaders are found throughout the entire organization. The last element is performance management. This, according to him, is essential to articulate the goals to all employees and keep the organization transparent. The fact behind employee motivation is a more complex mix including being praised, independence and leadership.

2.3.6 Quality Management System in Growth of Healthcare Infrastructure

In his article on Leadership in Health Services(Sedevich-Fons, 2013)found seven advantages of implementing a Quality Management System as compared to a typical quality assurance programs, they are as follows: Rather than trying to achieve temporary state of wellbeing to pass an audit, Quality Management System fosters organizational continual improvement. It allows alignment of the specific objectives of each medical department with the overall policies of the institution. The system involves process standardization through the use of documented procedures, thereby helping clinicians detect and correct errors. Every process of the organization is taken into account in the system such as food provision to patients, invoicing tasks and IT management.

The system considers patient and family members' satisfaction that is the feedback which has a strong impact on the reputation and image of any care organization. Quality Management System permits demonstration of the implementation of quality programs through certification to international standards, which might be a distinguishing feature of any institution. System involves implementing other specific quality actions to comply with mandatory models such as Hospital Accreditation programs. These seven advantages can be viewed as agents for aggravating growth of healthcare infrastructures in the Nakuru County.

For quality service and growth to be maintained in the healthcare sector the management must implement strategies that will see good hiring of human resource and policies that lead to retention of physicians and nurses (Cohen &Leviathan, 2001); these policies will

monitor the doctors and staff in the health sector and ensuring that they must continue to meet certain performance criteria and practice acceptable standards to retain qualifications (Crewson, 2004). To advance efficiency in service delivery, public hospitals must form the capacity to attract and employ an adequate number of qualified nurses. Argote & Ingram (2000) suggests that the key to service delivery is to adapt to circumstances that are constantly changing in the healthcare in terms of innovation and technology where the long-term winners are the best adapters of the changing trend, but not necessarily the winners of today's race for market share.

Quality service improves the relationship between organization and the customers which is a two-way flow of value (Ojo, 2010). Mortazavi, Williams, McCue, Schaeffer and Wold (2008) describe customer satisfaction as the back bone for a business strategy for a large number of organizations so as to strengthen their market positioning. According to Ojo (2010) despite the service sector being the majority in the total economy, service quality is still considered to be a key competitive advantage in global markets. Much of empirical studies found on the subject matter of service quality and customer satisfaction (Choi, Cho, Lee, Lee & Kim, 2004; Ojo, 2010; Ramsaran-Fowdar, 2005). Most research conducted in both developed and developing countries like, United Kingdom, Japan, United States, India and Nigeria with researchers focusing on the telecommunication industry, bank, super market and other which are highly profit oriented firms. There is limited empirical validation of how key factors are inter-related though the global growth of literature on healthcare quality.

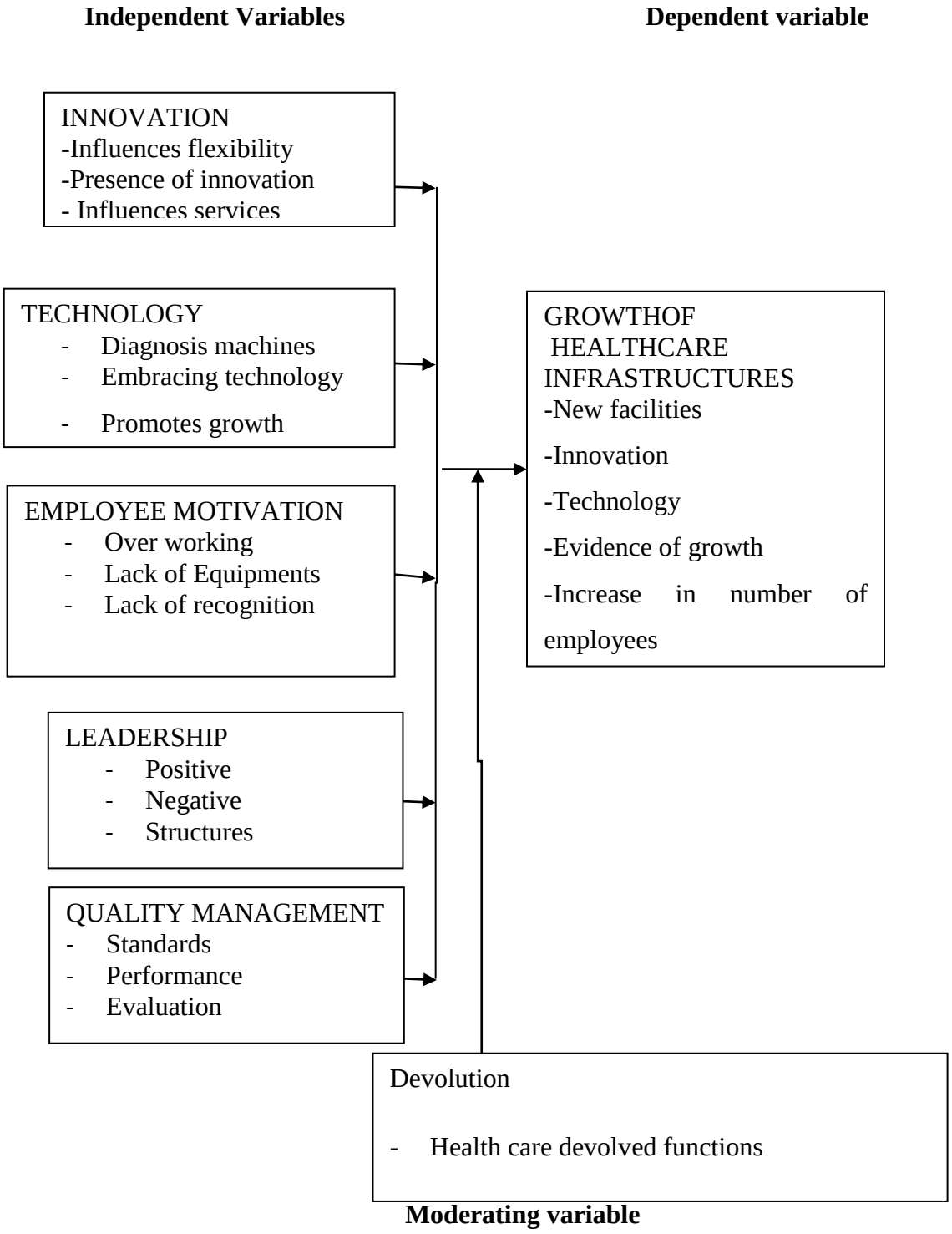
The services by caregivers are expected to be accessible, affordable and acceptable by the customers. Caregivers support consists of the interactions between them and the patients including moments of certainty, serious incidents and others. (Padma *et al*., 2009). Kiran (2010) also found in his study that the core to customer satisfaction is the staff perceived quality. Such members of staff are able to instill confidence among the customer of the industry. Staffs have to provide records which are error free to patients. The proper allocation of time toward the patients should be in line with the terms of service. Healthcare infrastructures include the concrete features of a delivery of service, e.g. machineries, physical structure and appearance of the hospital, signage, and availability

of resources such as quality personnel, drugs, beds, water and good lighting (Padma, *et al.,* 2009). The hospital facilities are crucial for patient's medical treatment. Mental satisfaction is significantly related to the environment of the surroundings. Nwankwo, *et al*. (2010), found in their study on both public and private hospitals that patients have different perceptions. They found in their investigation that public hospitals are providing most unsatisfactory service to the customer and identified reasons mentioned as the responsiveness of the doctors, length of time in getting appointment, and access to treatment and opening hours as customers are needed to be individually attention.

Ahasanul *et al*., (2012) in their study on hospital management and what brings customer satisfaction in the health sector found that in order to accomplish their business goals, managers need to implement personnel support in their facilities which will motivate the employees who in turn will lender quality services to the customers.

2.4 Conceptual Framework

The conceptual framework shows how the five (5) independent variables, the dependent variable and the moderating variable are explained in the document by key variables under each of them and is diagrammatically expressed as under.



Source: Own

Figure 4: **Factors influencing growth of health care infrastructure in Nakuru County**

2.4. Operationalization of the variables

Operationalization refers to the process of specifying how, in practice, the elements specified in the model will be observed (Melyoki, 2005).He further describes variables as measurable characteristics that vary as indicators which are either quantitative or qualitative factor or variable that provides a simple reliable means to reflect the changes connected to an intervention. In other words, indicators enable one to perceive the differences, improvements or developments which are related to a desired objective or result in a particular context.

Table 1:Operationalization of the variables

Key Variables		Operational definition	indicators
Growth	Dependent	ıe independent variables have ed the growth in terms of nel, innovation, technology, new facilities, to reduce time quick bility	-New facilities -Innovation -Technology -Evident of growth -Increase in number of Employees
Technology	Independent	How the healthcare is knowledgeable and ready to embrace new modern machines in execution of services	-Diagnosis machines -Embracing technology -Promotes growth
Innovation	Independent	How modern is the facilities, improvement in invention and research and development	-Influences flexibility -Presence of innovation - Influences services

Employees' Motivation	Independent	What incentives and stimulus are in place to motivate the healthcare employees both internal and external motivators	-Over working -Lack of Equipment -Lack of recognition
Quality management systems	Independent	The systems put in place to ensure Excellence administration of service in the healthcare sector.	- General Procedures - Staff evaluation - Standards

2.5 Research Gap

County governments is a new concept in Kenya after the adaption of the 2010 constitution of Kenya and not much has been researched on the topic on factors influencing growth of healthcare infrastructures in devolved units in Kenya which the study created a path for other researchers to base their research on the findings of this report and also to add to the wealth of knowledge on healthcare infrastructures growth in counties.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a detailed description of the study's research design. It also presents the definition of the target population, the sampling procedures as well as the methods to be employed in collecting data from respondents. In addition the chapter provides an explanation of how validity and reliability of the research instrument will be met, the Operationalization of the variables and further identifies the method of data analysis used. It will also confirm that the research is ethical in that it will be as representative, honest and sincere as possible. The research will be truthful and will avoid any form of plagiarism.

