INFLUENCE OF CORPORATE ENTREPRENEURSHIP ON PERFORMANCE OF HEALTHCARE UNITS IN NAIROBI CITY COUNTY, KENYA

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Influence of Corporate Entrepreneurship on Performance of Healthcare Units in Nairobi City County, Kenya

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DECLARATION

This Thesis is my original work and has not been presented for a degree in any other University.

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This Thesis has been submitted for examination with our approval as University supervisor.

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DEDICATION

I dedicate this thesis to my loving husband Mr. Leonard Wafula Wakoli, my daughter Panita Nafula, my daddy Henry Mumaraki, and to all my Siblings for their tireless support, both financial and moral throughout the research work. I also dedicate the thesis to my late mom Edina Nabwoba Mumaraki who tirelessly encouraged me to further my studies and even paid part of my University fees while on her sick bed.

Finally, this thesis is dedicated to the Creator, the Almighty God, who gave me the physical and mental strength to undertake and accomplish this project in the prescribed period of time.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA Analysis of variance

AVE Average Variance Extracted

CDSS Communicable Diseases Surveillance Systems

CE Corporate Entrepreneurship

CEO Chief Executive Officer

CFA Confirmatory Factor Analysis

EO Entrepreneurial Orientation

FDI Foreign Direct Investment

GDP Gross Domestic Product

HBV Hepatitis B Virus

HCV Hepatitis C Virus

HCW Health Care Worker

HIV Human Immunodeficiency Virus

ICU Intensive Care Unit

ISIC International Standard Industrial Classification

IV Intravenous

KMO Kaiser- Meyer Olkin

MDGs Millennium Development Goals

NHIF National Hospital Insurance Fund

NSIs Needle- Stick injuries

OLS Ordinary Least Squares

OECD Organization for Economic Corporation and Development

PDA Population and Community Development Association

SME Small and Medium Enterprises

TB Tuberculosis

VIF Variance Inflation Factor

WHO World Health Organization

DEFINITION OF TERMS

Competitive aggressiveness: It is the tendency to intensely and directly challenge competitors rather than trying to avoid them. For instance, reduction of the cost of healthcare services, increase the budget for research activities, and improving on the quality of services provided to improve patient outcomes (Nobile & Husson, 2016).

Contagious disease: Any communicable disease (Concise Medical Dictionary, 2008).

Corporate entrepreneurship this is the process through which existing healthcare corporations gear towards development of new services, products and processes. All these changes are intended to reduce maternal mortality, reduce child mortality, and also increase referrals to the healthcare units (Maijala, 2016).

Health Centre : A building owned or leased by a community trust or a Health Authority, which houses personnel and/ or services from one or several sections of the National Health Services (Concise Medical Dictionary, 2008).

Healthcare System/Unit : Is the national or local organizations that provide medical and/ or health care. The structure of the system has to accommodate progress in medical interventions, consumer demand and economic efficiency (Brooker *at el.*, 2005).

Healthcare unit: It is an official health agency that is established either by urban or rural authorities, or individual citizens to provide healthcare services to the community. The services are usually provided by qualified health personnel working on full time basis (Machado, et al., 2010).

Infant Mortality: is the rate of the number of deaths of infants under 1 year of age per 1000 births in a given population (Ladewig *at el.*, 1994).

Innovation: It is the firm's tendency to engage in and support new ideas, uniqueness, experimentation and creative processes that may result in new products, services or technological processes (Clark, 2010).

Manual Handling: Is any transporting or supporting of a load (including lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or by bodily force (Health and Safety Executive 1998a as in Jamieson, *at el.*, 2007).

Maternal Mortality: Is the number of deaths from any cause during the pregnancy cycle (including the 42- day post-partal period) per 100,000 live births (Jemieson, *at el.*, 2007).

Moving and handling :Any transporting or supporting of a load- including the lifting, putting down, pushing, pulling, carrying, throwing and moving by hand bodily force (Health and Safety Executive 1998a, as in Jamieson, *et al.*, 2007).

Nurse in Charge: Is the person normally associated with hospital work alongside the doctor (Clarke, *et al.*, 1994).

Performance: This the accomplishment of the goals and objectives by healthcare units that are set against cost, speed, accuracy as well as completeness. It is through measurement that the performance can be determined through objective measurement to determine the achievements verses the set targets in regards to its include on healthcare service provision (Shaw, 2003).

Proactiveness: It is the state in which healthcare organizations experience improved degree off HealthCare resulting from undertaken by doctors, nurses, hospital management, and healthcare regulatory bodies.

Some of the actions taken include early detection of diseases, disease prevention, improving the skill level of the medical personnel and improving professionalism (Rehnstrom & Dahlborg-Lyckhage, 2016).

Referral to Healthcare unit -it is the process whereby healthcare providers at lower levels of the health system who lack facilities and equipment seek assistance of health providers who have better equipment and have more skilled personnel (Janati et al., 2017).

Risk: It is the probability of damage or liability of loss that results from vulnerabilities which can be avoided through pre-emptive actions. In the healthcare system, interactions with health processes and procedures pose threat due to complexity of processes, time pressure, and intensely complex procedures (Alam, 2016).

R**isk taking:** It is the possibility of loss related to quickness in taking bold actions and committing resources in the pursuit of new opportunities within the healthcare unit. It could include manual handling, lifting and handling in teams, taking bold actions to achieve objects (Heinonen & Vuorinen. 2013).

ABSTRACT

Globalization and regionalization has catapulted entrepreneurship to the centre stage of the global arena. The complex global and regional dynamics has ensured that Corporate Entrepreneurship has become fundamental in influencing performance of healthcare sector in the world over. Kenya's entrepreneurship environment is characterized as highly bureaucratic and turbulent, facing large and highly efficient adversaries from abroad. Therefore, the usage of modern entrepreneurial concepts and methods is essential for further development and growth of Kenyan healthcare units if they want to compete on today's global market. Implementation of entrepreneurial activities in every day's life of Kenyan healthcare units should be an imperative to provide so desired improvement on care and treatment of expectant, nursing mothers and the new born and young children. The study specifically sought to determine how the four constructs of Corporate Entrepreneurship namely: proactiveness, risk taking, innovativeness and competitive aggressiveness influence the performance of healthcare units in Kenya. To compete effectively, healthcare units must constantly improve their performance by reducing maternal mortality, reducing child mortality and increasing the number of referrals to the healthcare unit. The study adopted a survey research design and the target population were the healthcare units in Nairobi, Kenya. The target population was healthcare units in Nairobi which comprised of County Hospitals, Health Centres and Health Clinics/Dispensaries totalling to 71 and the sample size was 49. Data was collected using questionnaires and analysed using SPSS and Microsoft Excel. Inferential data analysis was carried out by the use of factor and correlation analysis. Regression models were fitted and hypothesis testing carried out using multiple regression analysis and standard F and t tests. The findings of this study from multiple regression analysis indicated that proactiveness, competitive aggressiveness, innovativeness and risk taking, all positively influence performance of healthcare units in Nairobi, Kenya. The study results leads to the conclusion that corporate entrepreneurship improves the performance of Healthcare units in Kenya, with proactiveness having the highest influence followed by, competitive aggressiveness, risk taking and innovativeness having the least influence among the variables. The study recommends that healthcare units should focus on practicing proactiveness, competitive aggressiveness, risk taking and innovativeness since their practice is necessary to ensure improved performance. The research also recommends that healthcare units should diagnose their Corporate Entrepreneurship needs and develop practical solutions for activating business goals by effectively practicing corporate entrepreneurship to enhance their performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Corporate entrepreneurship (hereafter CE) is crucially important to the survival, profitability and to the growth of a firm. This is due to the fact that (CE) activities tend to stimulate creativity and innovation as well as encourage a culture of calculated risk taking throughout the firm's operations which may reinforce the firm's position in existing markets by entering a new and lucrative growth fields (Zahra, Filatotchey & Wright, 2009). Corporate entrepreneurship in a healthcare unit leads to improved performance in terms of reduction of maternal and neonatal mortality within the Healthcare units. This is due to the fact that CE activities tend to stimulate creativity and innovation as well as encourage a culture of calculated risk taking throughout the Healthcare unit's operations.

Though there is consensus that corporate entrepreneurship is beneficial for the organizational performance, there is still disagreement on the actual dimensions of the corporate entrepreneurship constructs. Antonic and Hisrich (2001) argue that the constructs could be classified into four dimensions, namely; new business venturing, innovativeness, self-renewal, and proactiveness. Lumpkin and Dess (1999) argue that firm level entrepreneurship has five characteristics; innovativeness, proactiveness, risk taking, autonomy, and competitive aggressiveness. Zahra (1995) argues that there are three dimensions of CE such as venturing, innovation, and self-renewal. This study has used four characteristics of corporate entrepreneurship namely; proactiveness, risk taking, innovativeness and competitive aggressiveness.

Reduction of maternal and child mortality remains a major challenge to attaining global social and economic development. Worldwide, more than 515,000 women die each year from pregnancy and childbirth complications while four million babies die within the first week (neonatal period) of life. Almost all of the maternal deaths occur across all developing countries where 450 women per every 100,000 live births die during

pregnancy, childbirth or at postpartum period (ROK, 2006; WHO, 2007) as cited in Kiprono, M. K. (2009).

Empirically, several studies have been conducted on this issue especially in the case of developed countries. Focus of these studies was on the correlation between corporate entrepreneurship dimensions in different analysis scenarios. These include comparisons between countries (Antoncic & Scarlet, 2008), between young and matured companies (George, 2005; Antoncic & Scarlet, 2008; Aktan & Bulut, 2008) and between manufacturing and non-manufacturing entities (Antoncic & Scarlet, 2008).

Healthcare unit performance is positively impacted by CE practices which tend to create a significant contribution on their competencies, and this in turn becomes a great boost for further enhancing innovativeness. Different researchers have used different phrases while referring to this topic of Corporate CE. Zahra (1995) refers to it as Corporate entrepreneurship while other authors label it differently such as: Entrepreneurship (Miller, 1983), Intrapreneurship (Kuratko, 1993), Entrepreneurial posture (Covin & Slevin, 1991), Strategic posture (Covin & Slevin, 1988), and also as Entrepreneurial Orientation. In this study the phrases Corporate Entrepreneurship (CE) and Entrepreneurial Orientation (EO) will be used inter changeably. Enrico (2003) defines Corporate Entrepreneurship as a process of recognizing and exploiting profit opportunities within existing organizations. This study defines corporate entrepreneurship as a process of improving performance of Healthcare units through reduced child mortality, reduced maternal mortality and through increased referrals to the Healthcare unit.

Senaji and Kamau (2011) defines corporate entrepreneurship as a process by which teams within an established company conceive, foster, launch and manage a new business that is distinct from the parent company but leverages the parent's assets, market position, capabilities or other resources. In Schumpeterian innovation concept, corporate entrepreneurship involves the pursuit of creative or new solutions to challenges confronting the Healthcare unit, including the development or

enhancement of old and new products and services, markets and administrative techniques and technologies for performing Healthcare unit functions. In this context, changes in strategy, Healthcare unit structures and systems and methods of dealing with competitors may all be seen as innovations in the broadest sense of the term.

Corporate entrepreneurship consists of formal or informal activities aimed at creating new businesses in established companies through product and service innovation and market developments. An innovation can be a new product or service, an administrative system, or a new plan or program pertaining to Healthcare unit staff. These activities can occur at any level inside the Healthcare unit with the goal to improve Healthcare unit's competitive position and performance. Kalokovic, Bori, and Bojan (2007) argue that CE centers on enhancing the company's ability to acquire innovative skills, capabilities and activities which are an important aspect of organizational and economic development and wealth creation. From a resource based perspective, corporate entrepreneurship is a key means of accumulating, converting, and leveraging resources for competitive purposes.

Gopal and Shilpa (2007) argue that CE entails self-renewal through providing so desired improvement or creation of new business solutions, production methods and product, and that leaders and managers must not only be aware of CE but should also understand it in order to be able to strategize and position for organizational viability. As a growing competitive advantage for organizations, succeeding in corporate entrepreneurship is a necessity in today's market place. In order to succeed, the organization must set a vision that encourages growth, rewards risk taking and leverages innovation by adapting to the fast changing global economy. No two researchers seem to agree on the definition of the term Corporate Entrepreneurship (CE), also referred to as Entrepreneurial Orientation (EO). Corporate entrepreneurship is still relatively new and unexplored area. Therefore, research in the area is increasing in the literature of business administration due to the fact that it has been recognized so far by many managers and scholars as a critical success factor for organizational survival.

Characteristic dimensions of corporate entrepreneurship are new business venturing, product/service innovation, process innovation, self-renewal, risk taking, proactiveness and competitive aggressiveness. New business venturing refers to a formation of autonomous or semi-autonomous units or companies where these newly created entities can abide within or outside existing organization. Innovation is a process that provides added value and novelty to the enterprise, its suppliers and customers through the development of new procedures, solutions, products and services as well as new methods of commercialization. Innovation of products, services and processes involve development and innovation of technology. It can be seen as product development, product improvements and new production methods and procedures. Self- renewal dimension reflects the transformation of organizations through renewal of key ideas on which organizations are built and includes a redefinition of business concept, reorganization and introduction of system-wide changes for innovation.

In a Healthcare industry, innovation could be achieved through use of existing technology to reinvent delivery, standardizing operating procedures, using the right skilled workforce, opening up new revenue streams, through borrowing someone else's assets and moving services close to patients. Risk taking refers to the possibility of loss related to quickness in taking bold actions and committing resources in the pursuit of new opportunities. In Healthcare units, risk taking could also include violence from patients, threats from patients and employees, contracting communicable diseases, bullying from employees, infections from HIV/ AIDs, working without handling aids (or lack of protective gear), Manual Handling, lifting and handling in teams and lifting and lowering. It also means that a company is not afraid to break away from routine, safe, well known core business and venture, into the unknown.