3.2 Research Design

The study was conducted through descriptive research design as conceptualized by Kothari (2008). In a descriptive survey research, objectives are predetermined in which case it allows data collection relevant and sufficient to the study problem. By use of quantitative data collection procedures; descriptive research design allows the researcher to gather information in a manner that reduces cost of data draw inferences about factors influencing growth of healthcare infrastructures in Nakuru County through collection**.**

Descriptive research design enables the researcher to studying a representative sample of the population. Carefully constructed descriptive design allows the researcher to study the phenomenon in its natural setting, eliminates bias and maximizes the reliability of the data collected (Kothari 2008).

3.3 Target Population

The term population refers to the entire group of employees that the researcher wishes to investigate (Sekaran & Boungie, 2013). This is supported by to (Cooper & Schindler, 2003), further says that a population is the total collection of elements about which one wishes to make inferences. The population of this study comprised of795 employees from the 15 hospitals and 23healthcentersin Nakuru County where the list of doctors, clinical officers and nurses was drawn (County Government of Nakuru, Ministry of

Health, 2015).The selection of the population was informed by the fact that these are the individuals who possess the know-how of the healthcare infrastructures in the Nakuru County. They are the ones who experience matters related to growth of the healthcare infrastructures in Nakuru County.

3.4 Sample Size and Sampling Technique

According to (Cooper & Schindler, 2003) sampling is done in order to lower costs, increase the speed of data collection, greater accuracy of results and availability of population elements. The research used stratified sampling method this is in order to draw a sample which is representative of the population as it is crucial to ensure as much as possible that a large sample is drawn. Any sample greater than 30 elements is considered large (Mugenda and Mugenda, 1999). Larger samples allowed for greater insight about the population characteristic and provide for more generalizations of the findings. Selecting a sample size is however done with respect to the size of the population as well as the resources and the time consideration. The division of employees in the facilities allowed the researcher to draw stratified sample that is homogenous within a sector (stratum and heterogeneous across the sectors (strata).

Thus, based on the sampling procedure outlined herein the sample size to be engaged is 237 of the employees of the healthcare in the County as per strata as shown below. This sample was proportionate to the population in the three different strata in the health care service in Nakuru County.

Table2: Sample Size

Strata	**No of employees**	**Sample size of the employees(N*0.3) 30%**
Doctors	111	33
Clinical offices	142	42
Nurses	542	162
Total	**795**	**237**

Source: County Government of Nakuru, Ministry of Health (2015)

The following formula was used to arrive to the sample where the 1st coded doctor, clinical officer and nurse was selected thus the 3rd, 7th, 11th…. Nth number was selected to come up with a sample of 237 employees.

Calculated as n=N*% sample

Where:

n= desired sample size

N= Study population source: (Neyman, 1934)

3.5 Data Collection Instrument and Procedures

The study applied questionnaire format as its primary data collection method. (Kothari, 2008), observes that the questionnaire method has been extensively used in a range of business and economic survey due to its unbiased nature and ability to capture larger samples. Questionnaires used also provide greater anonymity through questionnaire coding and discrete analysis of the respondent personal details.

The design entailed closed ended questions. The existence of closed questions or structured questions is deliberate to ensure the researcher is able to capture particular variables of the study problem. The questionnaire was constructed in a manner to ensure that the six identified variables relevant to the study are captured.

Other method of data collection included examination of the ministry of health documents at the County offices, for instance, the appraisal report of growth of the healthcare infrastructure. This enriched the data collected from the questionnaire.

3.6 Pilot Study

3.6.1 Reliability

The research instrument was administered on a reconnaissance basis among 10 (ten) randomly selected sample employees from the healthcare in Nakuru county to help in the pre-testing of the data collection instrument. This allowed fine- tuning of the research instruments before the actual study. The study obtained a reliability coefficient of at least 0.786 which was accepted as reliable in this research (Pals & Kathuri, 1993).

The responses from pilot study however were not utilized in the data analysis Stage. This sub section describes how the study met the threshold of a quality study by observing the reliability as is the norm in any sound research.

3.6.2 Validity

Validity is the extent to which research outcomes actually corresponds to the phenomena under study (Mugenda and Mugenda, 1999). The valid outcomes therefore allowed the researcher to make more generalizations with ease. Validity has to be assured both internally and externally. Internal and external validity relates to the overall organization of the research design (Shields, 2004). This study recognized the reciprocal balance between the two. External validity relates to the freedom of generalization provided for in the study. Internal validity on the other hand explains the degree to which the design of study actually lender itself sufficient in answering the research questions or accepting or nullifying the stated hypotheses.

3.7 Data Analysis

After data collection, the researcher went through each transcript assigning codes according to specific characteristics within the text (Dawson, 2006). The computer application package for social sciences SPSS (Statistical Package for Social Sciences) was used to assist in the analysis. This stage is defined by (Zikmund, 2001) as the statistical and qualitative consideration of data gathered by research. The collected data will be coded, edited for errors and then analyzed. The data was analyzed through the use of descriptive statistics and inferential statistics. Descriptive statistics was used to describe the basic features of the data in the study by providing simple summaries about the sample presented in simple charts and frequency tables, forming the basis of the quantitative analysis used.

To test the relationship between specific growth factor and the growth of healthcare infrastructure, Pearson Correlation was used. Pearson's correlation was used to determine whether there was positive significant linear relationship between each individual independent variable (Innovation, Technology, Leadership, Employees Motivation and

quality management systems) with the dependent variable (Healthcare infrastructure growth). Hierarchical multiple regression was used to assess which independent variable (Innovation, Technology, Leadership, Employees Motivation and quality management systems) had most effect when combined to the dependent variable (Healthcare infrastructure growth). R-squared was used to measure how closely the data collected were to the fitted regression line. Fisher et al (2007) stated that when there is two or more independent variables one-way analysis of variance (ANOVA) can be used to analyze the variance. The one-way analysis of variance (ANOVA) therefore was used to determine whether there were any significant differences between the means of the four independent variable; innovation, technology, leadership and innovation. The combination of descriptive statistics, Pearson Correlation, ANOVA and multiple regression was useful in analyzing data from basic data analysis, determination of positive significance between the variables and establishing which independent variable (Innovation, Technology, Leadership, Employees Motivation) had most effect when combined to the dependent variable (Healthcare infrastructure growth).

To test relationship, the research looked on the interaction effect between X and M and whether or not such an effect is significant in predicting Y. where X is the independent variable, M is moderating valuable and Y the dependent variable. Once the results from the data analysis were obtained the research decided whether the results are statistically significant. The precision range was +/- 5 or 0.05% with a confidence level of 95% and significance level of 5%.

The Regression model that will be used is;

$Y= b_0+b1x_1+b2x_2 +\ldots\ldots bnx_n + e$

Where;

Y= Growth,

b_0 is Constant

$x_1$innovation,

x_2 is technology,

x_3 is leadership,

x_4 is employee's motivation

x_5 is Quality Management and "e "is the error term (Mugenda and Mugenda, 1999).

3.8 Research Ethics

The research ethics denotes the norms and the way of conducting research that a researcher has to have while undertaking and presenting a research. This research was truthful and as much as possible endeavor to avoid error. There was no fabricating, falsifying or misrepresenting research data. This research also promoted the values that are essential to collaborative work such as trust, accountability, mutual respect and fairness. The research was also objective and tried to present facts and not mere imaginations. Honesty and integrity was the guiding principles.

CHAPTER FOUR
DATA ANALYSIS, INTERPRETATIONAND DISCUSSION

4.1 Introduction

This purpose of this chapter is to analyze the data collected in relation to the research questions, interpret and discuss the findings of the study with relation to other scholars. Data was quantitatively analyzed through use of structured questionnaires which were coded for ease of analysis. The core primary data relating to the null hypotheses was tested using both Anova and multi regression analysis as the test statistic was at 0.05 or 5% significance level. Presentation was done by use of frequency tables, bar charts and figures after which simple percentages and means were used to analyze the data. Data was also tested to either accept or reject the null hypotheses.

4.1 Demographic Analysis of the Population

The total number of questionnaires administered as per the sample size was 237 out of which 223 were collected back representing 94% return rate considered significant to answer the set objectives. The demographic characteristics of the population analyzed included; respondents position, period in service and whether residents seek medical services from the respondents facilities as depicted by Table 2 below.

Table 3: Position of Respondent

Position	Frequency	Percent
Doctor	30	13%
Clinical officer	37	17%
Nurse	156	70%
Total	**223**	**100**

Source: Field Data (2016)

Table 2 above shows that majority of respondents 70% were nurses, 17% were clinical officers and 13% were doctors. This finding indicated that the ratio of a Doctor to Clinical Officers and Nurses was 1:1:5, that is for every doctor there were 5 nurses.

Table 4: Number of Years in Service

Period (Years)	Frequency	Percent
1-10years	29	13%
11-20years	84	38%
21-30years	92	41%
31-40years	18	8%
Total	**223**	**100**

Source: Field Data (2016)

The study established that majority of respondents 79% had been in services between 11-30 years compared to 13% who had been in service for 1-10 years and 8% who had been in service between 31-40 years as evident in table 3 above. This finding indicated that the respondents had spent a long period of time in service which enables them to give useful information on factors influencing growth of healthcare infrastructures in Nakuru County.

At the same time the findings answer the reason for universal shortage of nurses and other key practitioners further advancing the argument in favor for more innovation in healthcare. This situation has been exacerbated by the projected increase in the retirement of current staff in the next 10 years (Pirkanmaa Hospital District, 2004; Warne & McAndrew, 2002).