Proactiveness represents company's posture of constant seeking for new opportunities by anticipating and acting on future wants and needs in the market, involving introduction of new products or services before competitors. In Healthcare industry, it includes coming up with ways or barriers and accident prevention, hazard

analysis, tool setting, safety management and diseases prevention. Competitive aggressiveness reflects the intensity of a company's efforts to outperform industry rivals. It is characterized by aggressive and forceful responses to competitor's actions as stated by Lumpkin and Dess (2001). Wiklump and Shepherd (2004) observed in their research that business organizations that have high level of CE expose willingness to innovate, to take risks, to try out new and uncertain products and services, and to be proactive than competitors towards opportunities in the market places.

Crucial role in achieving CE activities of transforming an organization into entrepreneurially oriented organization is to have creative and proactive employees with the vision of future trends. These individuals, who are also employees of the firm, are better known as intrapreneurs. The intrapreneurs are the hands-on champions who transform ideas into improved firm performance. They do not need to be the source of the idea, though often they are. An intrapreneur's primary purpose is to identify the potential value in the idea and passionately support the idea within the company to capture the value. An intrapreneur is a visionary who is internally motivated by challenge and a strong sense of what is needed by the company, not by promotions. Within this process of CE the principal roles of an entrepreneurial employee, are to challenge bureaucracy, to assess new opportunities, to align and exploit resources and to move the innovation process forward. The intrapreneur's management of the innovation process will lead to greater benefits for the enterprise.

Zain and Abdelaziz (2007) as cited in Lwamba, Bwisa and Sakwa (2014) observed that most researches in Malaysia have shown evidence suggesting that an entrepreneurial management style is common to successful companies. They reiterated that large firms have been able to sustain high levels of performance by behaving entrepreneurially. That, for firms to achieve sustained innovation and long term excellence in the product-market field organizations, they should maintain a culture that supports and encourages performance improvement. That this sort of culture that promotes CE or a culture that encourages its employees to be creative and innovative will enable them to realize and take advantage of opportunities

whenever they arise. Zain and Abdelaziz (2007) observed that influence of CE on company growth in a developing Malaysia environment has not been investigated before. Wang, Yen and Hong (2010) in their research on EO and Performance in China revealed that, for entrepreneurial firms to maximize their overall performance, they should match their level of innovativeness, proactiveness, and risk-taking with the characteristics of the external environment. The overall entrepreneurial orientation is positively related to firm performance in the Chinese firms which agrees with the research results from Lumpkin and Dess (2001).

However, a study by Kalokovic, Sisek, and Milovanovic (2007) on Croatian firms revealed that there is no presence of a strong link between company's entrepreneurial intensity, comprised of company's degree of entrepreneurship and company's frequency of entrepreneurship, and the performance of large Croatian companies measured by a value indicator. However, their study also revealed that large companies, due to the specific transitional Croatian economy, are risk averse and that they are not the first movers in the market place.

A research in Turkey on financial Performance Impacts of Corporate Entrepreneurship in Emerging Markets by Bora and Bulut (2008) revealed that each dimension of EO- innovativeness, risk taking, proactiveness and competitive aggressiveness have positive correlation with financial performance. This study aims to bridge the gap by trying to establish whether Corporate Entrepreneurship in the Kenyan Healthcare Units has an influence on their performance.

There are people in African cities, towns, and rural villages who individually or as a group have the passion to create products, goods, new markets, and quality services who, if believed and encouraged, could become vibrant contributors to the African economy, providing diversity of employment and renewed hope for their cities, towns and rural villages. Mokaya (2012) carried out a study on the Kenyan firms to find out how CE affects Organizational Performance. His study revealed that CE is closely related with firm performance, with firms experiencing high performance levels being characterized by intrapreneurial intensity. He argues that companies that

institute CE as a process that infiltrate and spread throughout the entire organization tend to achieve positive results over time. This is usually in terms of improved internal efficiencies, higher employee morale and major improvements in financial performance.

Mokaya (2012) noted that it takes considerable time to create a truly entrepreneurial company. Senior managers usually become frustrated with the lack of performance and try to implement some new management trend that will immediately bring success. This is definitely not the case with implementing entrepreneurial behaviour within a company. Therefore, implementing a process of corporate entrepreneurship that penetrates in the company's culture, structure and systems will show significant results over longer time period.

Many studies (Kolakovic, Boris & Bojan, 2007; Mokaya, 2012; Bora & Bulut, 2008; Yang, Li-Hua, Zhang & Wang, 2007; Wang, Yen, Hong & Tsai, 2010; Senaji & Kamau, 2011) link corporate entrepreneurship to the company's growth and profitability. Empirical evidence that corporate performance by increasing company's proactiveness and willingness to take risks by pioneering the development of new products, processes and services can be found in all the literature. Koigi (2011) in her study on improving organizational effectiveness on Public enterprises in Kenya observed that the sector lacks in service delivery and organizational performance. Her research confirms the need for Kenyan Public sector, just like the private large firms to adopt corporate entrepreneurship that would enhance and improve on their service delivery and organizational performance.

This research intended to; one, determine whether the constructs of corporate entrepreneurship (CE) developed in other areas of study are applicable to the Healthcare Unit in Kenya; two, to investigate the relationship between the dimensions of corporate entrepreneurship, which are innovativeness, risk taking, proactiveness, and competitive aggressiveness, and performance of Healthcare Units in Kenya.

Healthcare industry, also referred to as medical industry, is an aggregation of sectors within the economic system that provides goods and services to treat patients with curative, preventive, rehabilitative, and palliative care. The modern health care industry is divided into many sectors and depends on interdisciplinary teams of trained professionals and paraprofessionals to meet health needs of individuals and population at large. This industry is one of the world's largest and fastest- growing industries' consuming over 10% of gross domestic product (GDP) of most developed nations (RoK, 2011).

World Health Organization (WHO) revealed that health costs paid into the Health care industry in the United States in the year 2011 consumed 17.9% of the Gross Domestic Product, being the largest of any country in the world and that it will continue its upward trend to reach 19.6% of the GDP by 2016. It also revealed that in the year 2001, for the Organization for Economic Corporation and Development (OECD) countries the average was 8.4% with the United States (13.9%), Switzerland (10.9%), and German (10.7%) being the top. In Kenya however, only 4.6% of the nation's GDP was invested in its healthcare industry which has a serious implication for the country's urgent healthcare problems (RoK, 2011).

Although Kenya is making significant gains in promoting awareness of health and wellness, preventable diseases remain a serious issue. Malaria is one of the country's biggest problems with thousands of children dying every year from this treatable disease. Improving access, coverage and quality of health services depends on the ways services are organized and managed, and on the incentives influencing providers and users. In market- based health care systems, such services are usually paid for by the patient or through the patient's health insurance company (RoK, 2011). Other mechanisms include government- financed systems (such as the National Health Services in the United Kingdom, & NHIF in Kenya).