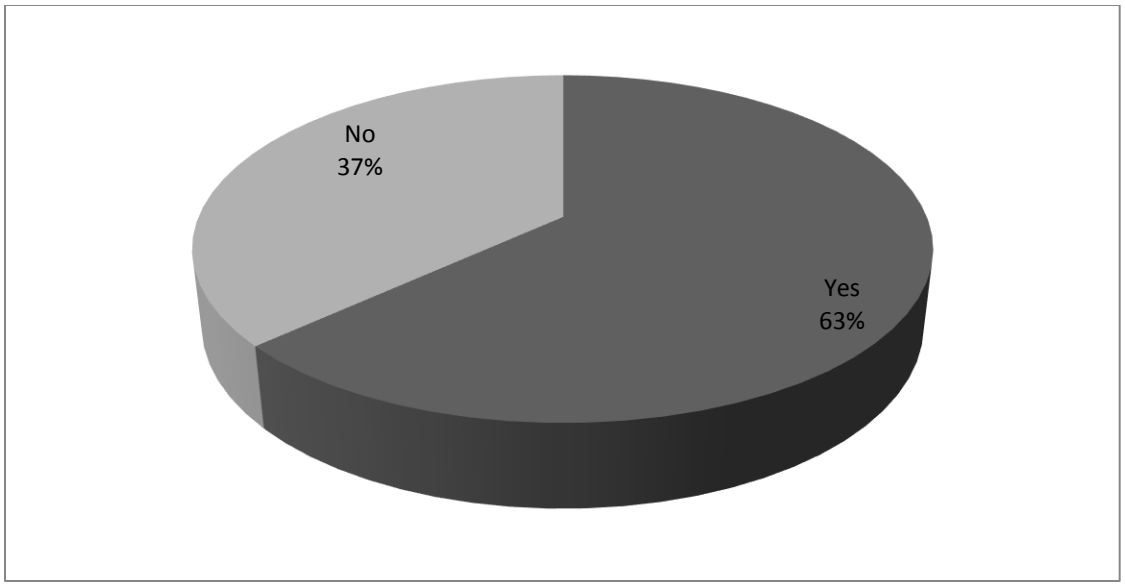


Figure 5: Residents of Nakuru County Seeking Medical Services from Public Hospitals

Source: Field Data (2016)

The majority of respondents 63% observed that Residents of Nakuru County Seeks Medical Services from Public Hospitals within the county compared 37% who do not as per figure 5 above. This finding indicated that Public Hospitals are still important health care facilities that the wide members of Public attend.

4.3 Influence of Innovation on the Growth of Healthcare Infrastructures

The first objective of the study was to determine the influence of innovation on the growth of healthcare infrastructures in Nakuru County. The key variables used to analyze elements of Innovation on the Growth of Healthcare Infrastructures included; presence of innovation in health care, innovation determining how services are offered and innovation brought management flexibility in healthcare.

Table 5: Analysis of Aspects of Innovation in Health Care

Aspects of Innovation	Yes	No
Presence of Innovation	41%	59%
Innovation Influencing services	58%	42%
Innovation influences flexibility	34%	66%

Source: Field Data (2016)

As evident in the above table 4, the study established that majority of respondents 59% disagreed that there was presence of innovation in the healthcare sector in Nakuru County compared to 41% who agreed. Majority 58% agreed that innovation influence the way they offer services compared to 42% who disagreed concurring with Davidson et.al, (2000) who pointed the presence of innovation in business as a key characteristic of growth. Majority of the respondents 66% disagreed that innovation influence the management flexibility in the health sector.

This finding is supported by Omachounu (2015) who found out that it is critical to answer the question what precipitates the embracing of innovation in healthcare sector? This is to help one to understand the process of innovation in the healthcare sector. Another way to frame the question is to ask what prompt the other is it needs that prompts innovation or vice versa. Where needs prompts innovation, new or present technology looks for a need to solve, whereas in the second case, new or present problems look after solutions in form of innovation

This finding showed that healthcare facilities in Nakuru County had not fully embraced innovation although they are aware that when applied, innovation would influence the way they offer services which agrees with the sentiment that innovation is particularly important for future growth according to (Braconier. Nicoletti and Westmore, 2014).The finding also indicated that innovation influences the management flexibility in the health sector.

The study established majority of respondents 66% Table 5 below observed that there was no innovation in healthcare facilities in Nakuru County which could be attributed to

cause the lack of growth of the infrastructures as innovation is important for future growth (Braconier. Nicoletti and Westmore, 2014), 19% who observed that there was innovation in the facilities disagreed that innovation did not bring growth in the Health sector compared to 15% who observed that innovation brought growth of the health care facilities. This finding indicated that innovation in healthcare facilities in Nakuru County was still low and that there was no significant growth that could be attributed to innovation in these facilities.

Table 6: Innovation brought growth in the Health sector

Response	Frequency	Percent
Yes	33	15%
No	43	19%
No Innovation	147	66%
Total	**223**	**100**

Source: Field Data (2016)

4.4 Influence of Technology on the Growth of Healthcare Infrastructures

The second objective of the study was to find out the influence of technology on the growth of healthcare infrastructures in Nakuru County. The key variables used to analyze this objective included; whether technology was embraced in the county healthcare sector, availability of modern diagnosing machines in the facilities and recommendation of the use of technology as a way of promoting growth of Healthcare.

Table 7: Influence of Technology on Health Care Facilities' Growth

Aspects of Technology	Yes	No
Embracing technology	33%	67%
Modern diagnosis machines	35%	65%
Technology promotes growth	79%	21%

Source: Field Data (2016)

The study established that majority of respondents 67% disagreed that technology was embraced in the county healthcare sector compared to 33% who agreed. Majority 65% disagreed that there were new modern diagnosing machines in the healthcare facilities in the County. Majority 79% agreed that recommendation of the use of technology as a way of promoting growth of Healthcare in Nakuru County (Table 7 above). This concurs with (Hebda & Maascara (2005) who pointed that as improved quality care, and the push for electronic health records continue to drive technology, leaders will need to be more and more involved in information system technology compared to 21% who disagreed. This finding indicated that technology has not been embraced in the County characterized by inadequate new modern diagnosing machines in the healthcare facilities in the County though it was recommended that the use of technology as a way of promoting growth of Healthcare in Nakuru County.

This finding is supported by a number of scholars who conducted various studies in various developing countries who found that use of ICTs in healthcare leads to better access to healthcare facilities on for both the patients and healthcare givers and improved quality of healthcare delivery, which consequently translates into productive labour which promotes growth of the country as a whole (Khan, Shahid, Hedstrom & Anderson, 2012; Oyeyemi & Wynn, 2014).

4.5 Influence of Leadership on the Growth of Healthcare Infrastructures

The third objective of the study was to evaluate the influence of leadership in the growth of healthcare infrastructures in Nakuru County. The objective was analyzed using the following variables; leadership rating, leadership structure, how leadership influences growth and influences of leadership on service delivery.

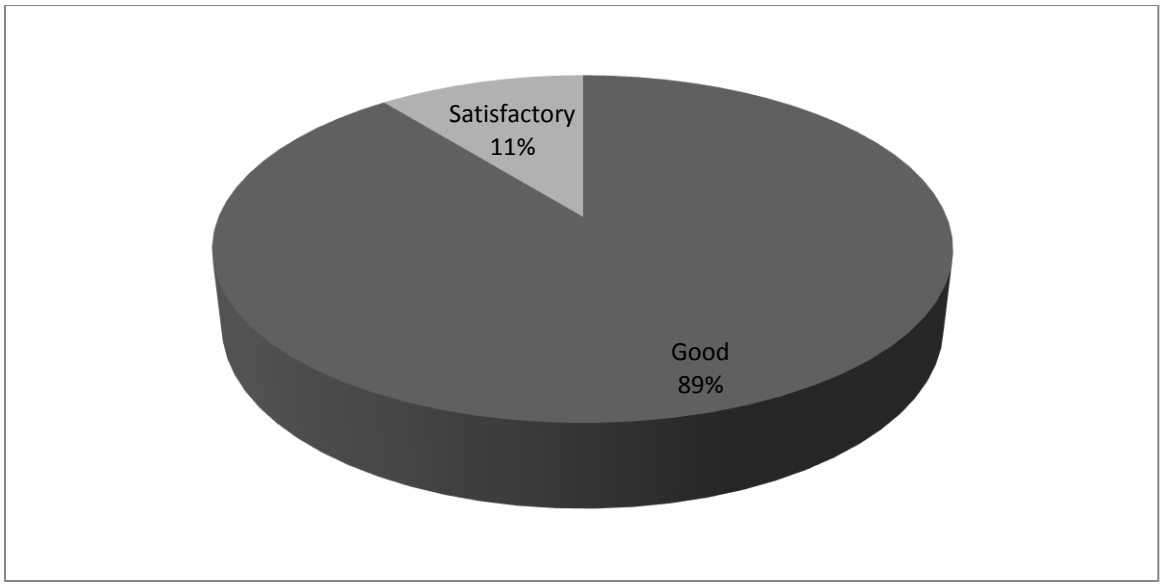


Figure 6: Rating the Leadership of the Facility

Source: Field Data (2016)

The study established as figure 6 above indicates majority of respondents 89% rated the leadership of healthcare facility as good compared to 11% who rated it to be satisfactory. This finding indicated that the healthcare facilities in Nakuru County had good leadership which can steer them on the growth track. Laaksonen et al. (2012) had pointed that for a leader to be effective he/she has to have ability to coordinate and make decisions, manage conflicts and relationships in a fair and equitable manner which will create teamwork.

Table 8: Structure of Leadership in the Facilities Supporting Growth of the Healthcare Sector

Rating	Frequency	Percent
Positively	144	65%
Negatively	79	35%
Total	**223**	**100%**

Source: Field Data (2016)

Majority of respondents 65% observed that the structure of leadership in the facilities positively supported growth of the healthcare sector compared to 35% who observed that

it negatively supported growth of the healthcare sector as Table 7 above shows meaning that there is good working relationship between the management and the employees.

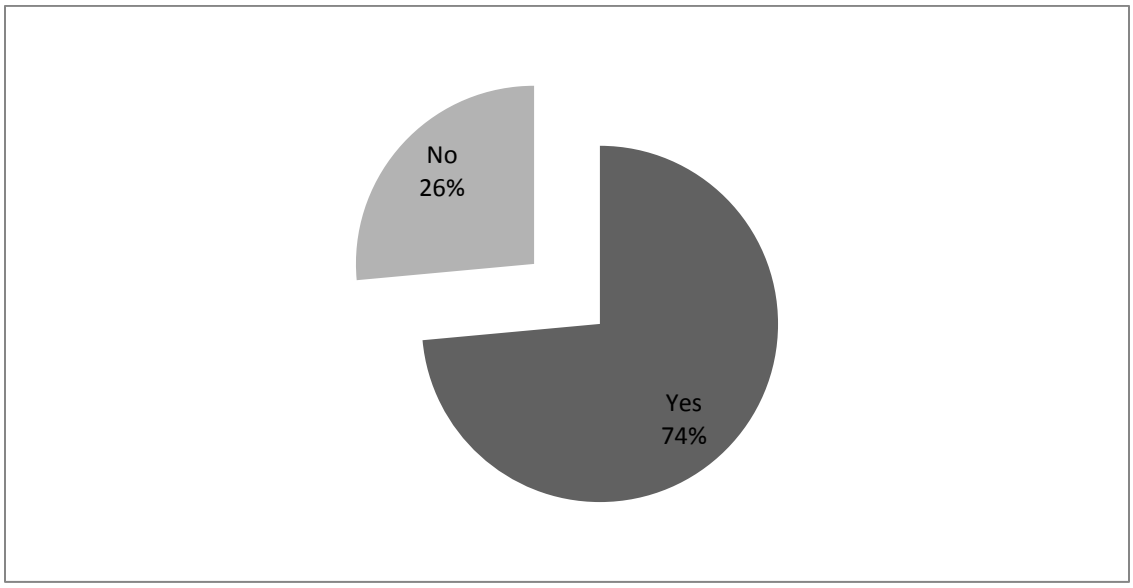


Figure 7: Leadership Influencing Growth of the Healthcare Sector

Source: Field Data (2016)

The study according to figure 7 above established that majority of respondents 74% agreed that the leadership of the healthcare sector influence the growth of the sector compared to 26% who observed that the leadership of the healthcare sector does not influence the growth of the sector. Leaders come up with visions and sets objectives for the organization therefore they are key for growth to be realized which Stogdill (1974) cited in traits theory as an innate trait for leaders that enables them to lead.