Study done by Monyaro (2012) on factors contributing to brain drain in public Hospitals in Kenya revealed that; one, only about half of the respondents indicated organizations provided them with opportunities for career growth, two, that there are

workplace risks and only 53.7% of employees are trained on risk management and three, that only 43.9% had attained degrees and others were below degree level.

Another research by Trivedi and Joshi (2009) on usage of electronic journals versus print journals by healthcare professions revealed that most of the research scholars are referring to e-journals as well as print journals from their departmental library as well as computer centers in the central libraries. The study also revealed an inherent problem especially with the use of e- journal for example computer illiteracy, lack of computer training, inability to revealing particularly relevant health based information via various advanced database.

Kenya's Vision 2030 for health is to provide "equitable and affordable health care at the highest affordable standard" to her citizens. Good health is expected to play an important role in boosting economic growth, poverty reduction and the realization of social goals. The majority of Kenyans still do not have access to affordable health care. Under the Vision 2030, Kenya was to restructure the health delivery system and also shift the emphasis to "promotive" care, in order to lower the nation's disease burden. This has improved access and equity in the availability of essential health care and result in a healthy population that will effectively participate in the development of the nation (RoK, 2007).

Wangalwa et al., (2012), in their research on Effectiveness of Kenya's community Health Strategy in delivering community- based maternal and new-born health care in Busia County, revealed that maternal mortality ratio and neonatal mortality rate trends in Kenya have remained unacceptably high. That the implication on the Kenya health policy and practice is for the policy to focus on people centeredness and participatory approaches in delivery of health care services. In the year 2007, the ministry of Public Health and Sanitation adopted a community health strategy to reverse the poor health outcomes in order to meet Millennium Development Goals 4 and 5 (RoK, 2011).

In Nairobi the standard of healthcare varies significantly based on the type of treatment needed and the kind of healthcare institution a patient can afford. There are several medical centers, private hospitals, and people who practice individually who supplement the public healthcare units managed by the government (Nderitu, 2016). The health system in Nairobi as well as other counties within the country is structured in a hierarchy-like manner where the complexities of the sickness determines the level at which one gets treated. At the lowest level there are dispensaries/ health clinics, Health Centers, County Hospitals like Mama Lucy, Mbagathi county Hospital, and Pumwani Maternity and Referral Hospitals (Kenyatta National Hospital and Nairobi Hospital). However, the healthcare services in county public hospitals have continued to deteriorate contrary to the expectation of many. This can be attributed to frequent strikes, inadequate funding and lack of political goodwill (Wanjau, Muiruri & Ayodo, 2012).

The Healthcare Unit that will survive and thrive is the one that has adopted corporate entrepreneurship (Clark & Ventures, 2013). The Unit should take its available resources and identify new, innovative ways to deliver customer- centric services. In innovation there is need for improved services or a new technology is discovered when a customer interacts with an existing service. Many of the most compelling innovations studied come not from resource- rich developed countries but from emerging markets, reasons being that: one, necessity breeds innovation; in the absence of adequate health care, existing providers and entrepreneurs must improve. The second, because of weaknesses in the infrastructure, institutions, and resources of emerging markets, entrepreneurs face fewer constraints. The provision of quality health care to the Kenyan citizens faces a number of challenges namely: high cost of medical care and other access factor, under funding which affects the supply of adequate critical inputs such as medical staff, medical supplies and drugs, capital investments, operations and maintenance. Other constraints include a weak yet extremely vital Health Management Information Systems (RoK, 2010).

1.2 Statement of the problem

Corporate Entrepreneurship as entrepreneurial activities in established organization is an important aspect of organizational economic development and wealth creation. Studies of corporate entrepreneurship, entrepreneurial orientation and intrapreneurship have grown rapidly and they tend to argue that CE can lead to superior firm performance which is a part of successful organization. The Healthcare industry is one of the World's largest and fastest growing industries. The industry consumes over 10% of the gross domestic product (GDP) of most developed nations, it can form an enormous part of a country's economy.

Medical Care is characterized by enormous inefficiency with high costs and poor outcomes. These high costs lead to poor performance by the Healthcare units, but practicing of CE can help reduce the costs through innovation and creativity. In other industries characterized by inefficiency, efficient firms expand to take over the market, or new firms enter to eliminate inefficiencies which do not happen in medical care (Cutler, 2010).

Most of the researches have been in the manufacturing sector, micro and medium enterprises and also in Kenyan large enterprises and not much has been done to measure performance of Healthcare units. Many of the Healthcare units, in their process of transformation to the market economy are accepting new business approaches and models, one of them being corporate entrepreneurship. The process of its acceptance goes slowly and wrought with different problems.

Globally Healthcare units are still performing poorly although they registered a decrease in the number of child deaths from 12.5 million in 1990 to 8.8 million in the year 2008 (Danzhen *et al.,* 2010) as cited in Wangalwa *et al.,* (2012). This decrease in child death is an indication of improved performance of the Healthcare units. Wangalwa *et al.,* (2012) also revealed that neonatal deaths accounted for about one third of child deaths and that they are linked closely to slow progress in reduction of maternal mortality. The high maternal and new-born mortality in the sub- Saharan Africa is related to unsafe maternal and new-born health practices.

These poor performance in the Health sector; maternal and neonatal health trend in Kenya is a replica of other sub-Saharan African countries where the maternal mortality ratio is estimated to be 488 women per 100,000 live births which has not significantly changed over the last decade as reported by the Kenya Demographic and Health Survey (2003) as cited in Wangalwa *et al.,* (2012). Kenya Demographic and Health Survey (2008-2009) observed an improved performance in the Health sector due to the under- five reduced mortality between the years 2003 and 2008 from 36% and 32% respectively but neonatal mortality marginally declining by 6.1%. Wangalwa *et al.,* (2012) revealed that maternal mortality ratio and neonatal mortality rate trends in Kenya have remained unacceptably high.

Health Sector Working Group Report (2012) reported an improved performance in the sector with a reduction of under-five and infant mortality but reported a poor performance on the side of maternal mortality having deteriorated from 414 in 2003 to 488 deaths per 100,000 live births in 2008-9.

Dustin (2010) revealed that in Kenya, the overall under five child mortality ratio is approximately 121 per 1000 live births, which is roughly double the global average. This is a measure that reveals poor performance of the Healthcare sector. Dustin (2010) also observed that this number drops significantly to 90 per 1000, for the wealthiest 20% of the population, while it jumps to nearly 150 for the poorest 20%.

Experience over the years has shown that to improve maternal new-born health and reduce morbidity and mortality, efforts should focus on building capacities at individual, family, community levels to ensure appropriate self-care, prevention, and care-seeking behaviour. These practices are associated to CE practices of Proactiveness, Risk taking, innovativeness and Competitive Aggressiveness. Elder *et al.,* (1999) as cited in Wangalwa *et al.,* (2012) revealed that limited resource settings, community-level interventions are potentially effective ways to address the problem at its roots, as decisions to seek and access health care are strongly influenced by the social-cultural environment.