The study found out that majority of the respondents 74% observed that leadership of the health sector influence service delivery compared to 26% who observed that leadership of the health sector did not influence service delivery as per figure 8 below which (Chung-Hsiung Fang. Sue-Tung Chang & Guan-Li Chen, 2009) identified that leadership style affect organizational commitment and work satisfaction positively and work satisfaction intern can affect organizational commitment and work performance positively.

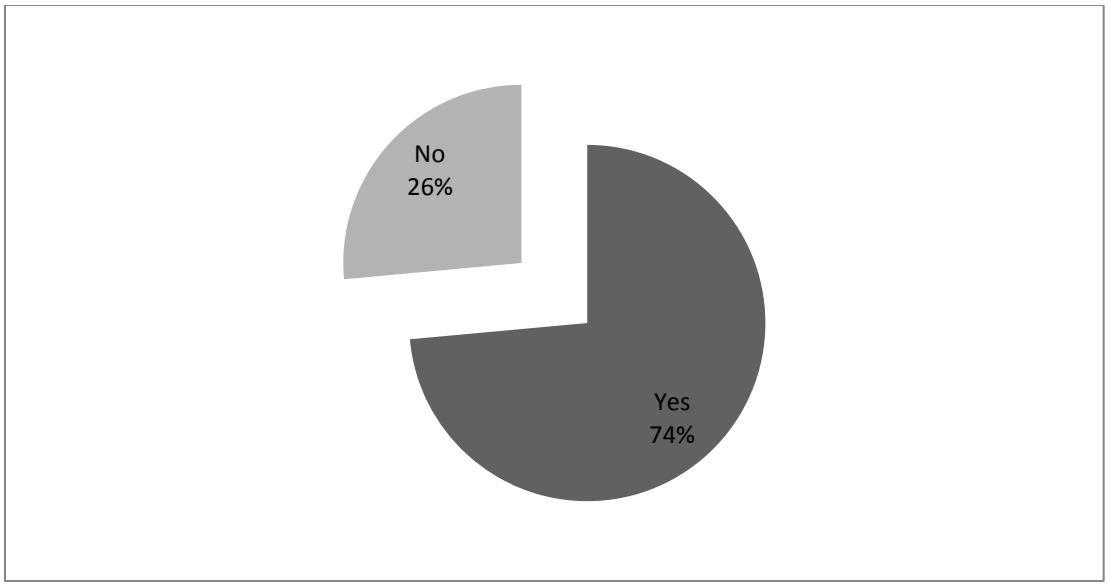


Figure 8: Leadership of the Health Sector Influence Service Delivery

Source: Field Data (2016)

As is established by the findings figure 8 above, leadership is the backbone of managerial process that supports communication; interaction skills, and the ability to listen, leading people and managing tasks; ability to coordinate and make decisions, which the employees of the health sector in Nakuru County have observed in the leaders hence the rating which (Laaksonen et al. 2012) supports.

4.6 Influence of Employees' Motivation on the Growth of Healthcare Infrastructures

The fourth objective of the study was to determine the influence of employees' motivation on the growth of healthcare infrastructures in Nakuru County. The key variables used in the analysis included; employees motivation, factors of demotivation, use of recognition, of awards and influence of lack of awards.

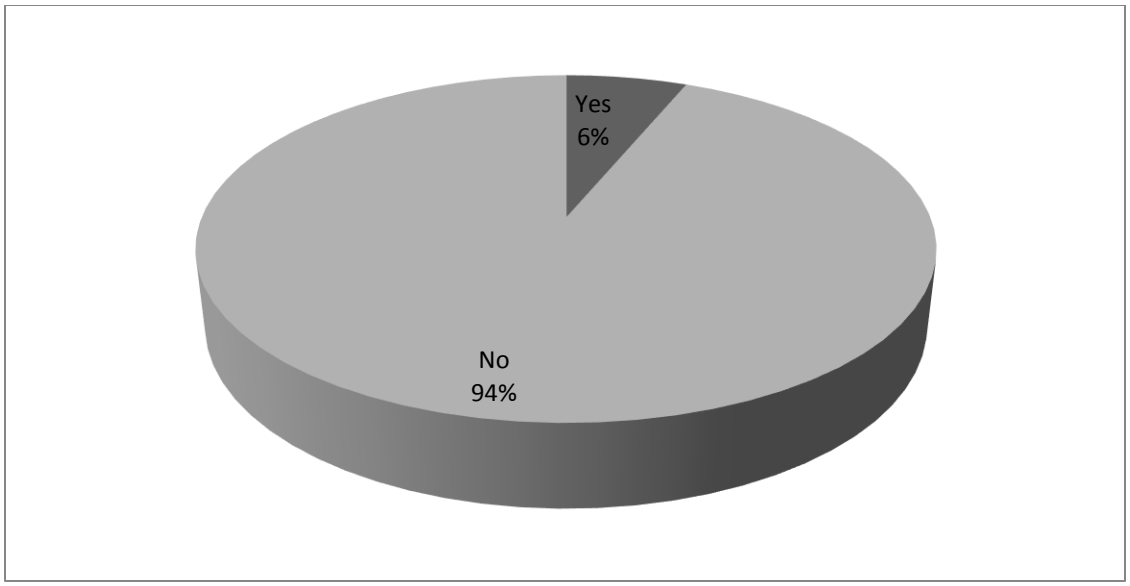


Table 9: Employees Motivation in the Facility

Source: Field Data (2016)

The study established that majority of respondents 94% were not motivated in the healthcare facilities compared to 6% who were motivated which posses a dangerous precedent for growth to be evident (Mathiprakasam,2003) points out that organizations can't perform well until employees skill are developed by getting better with them in terms of capacity building which motivates them. The study established that majority of respondent 47% were demotivated because the healthcare facilities did not recognize their efforts compared to 40% who were demotivated by being overworked and 13% were demotivated due to lack of equipment they required to carry out their work as depicted by Table 9 below. This finding indicated that the staff's working in the healthcare facilities in Nakuru County were demotivated due to lack of recognition of the efforts they put into work, being overworked and lack of equipment required when they carry out their duties.

Table 10: Reasons for De-motivation of employees in the Healthcare sector

Opinion	Frequency	Percent
Over working	89	40%
Lack of equipment	30	13%
Lack of recognition	104	47%
Total	**223**	**100.0**

Source: Field Data (2016)

This finding is supported by scholars (Jones & Kato, 2005)who discover in their research that (i) worker participation determination create better venture presentation through diverse channels including enhanced discretionary effort by workers; (ii) the opening of elevated appearance place of work practices are most outstanding view as savings, although present are important knowledge belongings; (iii) a variety of complementarities escort a lot of change in managerial plan (such as between teams and formal education). High worker participation affects performance in all areas, though its effect is weaker for sales revenue and market share.

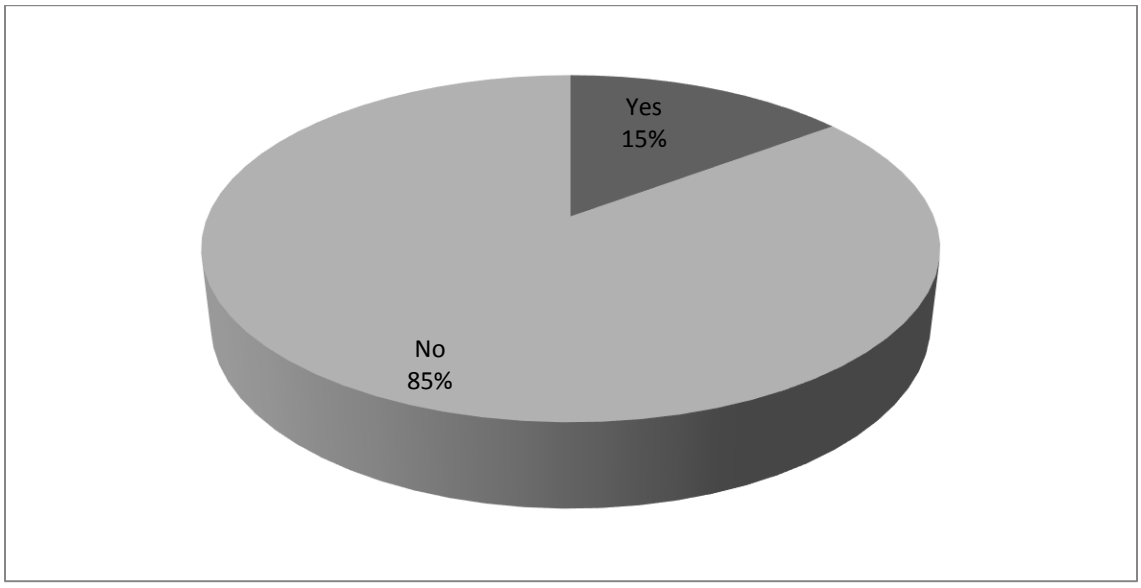


Figure 9: Management Recognition to Employees who excel

Source: Field Data (2016)

The study established that majority of respondents 85% observed that the management did not recognize those who excel well in service delivery compared to 15% who agreed. The finding indicated that the healthcare facilities management did not recognize those who excel well in service delivery leading to employees' dissatisfaction.