Reviews of past studies on Corporate Entrepreneurship effect on Firms has been mainly on production firms, established organizations, Stock Exchange Firms, Emerging Markets, and Manufacturing Firms and also on general performance measures for Health care systems. These past studies have failed to examine how CE influences performance of Healthcare units and specifically in terms of reduced maternal mortality, reduced child mortality and increased referrals to the Healthcare unit. The Healthcare units have a great potential for improvement in terms of reduced maternal mortality, reduced child mortality and through increased referrals if only they practice Corporate Entrepreneurship.

Poor quality health care leads to increased maternal mortality, increased child mortality and reduced referrals to the healthcare units. However, not enough studies have been done locally to unearth the influence corporate entrepreneurship has on performance of Healthcare Units in Kenya. This study therefore seeks to fill the knowledge gap by determining how corporate entrepreneurship influences the performance of Healthcare units in Kenya.

1.3 General objective

The aim of this research was to investigate the influence of Corporate Entrepreneurship on performance of Healthcare Units in Kenya.

1.4 Specific objectives

1. To determine how proactiveness influences the performance of Healthcare units in airobi County.

2. To determine how risk taking influences the performance of Healthcare units in Nairobi County. .

3. To find out how innovativeness influences the performance of Healthcare units in Nairobi County.

4. To find out how competitive aggressiveness influences the performance of Healthcare Units in Nairobi County.

1.5 Research Hypotheses

This study sought to test the following hypotheses:

H_{o1}: Proactiveness has no influence on the performance of Healthcare units in Nairobi County .

H_{o2}: Risk taking has no influence on performance of Healthcare units in Nairobi County.

H_{o3}: Innovativeness has no influence on the performance of Healthcare units in Nairobi County.

H_{o4}: Competitive aggressiveness has no influence on the performance of Healthcareunits in Nairobi County.

1.6 Significance of the study

Norman and Nieuwenhuizen (2009) in the Model of entrepreneurship development aver that for entrepreneurship to thrive within a National economy, it would take the entire Society comprising governments, academic institutions, 'fiancé' institutions and communities in general to carve an overall social environment that is conducive to entrepreneurship. In view of the above statement, the following potential stakeholders are highlighted.

At universities and other institutions that conduct research, the study, findings will contribute to the pool of additional literature. It will foster the principle of generalizability from the business world to Public and non- profit making organizations because of the special nature of public Sector organizations and their environment. The public sector presents the highest opportunity because of the dynamics of its environment. The beneficiaries or customers sometimes, are not

necessarily the service payers and because of the government's other interests and priorities, which might not necessarily be the same as the organization's. The study would help Healthcare Units in Kenya to re- engineer themselves and become performers.

Within the Healthcare Units, this study will sensitize the managers of the sector to understand what factors shape entrepreneurial behaviour and enhance performance, which factors will the intrapreneurs embrace to grow their Health care Units. The study will contribute towards a better understanding of the sources of competitive advantage for Healthcare Units in Kenya. These Healthcare Units will thus improve the sources of competitive advantage in order to build a sustainable CE and improve their Performance.

The outcome of this research will provide the government with information that can be used as input for policy development which is focused on entrepreneurship. The government may use the results of this study to encourage the Healthcare Unit managers to practice more corporate entrepreneurship so as to uplift their contribution to the country's GDP.

This study sought to assess the level to which Healthcare Units are entrepreneurial according to a measurement of corporate entrepreneurship. An investigation has been made into which corporate entrepreneurial dimensions are associated with entrepreneurial performance. It is argued that these are important findings, which significantly extend contemporary entrepreneurial theory into Healthcare Units in the Kenyan context. The insight generated would avail a deeper knowledge of corporate entrepreneurship and Performance of Healthcare Units. This insight will in turn contribute to an opportunity to understand entrepreneurial theory within a dynamic context that is currently changing. Davisson (1991) argues that entrepreneurial knowledge should focus on the phenomenon of continued entrepreneurship in order to be able to develop more theories, as the mechanisms that underlie the behaviour of entrepreneurship are not sufficiently understood. The Kenyan context provides insights into continued entrepreneurship which allows for the extension of and

testing of internationally developed theory relating to the behaviour of entrepreneurship within the local environment with regard to local participants.

1.7 Scope of the Study

This study focused on Healthcare units in Nairobi County. The County has a total of 71 Healthcare Units under the Ministry of Health Services according to Nairobi County records provided by Nairobi city county Health Facilities February, 2015. Nairobi City County is preferred due to the many Health centers that it has. The Healthcare units are in four categories namely: Referral Hospitals, County Hospitals, Health centres and Health Clinics/Dispensaries. The referral Hospitals were excluded from the study since they do not only serve Nairobi County but they also serve the rest of the Country. Ten percent of the target population were used for piloting and were not included in the main research.

1.8 Limitations of the Study

It was hard to access some Healthcare units due to their location. This was mitigated by the use Research assistants who live in these areas. Some of the respondents were hesitant to give the information freely fearing that it could be used against them. To cab this problem, area Health Officers had to be called upon to talk to the respondents to give out information.

It was quite hard to follow up on the questionnaires during data collection process since the respondents are not always in the Healthcare units, only come in to see the patients at their own time. This made it hard to get them in their offices. This was overcome by the research assistants making several trips to the Healthcare units before getting the questionnaires back.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Firms must compete in a complex and challenging context in the twenty-first century business landscape that is being transformed by many factors ranging from globalization, technological advancement, changes in customer tastes and preferences, to rapid environmental changes. This new changes require healthcare units and other firms to search for better competitive approach for modern business as the traditional concerns and orientations of service at healthcare units do not respond adequately to fundamental environmental changes particularly in the healthcare service. Thechapter provides an overview of related literature and also looks at related past studies in this area and the gaps inherent in firms in terms of CE implementation and their performance.

2.2 Theoretical Framework

In an attempt to explain the relationship between Corporate Entrepreneurship and firm performance, the study focused on four competing normative theories as debated by numerous researchers: Innovation Theory of Schumpeter, Discovery Theory of Entrepreneurship, Creative Theory of entrepreneurship and Theories of Corporate Entrepreneurship. Universalistic scholars argue that there is a set of CE practices which if adopted by a firm, would lead to enhanced organizational performance. A different point of view is held by the contingency scholars who argue that there is no one best way to organize a corporation, to lead a company, or to make decisions but instead, the optimal course of action is contingency (dependent) upon the internal and external situation; it is all contingent on an organization's context, culture and business strategy.

Resource based view is an economic tool used to determine the strategic resources available to a firm. These resources can be exploited by the firm in order to achieve sustainable competitive advantage. The configuration theory emphasizes on the importance of achieving both internal and external fit in the organization. This means that a Healthcare unit hires highly skilled workforce which is a way of practicing innovativeness or opening up new revenue will lead to an improved performance. This is in agreement with the resource based view.