The finding is further supported by Owino and Korir (1997) who points out that the poor state of customer service in some public hospitals in Kenya has lead in high turnover and low morale among public healthcare employees, making it difficult to guarantee an all 24-hour service in hospital resulting in problems with patients care, increased cost of operations due to inefficiencies leading some patients looking for an alternative provider and to spread negative word of mouth which affects potential clients hence affecting growth of the public hospitals (Tam, 2005).

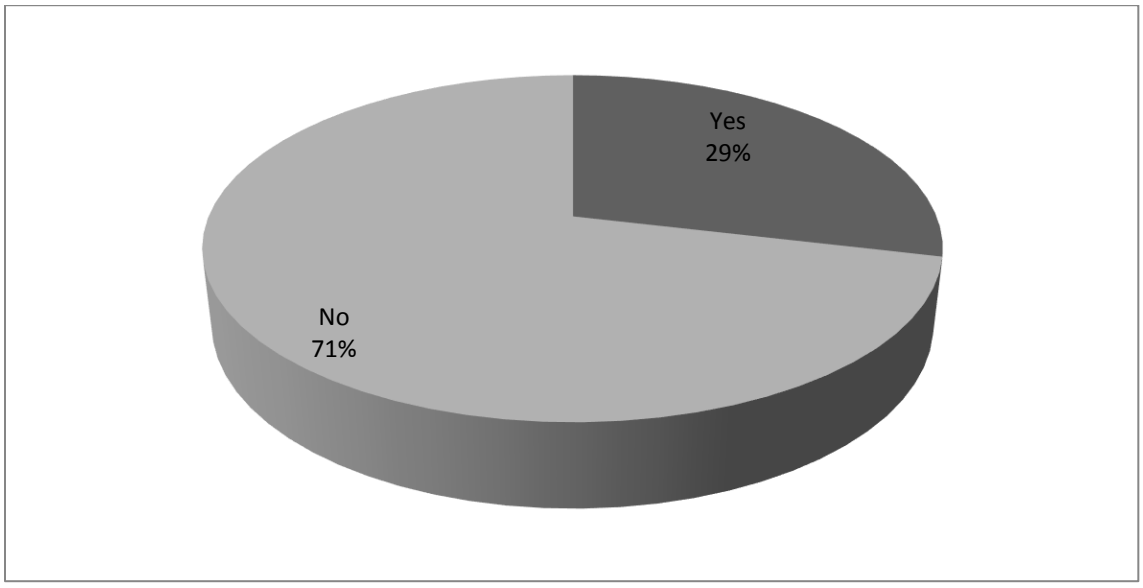


Figure 10: Availability of Long Service Awards

Source: Field Data (2016)

Majority of respondents 71% observed as figure 10 above indicated that the healthcare facilities did not have long service awards given to employees as an incentive of motivation compared to 29% who observed that such awards were given to employees.

Table 11: Long Service Awards negatively affecting the Growth of Healthcare Infrastructures

Response	Frequency	Percent
Yes	107	48%
No	53	24%
Available long service award	63	28%
Total	**223**	**100%**

Source: Field Data (2016)

The study established that majority of respondents 48% observed that Long Service Awards as negatively affecting the Growth of Healthcare Infrastructures compared to 24% who disagreed while 28% had observed availability of long service awards. The management has to look on ways to introduce the award as a motivation tool to the employees

4.7 Descriptive Statistics on Influence of Quality Management Systems on Growth of healthcare infrastructures.

The fifth objective was to evaluate the influence of quality management systems on independent variables and the dependent variable in Nakuru County. The key variables used to analyze this objective were availability of general procedures followed in the provision of services, staff evaluation in the healthcare facilities and standards and guidelines in service delivery.

Table 12: Influence of Quality Management Systems

Quality Management	Yes	No
General Procedures	87%	13%
Staff evaluation	30%	70%
Standards	93%	7%

Source: Field Data (2016)

Table 11 above presents the analysis of Influence of Quality Management Systems. The study established that majority of respondents 87% agreed that there are general procedures followed in the provision of healthcare services in Nakuru County compared to 13% who disagreed. Majority 70% disagreed that staff evaluation was conducted in the healthcare facilities compared to 30% who agreed. Majority of respondents 93% agree that there standards that are in place to guide in service delivery compared to 7% who disagreed. This finding therefore indicated that there was in place quality management systems evident by; availability of general procedures followed in the provision of healthcare services and standards that guided in service delivery, to the contrary the health care facilities did not conduct staff evaluation and therefore it was difficult no know skill gaps in the facilities which concurs with (Cohen and Leviathan, 2001) who found that to facilitate quality service and growth as a management system, hospitals must implement effective human resource strategies involving selective hiring and retention of physicians and nurses which was further supported by (Argote and Ingram,2000) who saw to improve efficiency in service delivery, public sector hospitals must build the capacity to a attract and employ an adequate number of high quality nurses.

4.8 Growth of Healthcare infrastructures in Nakuru County

The dependent variable of the study was growth of healthcare infrastructures. This section analyses the position of growth of healthcare infrastructures based on the following key variable; evident Growth of healthcare infrastructures, increase in the number of employees, innovation influence on growth, new healthcare facilities, technology influence on positively the growth, continuous improvement, investment in

research and development, doing surgery without referrals, leadership of the facilities has ability to promote growth, staff development and standards in place are generally acceptable globally.

Table 13: Riders to Health Care Infrastructure in Nakuru County in Percentage

Statements	**SA**	**A**	**N**	**D**	**SD**
	%	**%**	**%**	**%**	**%**
continuous improvement	18	5	35	5	38
investment in research and development	6	-	13	14	67
Doing surgery without referrals	14	-	21	12	53
Leadership promote growth	45	-	28	-	26
Staff development	12	-	21	13	55
Standards globally accepted.	9	-	66	6	19

Source: Field Data (2016)

The study established that majority of respondents43% disagreed that there was evident presence of continuous improvement in the healthcare facilities in Nakuru County compared to 35% who were neutral and 23% who agreed. Majority 81% disagreed that the healthcare sector had invested in research and development in the county compared to 13% who were neutral and 6% who agreed. Majority 65% disagreed that due to technology the healthcare facilities were able to do surgery without referrals compared to 21% who were neutral and 14% who agreed. Majority of respondents 45% agreed that the leadership of the facilities had ability to promote growth of healthcare facilities compared to 28% who were neutral and 26% who agreed. Majority 68% disagreed that there was staff development as a way of motivation compared to 21% who were neutral and 12% who agreed. Finally, majority of respondents 68% were neutral on the fact that

the healthcare standards in place were generally acceptable globally compared to 25% who disagreed and 9% who agreed.

This finding indicated that healthcare infrastructure in Nakuru County had no continuous improvement on the services they offered and they did no invest in research and development. The health care facilities lacked technology to enable them do surgery without referrals due to staff development as a way of motivation and lack of globally acceptable standards. The only growth rider the facilities had was the fact that the leadership of the facilities had ability to promote growth.

Table 14: Indicators of Growth of Healthcare infrastructures

Growth Indicator	**Yes**	**No**
	%	**%**
New facilities	66	34
Innovation	42	58
Technology	42	58
Evident of growth	31	69
Increase in number of employees	11	89

Source: Field Data (2016)

The study established that majority of respondents 66% agreed that the number of new healthcare facilities in the county had increased compared to 34% who disagreed. Majority 58% disagreed that innovation and technology influenced growth of the facility compared to 42% who agreed. Majority 69% disagreed that there was evidence of Growth of healthcare infrastructures in the county compared to 31% who agreed. Finally, majority 89% disagreed that there was increase in the number of employees in the facilities compared to 11% who agreed.

The finding indicated that apart from increase in the number of new healthcare facilities at 66% in the county which grew, there was no growth in the healthcare infrastructure. This was evident by the following specific findings on growth indicators; lack of

innovation and technology to influence growth of the facility and also lack of skilled employees in the facilities to steer growth of the infrastructure.

4.9 Influence of Innovation, Technology, Leadership, Staff Motivation and Quality Management on Healthcare Infrastructure Growth.

The main objective of the study was to find out factors influencing growth of healthcare infrastructures in Nakuru County. Indicators of measuring growth in the study design were; Innovation, Technology, Leadership, Staff Motivation and Quality Management.

4.9.1 Pearson Correlation between Innovation, Technology, Leadership, Staff Motivation and Quality Management on Healthcare Infrastructure Growth

The study established a weak negative correlation -0.045 with significance of 0.698>0.05 between innovation and health care infrastructure growth indicating that innovation positively influencing the growth of healthcare infrastructure in Nakuru County. Further finding indicated a weak positive correlation 0.126 with significance of 0.060>0.05 between technology and health care infrastructure growth indicating that technology though positive but had little influence on growth of healthcare infrastructure in Nakuru County. In terms of leadership, the study established a weak positive correlation 0.022 with significance of 0.743>0.05 indicating that leadership influence the growth of healthcare infrastructure in Nakuru County. The study established a weak correlation of 0.18 with significance of 0.784>0.05 indicating that employees motivation did not influenced the growth of healthcare infrastructure in Nakuru County. Finally, the study established a negative correlation -0.026 with significant level of 0.705>0.05 indicating that quality management greatly influences the growth of healthcare infrastructure in Nakuru County. The Table 14 below illustrates this.

Table 15: Correlation between Innovation, Technology, Leadership, Staff Motivation and Quality Management on Healthcare Infrastructure Growth

Growth	Innovation	Technology	Leadership	Motivation	Quality	growth
Pearson Correlation	-.045	.126	.022	0.18	-.026	1
Sig. (2-tailed)	.698	.060	.743	784	.705	
N	76	223	223	223	223	223

Source: Field Data (2016)

These findings further indicated that though there was innovations, technology, leadership, employee's motivation and quality management, they did not influenced the growth of healthcare infrastructure in Nakuru County.

4.9.2 Regression Analysis between Innovation, Technology, Leadership, Staff Motivation and Quality Management on Healthcare Infrastructure Growth

Table 16: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.096	0.09	-0.047	0.235

Source: Field Data (2016)

The R value was 0.096, which indicated a high degree of correlation. The R^2 value indicates how much of the dependent variable, "health infrastructure growth", was explained by the independent variables, "innovation, technology, leadership, motivation and quality management". In this case, 9% was the R Squared, which was too low indicating that the data collected was not closely fitted to the regression line.

Table 17: ANOVA of the Predictors and the Dependent variable

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.036	4	.009	.166	.955[a]
Residual	3.850	71	.054		
Total	3.886	75			

Source: Field Data (2016)

Predictors: innovation, technology, leadership, and employee's motivation. The sum square of the mean of the predictors was 0.036 giving a mean square of 0.009 with a significant level of 0.955 (Table 16 above) against the Dependable variable: health infrastructure growth. Table 16 indicated that the regression model did not predict the outcome variable significantly with p=0.955> 0.05, which was greater than 0.05, and indicated that; overall, the model significantly predicted the outcome variable.

4.9.3 Testing of the Hypotheses

Null hypothesis one H_0: Innovation does not influence the growth of healthcare infrastructure in Nakuru County.

The independent variables; technology, leadership, motivation and quality management were held constant. Innovation significantly contributed to the growth of healthcare infrastructure in Nakuru County. This was because innovation had p=0.709>0.05 table 17 below thus accepting the null hypothesis that innovation does not influence the growth of healthcare infrastructure in Nakuru County and rejecting the alternative **H_1**: that innovation influences the growth of healthcare infrastructures in Nakuru county. This is supported by (Lansisalmi, et al., 2006) who saw innovation becoming a fundament component for all healthcare organizations. (Govindarajan, 2007) concurred by pointing that new innovation once adapted will revolutionizing health care, making old assumptions invalid and creating unanticipated prospects for innovation and improvement of existing processes.

Null hypothesis two H_0: Technology does not influence the growth of healthcare infrastructure in Nakuru County.

Technology significantly contributed to the growth of healthcare infrastructure in Nakuru County.

Table 18: Full Regression Model

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model	B	Std. Error	Beta		
(Constant)	1.522	.327		4.654	.000
Innovation	-.044	.117	-.045	-.375	.709
Technology	.053	.116	.056	.459	.647
Leadership	.053	.125	.052	.427	.671
Motivation	.054	.118	.054	.448	.663
Quality	.009	.125	.009	.070	.944

Source: Field Data (2016)

This was because technology had p=0.647>0.05 table 17above accepting the**H_0** that technology does not influence the growth of healthcare infrastructure in Nakuru County and rejecting the alternative**H_1**: that technology influences the growth of healthcare infrastructures in Nakuru county. This concurs with studies conducted in various developing countries revealing that the use of ICTs in healthcare delivery leads to better access to healthcare for both patients and healthcare givers and improved quality of healthcare services (Khan, Shahid, Hedstrom & Anderson, 2012; Oyeyemi & Wynn, 2014).

Null hypothesis three: H0: Leadership does not influence the growth of healthcare infrastructure in Nakuru County.

Leadership significantly contributed to the growth of healthcare infrastructure in Nakuru County. This was because leadership had p=0.671>0.05 table 17above which shows

leadership is above the significant level thus accepting the **H_0**that leadership does not influence the growth of healthcare infrastructure in Nakuru County and rejecting the alternative**H_1**: that leadership influences the growth of healthcare infrastructures in Nakuru county. Scholar (Heikka 2008) on healthcare leadership focuses on consideration being paid on interpersonal skills and wellbeing at work where the local management should stress on the importance of interpersonal competence.

Null hypothesis four H_0: Employees' motivation does not influence the growth of healthcare infrastructure in Nakuru County.

This was because employees' motivation had p=0.663>0.05 accepting the**H_0** that employees' motivation does not influence the growth of healthcare infrastructure in Nakuru County and rejecting the alternative**H_1**that employees' motivation influences growth of healthcare infrastructures in Nakuru County. There is need to counter the level of demotivation in the health sector which the study revealed too high at 94% which can affect the productivity of the employees. (Apostolou, 2000), observed that every employee's input is asked for and should be recognized by the management. Employees and the management should work as a team while running the business.

Null hypothesis four H_0: Quality management does not influence the growth of healthcare infrastructure in Nakuru County.

This was because employees' motivation had p=0.944>0.05 accepting the**H_0** that quality management does not influence the growth of healthcare infrastructure in Nakuru County and rejecting the alternative**H_1**that employees' motivation influences growth of healthcare infrastructures in Nakuru County.

From the Unstandardized coefficients, the following equation was developed:

$y= 1.552-0.044x_1+0.053x_2+0.053x_3+0.054x_{4+}0.009x_5\varepsilon$

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The challenge of growth in healthcare infrastructure remains the big question in both the minds of policy makers and Kenyans; in that such commitment is not felt down in the counties such as Nakuru County hence her residents are experiencing the problem of healthcare infrastructure. The main aim of the study was to find out among many factors how innovation, technology, leadership, employees' motivation and quality management systems are influencing growth of healthcare infrastructures in Nakuru County.

5.2 Summary

Objective 1: To determine the influence of Innovation on the Growth of Healthcare Infrastructures in Nakuru County.

The study found out healthcare facilities in Nakuru County had not fully embraced innovation although they are aware that when applied, innovation would influence the way one offer services. The finding also indicated that innovation influence the management flexibility in the health sector.

Objective 2: To find out the Influence of Technology on the Growth of Healthcare Infrastructure in Nakuru County.

The study established that technology has not been embraced in the County characterized by inadequate new modern diagnosing machines in the healthcare facilities in the County though it was recommended that the use of technology as a way of promoting growth of Healthcare in Nakuru County.

Objective 3: To evaluate the Influence of Leadership on the Growth of Healthcare Infrastructures in Nakuru County.

This study revealed that the healthcare facilities in Nakuru County had good leadership which can steer them on the growth track. Further findings indicated that the structure of

leadership in the facilities positively supported growth of the healthcare sector and service delivery.

Objective 4: To determine the Influence of Employees' Motivation on the Growth of Healthcare Infrastructures in Nakuru County.

The study established that staffs working in the healthcare facilities in Nakuru County are not motivated due to lack of recognition of the efforts they put into work, lack of long service awards, being overworked and lack of equipment required when they carry out their duties.

Objective 5: To evaluate the Influence of Employees' Motivation on the Growth of Healthcare Infrastructures in Nakuru County.

The study established although there were general procedures of carrying out management activities, the health care lucked staff evaluation and work standards which are the main components of quality management and therefore making quality management contribute less to the growth of health care infrastructure in Nakuru County.

5.2 Conclusion

The main objective of the study was to find out factors influencing growth of healthcare infrastructures in Nakuru County. The study established that healthcare facilities in Nakuru County had not fully embraced innovation although they are aware that when applied, innovation would influence the way they offer services which agrees with the sentiment that innovation is particularly important for future growth. On technology the study found that technology has not been embraced in the County but majority of the respondents agreed that recommendation of the use of technology as a way of promoting growth of Healthcare in Nakuru County is essential. Leadership came out clearly with majority of respondents rating the leadership of healthcare facility as good compared to 11% who rated it to be satisfactory. This finding indicated that the healthcare facilities in Nakuru County had good leadership which can steer them on the growth track. On motivation the study established that majority of respondents were not motivated in the healthcare facilities. On quality management, the study established that the County did not do employees evaluation and did not have standards of operations which were a

challenge to quality management. All the five factors under study did not influence growth of healthcare infrastructure in Nakuru County.

5.3 Recommendations

5.3.1 To County Management

This study recommends to the management of Nakuru County and other counties to embrace innovation and technology which will go a long in bring growth in Healthcare Infrastructures in terms of new machines, modern facilities with operating theatres, qualified personnel's to meet the satisfaction of the mass seeking medical service from the public facilities as the public have exhibited confidence in public health facilities. The managements should adapt Quality management systems as it is vital for any organization to have a continuous growth and the counties management of healthcare sector should adapt quality management systems which are in line with international standards so that the quality standards missing could be implemented to make the facilities grow.

5.3.2 To other stakeholders

Employees and self employed contributions towards the health insurance scheme should continue with their contributions as part of enhancing of funding for the growth of the Healthcare infrastructures. This will also go towards the fulfillment of the government's intention of offering universal healthcare to all and meeting the millennium development goals. The study recommends training on use of technology for the employees so that they can embrace innovation and technology in the healthcare sector which will promote growth of infrastructures in the Counties.

5.3.3 To other Researchers

A comparative study on factors affecting growth of both public and private healthcare facilities should be conducted of which this study did not consider. The findings from such a study will help the two types of facilities learn from one another on how each type of facility handles the specific factors influencing growth. Also other variables rather

than what this study investigated can be researched on to find how they influence Growth of Healthcare infrastructure.

REFERENCES

Apostolou, A. (2000). *'Employee Involvment'.* Crete: Technical University of Crete.

Bhandari L & Dutta S. (2007). Health infrastructure in rural India. *India Infrastructure Report* , 265–285.

Blackwood. Bryson & Merritt. (2006). *Developing Human Capability Research Project.* Wellington: Industrial Relations Centre,Victoria University of Wellington.

Braconier. Nicoletti and Westmore. (2014). Policy Challenges for the Next 50 Years-OECD. *Economic Department Policy Paper no.9* .

Chung-Hsiung Fang . Sue-Ting Chang & Guan-Li Chen. (2009). Applying Structural Equation Model Among Leadership styles. *Organization Commitment and Performance in Hospital Industry* .

Colvin, A. (2003). The Dual Transformation of Workplace Dispute Resolution,Industrial Relations. *Vol.42 No.4* , 712-735.

Constitution of Kenya. (2010). *Constitution of Kenya.* Nairobi: Government Printers.

Cooper & Schindler. (2003). *Business Research Method.* New York: McGraw-Hill/Irwin.

Dawson, C. (2006). *Pratical Guide to Research Methods. second Edition.* 3Newtec Place,Magdalen Road,Oxford OX41 RE United Kingdom: How To Books Ltd.

Doyle, E. (2010). *The process of community Health Education and Promotion.* Route 83,Suite 101 Long Grove: Waveland Press,Inc. 4180IL.

Everett M. Shoemaker & Floyd Rogers. (1971). *Communication of Innovations.* New York, N. Y. 10022: The Free Press.

Falola I. & Heaton, M. (2008). *Health Knowledge and Belief Systems in Africa.* Durham-North Carolina 27710. USA: Carolina Academic Press.

Goh Yuan. Sheng Victor. and Geoffrey N.Soutar. (2005). University of Wester Australia the Role of Ethical Behaviors in the Relations between Leadership Stlye and Job Performance. *ANZMAC - Corporate Resposibility.* University of Western Australia.

Good & Carin. (2004). Individual and Organizational performance Arrangement. *Kalinigrad Workshop.* Kalinigrad.