2.2.1 Innovation Theory of Schumpeter (1934)

Schumpeter's (1934) theory of innovative profits emphasized the role of entrepreneurship and the seeking out of opportunities for novel value and generating activities which would expand and transform the circular flow of income through risk taking and pro activity by the enterprise leadership and innovation which aims at fostering identification of opportunities through intellectual capital of the entrepreneur to maximize the potential profit and growth of the firm. Schumpeterian growth theory goes beyond economist theory by distinguishing explicitly between physical and intellectual capital, and between saving which makes physical capital to grow, and innovation, which also makes capital grow. It supposes that technological progress comes from innovations carried out by firms motivated by the pursuit of profit, and that it involves what Schumpeter called "creative destruction".

That each innovation is aimed at creating some new process or product that gives its creator a competitive advantage over its business rivals; it does so by rendering obsolete some previous innovation; and it is in turn destined to be rendered obsolete by future innovations Schumpeter (1934). Endogenous growth theory challenges this neoclassical view by proposing channels through which the rate of technological progress, and hence the long-run rate of economic growth, can be influenced by economic factors. It starts from the observation that technological progress takes place through innovations, in the form of new products, processes and markets, many of which are the result of economic activities. For example, because firms learn from experience how to produce more efficiently, a higher pace of economic activity can

raise the pace of process innovation by giving firms more production experience. Also, because many innovations result from R&D expenditures undertaken by profit-seeking firms, economic policies with respect to trade, competition, education, taxes and intellectual property can influence the rate of innovation by affecting the private costs and benefits of doing R&D (Dinopoulos & Thompson, 1998) as cited in Linyiru (2015).

Schumpeter, as cited by Swedberg (2000) and Linyiru (2015), pointed out economic behavior is somewhat automatic in nature and more likely to be standardized, while entrepreneurship consists of doing new things in a new manner, innovation being an essential value. As economics focused on the external influences over organizations, he believed that change could occur from the inside, and then go through a form of business cycle to really generate economic change. He set up a new production function where the entrepreneur is seen as making new combinations of already existing materials and forces, in terms of innovation; such as the introduction of a new good, introduction of a new method of production, opening of a new market, conquest of a new source of production input, and a new organization of an industry (Casson, 2002) as cited in Waiganjo (2013). For Schumpeter, the entrepreneur is motivated by the desire for power and independence, the will to succeed, and the satisfaction of getting things done (Swedberg, 2000). He conceptualized 'creative destruction' as a process of transformation that accompanies innovation where there is an incessant destruction 18 of old ways of doing things substituted by creative new ways, which lead to constant innovation (Aghion & Howitt, 1992).

The entrepreneur's crucial significance to the dynamics of the capitalist system flows from the fact that it is the entrepreneur's innovations that disrupt the economy and move it forward from one equilibrium to the other. Rather than adapting to external pressures, the entrepreneur destroys the static equilibrium from within the system by inventing new products, processes or behaviors that contrast the routine systems and activities (McDaniel, 2005; Drejer, 2004). Healthcare unit performance rests on the innovation theory of Schumpeter where the Healthcare unit that practices innovativeness activities like moving services close to patients, hiring skilled

workforce, opening up new revenue and borrowing assets leads to improved performance by the units.

2.2.2 The Discovery Theory of Entrepreneurship

This theory, also known as the Individual/Opportunity Nexus Theory focuses on the existence of discovery and exploitation of opportunities and is grounded on the suggestion that opportunities are objective; individuals are unique, and entrepreneurs are risk-takers (Avarez, 2007). The theory has three assumptions: "objectives and opportunities", "individuals are unique", and "entrepreneurs are risk-bearers". Opportunities have an objective component and they exist whether or not they are recognized. They are derived from the attributes of the industries or markets within which an entrepreneur contemplates action. If an entrepreneur understands the attributes or structure of an industry, he or she will be able to anticipate the kinds of opportunities present in that industry, for example the primary opportunity in fragmented markets is consolidation in order to exploit economies of scale.

The primary opportunity in mature industries is to refine products and undertake process innovation to improve quality and lower costs (Porter, 1980) as cited in Lwamba, Bwisa and Sakwa (2014). Understanding entrepreneurial opportunities is therefore important because the characteristic of an opportunity influences the value they are likely to create. Entrepreneurship requires differences in people and these differences manifest themselves in the ability to recognize opportunities (Shane, 2003). Individuals are alert to existing opportunities (Kirzner, 1973) as cited in Waiganjo (2013).

Entrepreneurial alertness is an attitude of receptiveness of available but currently overlooked opportunities in a market (Kirzner, 1997). This assumption recognizes the entrepreneurial nature of human action taken and the human agent that is at all times spontaneously on the lookout for unnoticed market imperfections. The recognition of these market imperfections might inspire new activity (Alvarez & Barney, 2007). Entrepreneurial alertness is not a deliberate search, but is the constant scanning of the environment by the entrepreneur who notices market imperfections.

The recognition of these imperfections is accompanied by a sense of 'surprise' of the imperfection that had not previously been recognized (Alvarez & Barney, 2007).

The alert individuals are on the lookout for imperfectly distributed information about potentially mispriced resources that they may have access to before others. These opportunities exist independent of actors but the economic actor must act on the opportunity to earn profits. Risk-bearing is a necessary part of the entrepreneurial process (Shane, 2003). The Individual/Opportunity nexus assumes conditions of risk. The economic actor does not know with certainty whether the opportunity discovered will be successful; it has a probabilistic chance of being so. Thus, the entrepreneurial process is about risk, not certainty. This theory is applicable to this study as it relates to a number of the dimensions of corporate entrepreneurship- discovery and exploitation of opportunities that leads to entrepreneurial risk-taking. This theory supported this study since Healthcare unit workers take risks through manual handling, through lifting and handling in teams and through taking other bold actions to achieve. Risk taking activities are associated with performance in the Healthcare units.

2.2.3 The Creative Theory of Entrepreneurship

This theory is focused on the entrepreneur and the creation of the firm (Schumpeter, 1934) and Venkataraman (2003) as cited by Linyiru (2015). This theory is grounded on three major assumptions: opportunities are subjective; opportunities are not recognized, they are created; and that the entrepreneurs bear uncertainty. Opportunities are created through a series of decisions to exploit a potential opportunity. They are created by economic actors and they do not exist independently. Their existence holds the potential for profit generation. The theory assumes uncertainty, not risk. Under conditions of uncertainty, the attributes of an industry are either known, or are changing in ways difficult to predict. Opportunities must therefore be created and refined through a process of hypothesizing what the opportunity might be; testing the hypothesis, until it roughly correlates with what turns out to be objective opportunities in an industry.

The healthcare units must therefore go through a process of generating new products, trying them with patients, discover which of them are reasonably accepted or successful; refine them to improve marketability. Opportunities are discovered by analyzing market and industry structures -" opportunity creation" - through hypothesis testing and learning. Opportunities do not exist independent of the actions of the entrepreneur but are created by the entrepreneur. People are not different; there are only differences in decision-making under entrepreneurial decision-making and under entrepreneurial uncertainty conditions. The entrepreneur is not autonomous but the creator of the opportunity. Decision-making occurs in the absence of correct procedures for exploiting existing resources.

Uncertainty, not risk, is a necessary condition for entrepreneurship, hence reliance on assumptions of uncertainty. Risk refers to the situation when two conditions exist: 1) when possible future outcomes of a decision are known and when the probability of each of these outcomes are also known (Wald, 1950) as cited in Linyiru (2015), hence, three positions: all possible future outcomes are known before decision-making; the probability of any one of these outcomes occurring lies between 0 and 1 and the probability of all outcomes occurring being equal to one (1). Uncertainty exists when possible outcomes of a decision and the probability of those outcomes are not known (Knight, 1997); decision-makers do not know that they do not know possible future outcomes (Shackle, 1972).This theory is relevant to entrepreneurial risk-taking and innovativeness, for instance, creativity in the healthcare units. A Healthcare unit that invests in buying new equipment to facilitate service to patients takes a risk as the patients could as well go to another Healthcare unit and not necessarily to the one with the new equipment.

2.2.4 Risk bearing theory of Knight

Knight (1997) argues that entrepreneurs earn profits because they undertake risk and that their main function is to act in anticipation of future events. Knight states that uncertainty bearing is essential to production therefore it is a factor of production and the reward for it is a part of normal cost of production and avers that profit is a

payment for the assumption of risks the entrepreneur undertakes. Therefore, the entrepreneur as per Knight's theory has to cope with the various challenges which are unknown and unpredictable. Risk taking in a Healthcare Unit could be linked to neurological operations where the dura, trigeminal and dorsal root ganglia are pierced or the pineal and pituitary glands, optic nerve or retina. The other risk could be failure to wash hands by the nurses yet hands carry infection from person to person, place to place and family to family (Jamieson *et al.*, 2007).

2.3 Conceptual Framework

From the literature review it is obvious that varying views have taken Centre stage and arguments on what really promote entrepreneurs performance in the market is unlikely to end soon. The proposed conceptual framework in this study borrows heavily form that adopted by Mokaya (2012). The conceptual framework is based on the premise that CE efforts results in increased performance and therefore Healthcare units that engage in entrepreneurship activities are expected to achieve increased referrals from other Healthcare units, reduced maternal mortality and reduced child mortalities as measures of performance by the healthcare units. The framework used in this study provides a source of entrepreneurial constructs; proactiveness, risk taking, innovativeness and competitive aggressiveness which have been incorporated in the proposed conceptual framework.

However the study can conceptualize that the entrepreneur's innovativeness, proactiveness, risk taking and competitive aggressiveness plays a major role in the performance of healthcare units which has been measured through reduced child mortality, reduced maternal death and increased referrals excluding other measures of performance that have been adversely used by other studies. This view is demonstrated using the studys' Conceptual framework which was borrowed from that of Mokaya (2012). (See Figure 2.1).

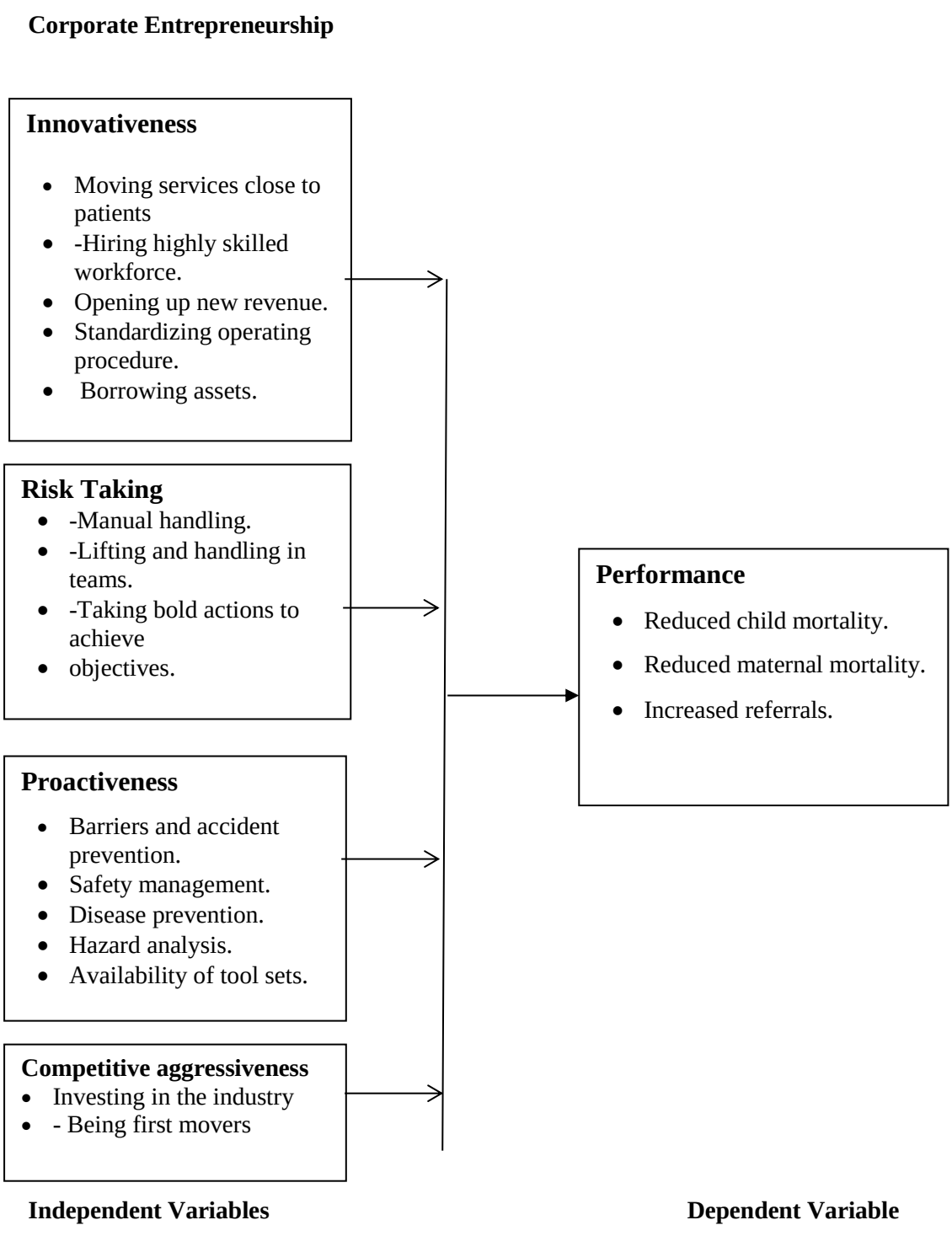

Figure 2.1: Conceptual framework of Corporate Entrepreneurship and Firm Performance

Source: Conceptual framework adopted from that of Mokaya (2012).