Hebda & Maascara. (2005). *Handbook of Informatics for nurse & health Care Professionals 3rd Edition.* Upper Saddle River,New Jersey: Pearson Education,Inc.

Holtzman, Y. (2014). *A strtegy of innovation through development of portfolio of innovation capability' Journal of Management Development, Vol.33No.1,pp24-31.*

Jones & Kato. (2005). Effects of Employee Involvement on FirmPerformance. *Evidence froman Econometric Case Study William Davidson* , Working Paper No.612.

Kothari, C. (2008). *Research Methodology-Methods and Techniques.* New Delhi: New Age International (P) Ltd Publishers.

Kreitner, R. (1986). *Management. Third Edition.* Boston: Houghton Mifflin Company.

Leedy & Ormrod. (2015). *Pratical Research, Planning and Design, Eleventh Edition.* Edinburgh Gate Harlow Essex CM20 2JE . England: Pearson Education limited.

Lombardo.M.M, (1983). *Off the Track.* Green Boro. NC: Centre for creative leadership.

Lucey, T. (2005). *Management of Information Systems.* North Way,Andiver Hampshire-United Kingdom: Cengage Learning. Cheriton House.

Lyytinen. Rose & Yoo. (2002). Learning in High Gear: Hyper-Learning and Dynamic capability in Seven Software Firms. *Working Paper on Information environment and systems and Organization* , vol.2 Issue 4 Article10 pg 161-195.

Mathiprakasam, M. (2003). The seven Habits of Highly Effective Entrepreneurial Organizations Management Science and engineering. *Stanford University* .

Melyoki, L. (2005). *Determinants of effective Corporate Governance in Tanzania.* Twente: University of Twente,Netherlands.

Moorhead Gregory. (1998). *Organizational behavior : managing people and organizations 5th ed.* Boston: Boston : Houghton Mifflin, c1998.

Mugenda and Mugenda. (1999). *Research Methods: Quantitive and Qualitative Approaches.* Nairobi: Acts Press.

Murray, P. (2007). Uncovering Leadership Issues in Papua New Guinea. *The 4th SME's in global economy confrence 9th-10th July* .

Nantha, Y. S. (2013). Journal of Health Organization and Management. *Vol.27 Iss*, 266-272.

Neha & Shah. (2011). Examing Quality and Efficience of the US healthcare Systems . *International Journal of Healthcare Quality Assurance.Vol.23No.4* , 458-474.

Neyman, J. (1934). On two diferent aspects of the representatative method: The method

of stratified sampling and the method of purposive selection. *Journal of the Royal Statistical Society* , pg.588-625.

Organization of Economic Cooperation and Development. (2015). The Future of Productivity. *unpublished* .

Pals & Kathuri, N. (1993). *Introduction to Educational Research.* Njoro Kenya: EMC Egerton University.

Patel, A. G. (2014). "Health care infrastructureamenities. *Journal of Technology Management in China* , Vol. 9 Iss 3 pp. 245 - 262.

Robert, A. C. (2010). *Effective Leadership,Fourth Edition.* Canada: Cengage Learning.Nelson Educational ltd.

Robinson B, J. A. (2011). *Strategic Management.Formulation,Implementation and Control.* New York,NY 10020: McGraw-Hill/Irwin.1221 Avenue of the Americas.

Rogers, E. M., & Shoemaker, F. F. (1971). *Communication of Innovations.* New York, N. Y. 10022: The Free Press.

Romer P.M. (1986). Increasing Returns and Long Run Growth. *Journal of Political Economy 94:1002* , 38.

Sababu, B. (2010). *Human Resource & Industrial Relations.* Enterprise Rd. Nairobi: Jomo Kenyatta Foundation.

Savory & Fortune. (2014). "An emergent sectoral innovation system for healthcare services",. *Vol. 27 Iss 6* , pp. 512 - 529.

Sedevich-Fons, L. (2013). Healthcare quality costs based on an ISO9000 MODEL. *Leadership in Health Services* , Vol.26 Iss3pp.184-195.

Solow, R. M. (2007). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics* , Vol. 70, No. 1. (Feb., 1956), pp. 65-94.

Spencer, H. (1873). *A System of Philosophy, Descriptive Sociology.* New York: D. Appleton and Company.

Stogdill, R. (1974). *Handbook of Leadership- A Survey of the literature.* New York: New York Free Press.

Swan, T. W. (1956). Economic Growth and Capital Accumulation. *Economic Record vol.32* , 334-361.

Twycross & Shields. (2004). Validity and Reliability-What's it all about. *Padiatric Nursing* , Vol.16 No.9 Pg28.

Wamai, R. (2009). The Kenya Health System-Analysis of the situation and Enduring challenges. *JMAJ 52(2)* , 134-140.

Ward, D. (2007). *Organizational Performance.* Integrated Performance Systems Inc.

Wood, C. (2011). *Community Health.* Nairobi- Kenya: English Press Ltd, Enterprise Rd.

Zikmund, W. G. (2001). *Marketing Creating and Keeping Customers in an E-commerce.* Cincinnati OH: South-Western.

APPENDICES

Appendix 1: Questionnaire

Dear Respondent

I am Peter Munge Joseph a student St Paul's University doing Masters in Business Administration Degree. My study requires that I undertake a field study on the Factors Influencing Growth of Healthcare Infrastructures in Nakuru County. I kindly request your assistance in filling in this questionnaire to help me achieve my study objective. I consent that all responses made will be used for academic purposes and I guarantee confidentiality. In advance, I take this opportunity to thank you for sparing your time and for your co-operation.

General Information

1. What position do you hold in the facility?

Doctor ( ) Clinical officer ( ) Nurse ( )

2. How long have been in service?

1- 10Years ( ) 11-20 Years ( ) 21-30 Years ( )

3. Do the residents of Nakuru County seek services from public Health Facilities?

Yes ( ) No ( )

Influence of Innovation on the Growth of Healthcare Infrastructures

4. Is there presence of innovation in the healthcare sector in Nakuru County?

Yes ( ) No ( )

5. Does innovation influence the way you offer services? Yes ( ) No ( )

6. Does innovation influence the management flexibility in the health sector?

Yes ( ) No ( )

7. I f yes above has it brought growth in the Health sector? Yes ( ) No ( )

Influence of Technology on growth of healthcare Infrastructures

8. In your opinion is technology embraced in the county healthcare sector?

Yes ( ) No ( )

9. Are there new modern diagnosing machines in the facility you work?

Yes ( ) No ( )

10. Would you recommend the use of technology as a way of promoting growth of Healthcare in Nakuru County? Yes ( ) No ( )

Influence of leadership on growth of health infrastructures

11. How would you rate the leadership of the facility you are working?

Good ( ) Satisfactory ( )

12. Is the structure of leadership in the facilities supporting growth of the healthcare sector? Yes ( ) No ( )

13. In your opinion does the leadership of the healthcare sector influence the growth of the sector? Yes ( ) No ( )

14. How does the leadership of the health sector influence your way of service delivery?

Positively ( ) Negatively ( )

Influence of Employees motivation on growth of Healthcare infrastructures

15. Are you motivated in the facility where you are working? Yes ( ) No ( )

16. If No, why?

i) Over working

ii) Lack of equipment

iii) Lack of recognition

17. Does the management recognize those who excel well in service delivery?

Yes ( ) No ( )

18. Do you agree that employee's motivation do influence growth of healthcare infrastructures? Yes ( ) No ( )

19. Are their long service awards? Yes ( ) No ( )

20. If No does this influence the negatively the growth of healthcare infrastructures?

Yes ( ) No ( )

Influence of Quality Management Systems

21. Are there general procedures followed in the provision of healthcare services in Nakuru County? Yes ( ) No ( )

22. Are there staff evaluation in the healthcare facilities? Yes ( ) No ( )

23. Are there standards that we are in place to guide in service delivery?

Yes ( ) No ( )

Growth of Healthcare infrastructures

24. Is there evident Growth of healthcare infrastructures in the county?

Yes ( ) No ( )

25. Is there increase in the number of employees in the facilities? Yes ( ) No ( )

26. Has innovation influenced growth of the facility where you are working?

Yes ( ) No ( )

27. Do you witness coming up of new healthcare facilities in the county?

Yes ( ) No ( )

28. Has technology influenced positively the growth of healthcare facilities in the county?

Yes ( ) No ( )

Please rate the level of agreement regarding the following statements. One answer for each question; Kindly tick in one of the boxes labeled 1.2,3,4 and 5 on the right hand side, they depict

5-Strongly agree 4- Agree 3- Neutral 2 Disagree 1- Strongly disagree

No.	**Statements**	**5**	**4**	**3**	**2**	**1**
1.	There is evident presence of continuous improvement in the healthcare facilities in Nakuru county.					
2.	The healthcare sector is investing in research and development in the county					
3.	Due to technology the healthcare facilities are able to do surgery without referrals					
4.	The leadership of the facilities has ability to promote growth of healthcare facilities					
5.	There is staff development as a way of Motivation					
6.	The healthcare standards in place are generally acceptable globally.					

Thank you for your most valued time in participating in this research.

Appendix 2:Letter of Authority from Department of Health Nakuru County

REPUBLIC OF KENYA
NAKURU COUNTY GOVERNMENT
DEPARTMENT OF HEALTH SERVICES

Telegrams "PROVMED"Nakuru
Tele: Nakuru 2216710 Fax 22
EMAIL: cohealth.nakuru@gmail.com

CHIEF OFFICER, HEALTH SERVICES
NAKURU COUNTY
P.O. BOX 2060
NAKURU

When reply please quote:

REF. NO.: R18/HS/2016/21 **DATE:** 31st March, 2016.

TO WHOM IT MAY CONCERN

RE: BRIEF REPORT ON HEALTH INFRASTRUCTURE IN NAKURU COUNTY

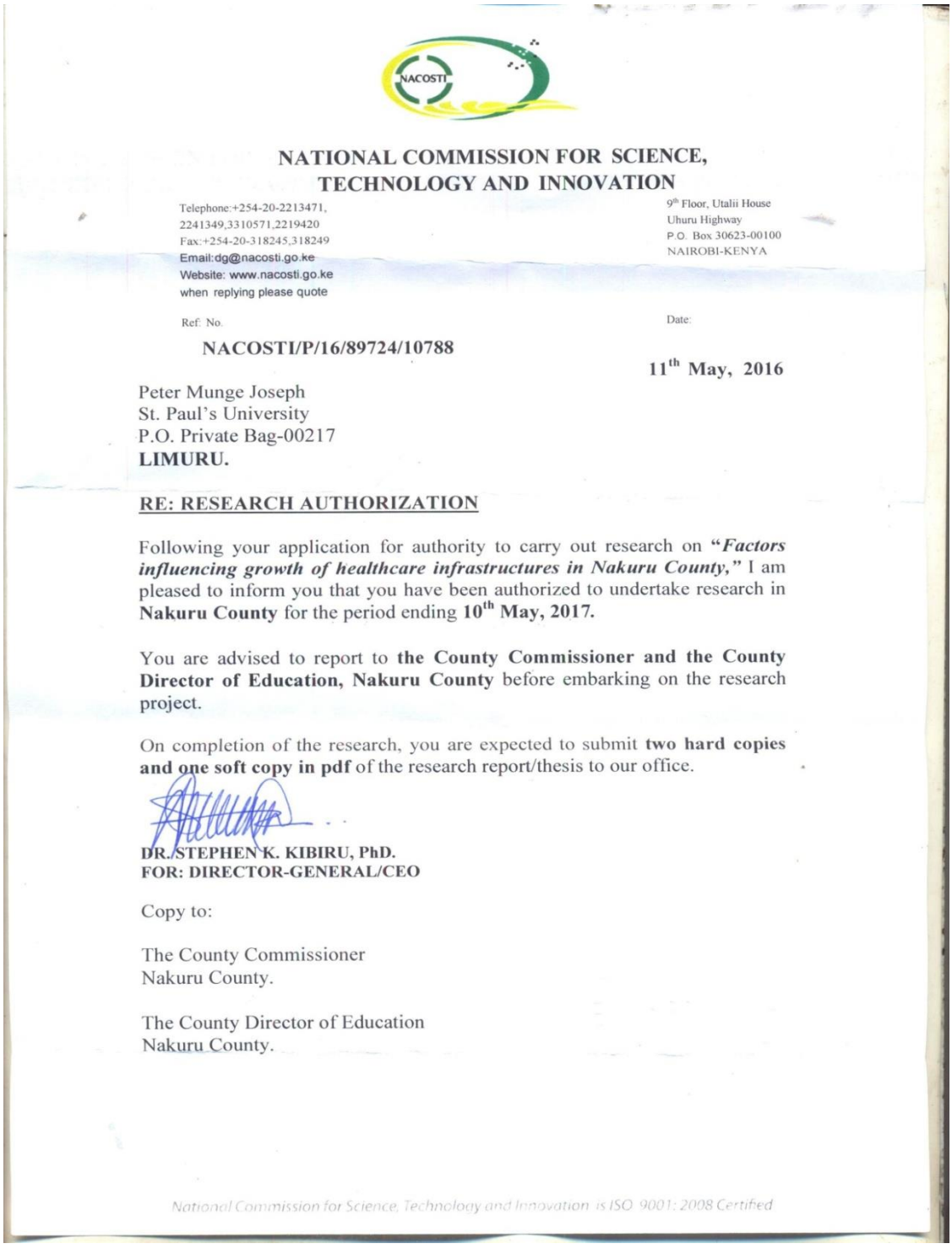
In response to your request letter dated 22nd March, 2016 on the subject matter above, find the information below:-

NUMBER OF ALL PUBLIC HEALTH FACILITIES				
Hospitals	Health Centres	Dispensaries	-	-
16	23	122	-	-
NUMBER OF EMPLOYEES				
Doctors	Nurses	Clinical Officers	PHOs	Total Health Workers
168	1300	198	200	2,456

CHIEF OFFICER HEALTH SERVICES NAKURU COUNTY Date.....Sign.....

DR. SAMUEL MWAURA
CHIEF OFFICER HEALTH SERVICES
NAKURU COUNTY

Appendix 3:Authorization from National Commission for Science, Technology and Innovation (NACOSTI)



NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION

Telephone:+254-20-2213471,
2241349,3310571,2219420
Fax:+254-20-318245,318249
Email:dg@nacosti.go.ke
Website: www.nacosti.go.ke
when replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No.

NACOSTI/P/16/89724/10788

Date:

11th May, 2016

Peter Munge Joseph
St. Paul's University
P.O. Private Bag-00217
LIMURU.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Factors influencing growth of healthcare infrastructures in Nakuru County,"*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for the period ending **10th May, 2017.**

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

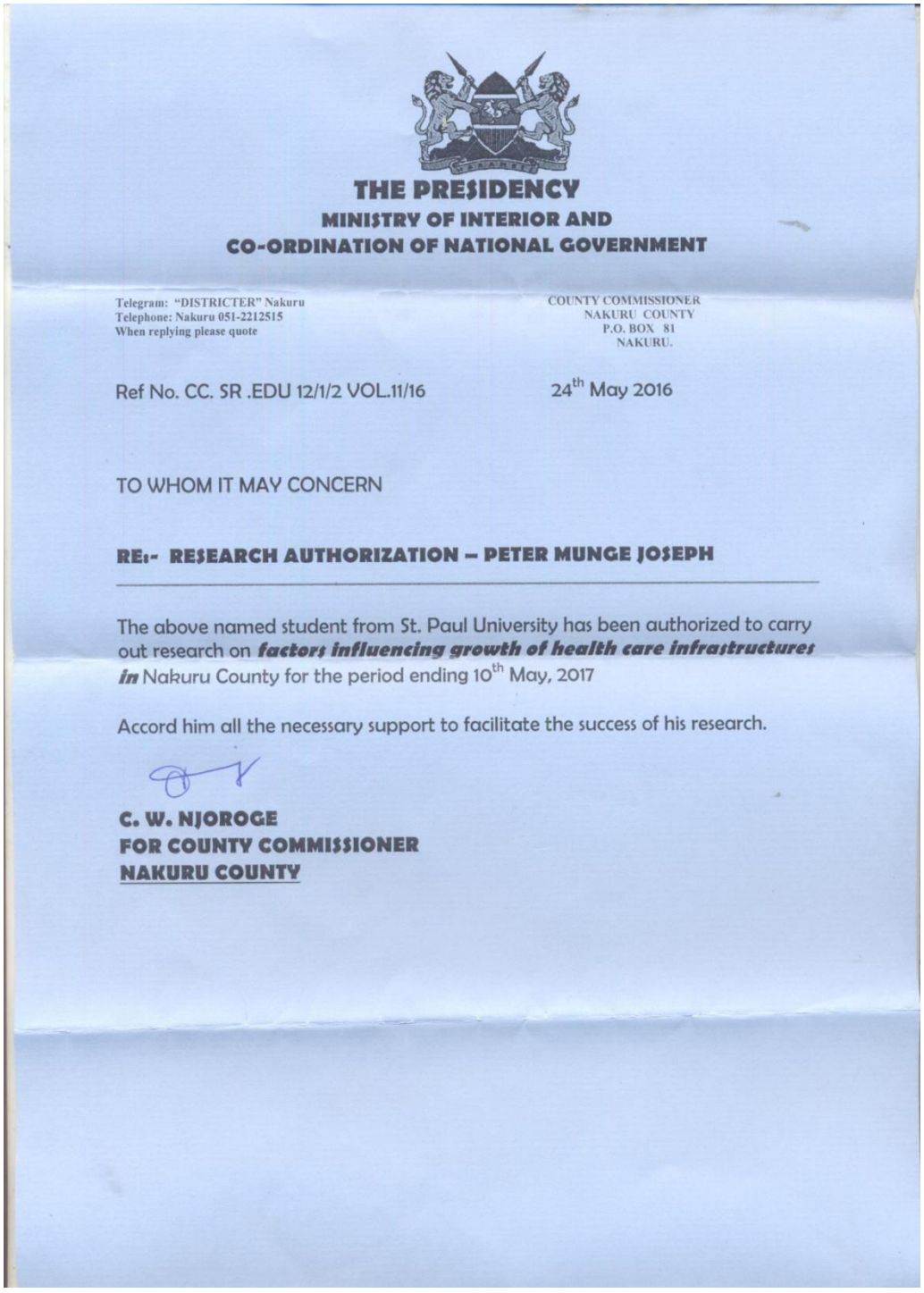
Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

National Commission for Science, Technology and Innovation is ISO 9001: 2008 Certified

Appendix 4: Authority from County Commissioner



THE PRESIDENCY

MINISTRY OF INTERIOR AND
CO-ORDINATION OF NATIONAL GOVERNMENT

Telegram: "DISTRICTER" Nakuru
Telephone: Nakuru 051-2212515
When replying please quote

COUNTY COMMISSIONER
NAKURU COUNTY
P.O. BOX 81
NAKURU.

Ref No. CC. SR .EDU 12/1/2 VOL.11/16

24th May 2016

TO WHOM IT MAY CONCERN

RE:- RESEARCH AUTHORIZATION – PETER MUNGE JOSEPH

The above named student from St. Paul University has been authorized to carry out research on ***factors influencing growth of health care infrastructures in*** Nakuru County for the period ending 10th May, 2017

Accord him all the necessary support to facilitate the success of his research.

C. W. NJOROGE
FOR COUNTY COMMISSIONER
NAKURU COUNTY

Appendix 5: Letter of Authority from the Ministry of Education, Science and Technology

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
State Department of Education

Telegrams: "**EDUCATION**",
Telephone: **051-2216917**
Fax: **051-2217308**
Email: **cdenakurucounty@yahoo.com**
When replying please quote
Ref. NO. **CDE/NKU/GEN//4/1/21/VOL. IV/39**

COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY
P. O. BOX 259,
NAKURU.

23rd May, 2016

TO WHOM IT MAY CONCERN

RE: RESEARCH AUTHORIZATION – PETER MUNGE JOSEPH
PERMIT NO.NACOSTI/P/16/89724/10788

Reference is made to letter NACOSTI/P/16/89724/10788 dated 11th May, 2016.

Authority is hereby granted to the above named to carry out research on ***"Factors influencing growth of healthcare infrastructures in Nakuru County"*** for a period ending **10th May, 2017.**

Kindly accord him the necessary assistance.

SAMMY MALABA
FOR: COUNTY DIRECTOR OF EDUCATION
NAKURU COUNTY.

Copy to:

St. Paul's University
P. O. Box Private Bag
LIMURU