2.3.1 Innovativeness

Innovativeness reflects a firm's tendency to engage in, and support, new ideas, uniqueness, experimentation and creative processes that may result in new products, services, or technological processes (Clark, 2010; Lumpkin and Dess, 1996). Innovative firms have capabilities to monitor the market changes and respond quickly, thus capitalizing on emerging opportunities (Wiklund, 1999). According to Huse *et al.,* (2005) as cited in Linyiru (2015), firms operating in turbulent environments are often characterized by rapid and frequent new product creation and high levels of research and development. Such environments appear to play a crucial role in influencing corporate entrepreneurship in an organization. Environmental changes stimulate firms to innovate by introducing new technologies, new products, service and processes to take advantage of opportunities arising from the dynamic environment (Huse *et al.,* 2005).

Dess, et al., (1997) classifies innovations as product-market innovativeness and technological innovations. They argue that product-market innovativeness includes emphasizes on product design, market research, advertisement and promotion. Zirger (1984) avers that if an organization is willing to commit a significant amount of its resources in developing new products then product innovations are more likely to be successful. Process innovation could be termed as technological innovativeness which consists of research and engineering efforts aimed at developing new products and processes. Miller and Friesen (1982) argue that a high level of innovation is associated with greater reliance on technically trained specialists. Hage (1982) supports Miller and Friesen (1982) arguing that the more professionals and specialists within a firm, the higher the level of innovation.

Environmental change can cause the firm to search for new means to remain competitive, which foster process innovation activities. Innovation keeps firms ahead of their competitors, thereby gaining a competitive advantage that leads to improved financial results (Wiklund, 1999). Zahra and Garvis (2000) define innovation as the firm’s ability to create new products and successfully introduce them to the market.

Innovation also revises the firm's knowledge base, allowing it to develop new competitive approaches, which can be exploited in new foreign markets to achieve growth and profitability (Zahra & Garvis, 2000).

Clark (2010) found that companies that are innovators based their focus on new innovations, the number of new innovations and levels of investment in new innovations. Venter *et al.,* (2008), state that at the centre of entrepreneurship is innovativeness". An organization that innovates is classified as being entrepreneurial. Entrepreneurial activities influence a company's commitment to innovation (Miller 1983; Lumpkin & Dess, 1996) by offering innovative products and processes.

According to Huse *et al.,* (2005), innovation has become a source of international competitive advantage. Zahra and Garvis (2000) stated that innovation can also lead to the development of key capabilities that can improve a firm's performance. They also put emphasis on the fact that innovation generates products, goods, processes, services and systems that can be used to meet customer needs and build a strong market position. Thus innovation can improve the firm's profitability and fuel its growth. Better profitability and sustainability are also realized from continuous innovation by the entrepreneurial organization. Huse *et al.,* (2005) stated that innovation can be distinguished in three ways: the development of new products and services, the adoption of new technologies with an intention to improve production methods, the establishment of novel organizational structures and administrative systems. Innovation involves reinventing products in a profitable manner (Venter *et al.,* 2008). The level of entrepreneurial behaviour by the organization allows the company constantly to evaluate the potential possible business opportunities that will bring growth and sustainable business (Lumpkin & Dess, 1996).

Innovation can be forced by industrial factors (fast technology changes in the industry, customer demands), environmental dynamism (new processes, technology) and international activities such as international diversification (Huse *et al.,* 2005). According to Lumpkin and Dess (1996), a level of expenditure and a number of resources dedicated to research and development represent a firm's involvement in

innovation activities. Innovation stimulates firms to behave entrepreneurially. According to Venter *et al.,* (2008), most technological firms use innovation to achieve objectives such as maximum profits, gaining market share, creating niche markets and adding value for stakeholders.

Kuratko and Welsch (1994) and Morris and Kuratko (2002) aver that innovation is considered the first dimension that characterizes an entrepreneurial company. They argue that personal initiatives create an atmosphere of innovation, and innovative programmes which help to build an entrepreneurial company. Lau, Chan, Tai, and David (2010) argue that innovation reflects a firm's tendency to engage in and support new ideas, experimentation and creative processes that may result in new products, services or technological processes. The level of expenditure and resources dedicated to research and development (R&D) represents a firm's involvement in innovative activities.

Corporate entrepreneurship has been referred to as Entrepreneurial Orientation (EO) by Lumpkin and Dess (1996), as Intrapreneurship by Botha and Nyanjom (2011). Lumpkin and Nyanjom (2011) define corporate entrepreneurship also referred to entrepreneurial orientation as the processes, practices, and decision- making activities of firms that lead to new entry and enhanced performance of these firms. According to Knight (1997), entrepreneurial orientation is the magic strategy which firms adopt in order to enter, maintain or augment their viability in situations of expanded markets as a result of regional integration. It is associated with product or process innovativeness, technological innovativeness, management proclivity for risk-taking and proactive competitive posture.

The corporate entrepreneurship theory is anchored on a firm's basic underlying orientations, processes, proactiveness, and decision-making activities that are imperative to a firm's success Knight (1997). He further argues that, entrepreneurial orientation is the appropriate applicable strategy in instances where regionalization and globalization are dominant, and where competition and uncertainty have increased intensely.

According to Wagner (2010), corporate entrepreneurship is one of the ways to enhance innovative and entrepreneurial activities of employees and to increase firm performance through the creation of new products, services, strategy and organizational conditions. They argue that besides an entrepreneurial orientation, "CE supports a firm's capabilities to discover market changes as well as competitor and consumer behaviour to create new products and services". Thornberry (2003) defines intrapreneurs or corporate entrepreneurs as those who bring to bear the mindset and behaviour characteristics of external entrepreneurs and transpose them to an existing and usually large corporate setting. Christensen (2004), as cited in Lwamba, Bwisa and Sakwa (2014) however, argues that the concept is still in search of a clear definition due to the diversity of the many authors of the subject.

Healthcare units need to develop certain capabilities and strategies to help them navigate successfully the prevailing scenario of regionalization and globalization. This will lead to the identification of entrepreneurial orientation or corporate entrepreneurship as a key strategy, designed to facilitate healthcare units to succeed in regional and global markets. Wiklund and Shepherd (2005) aver that an entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky venture to come up with proactive innovations, beating competitors to the punch. Such characteristics are associated with improved performance of healthcare units, owing to today's business model life cycles which are shorter, where future profit streams from existing operations are uncertain, and entrepreneurs need to constantly seek out new opportunities.

2.3.2 Proactiveness

Proactiveness is a company's posture of constant seeking for new opportunities by anticipating and acting on future wants and needs in the market, involving introduction of new products or services before competitors. Kocel (1995) cited in Kaya and Veysel (2007) has used the concept of proactiveness with the meaning of "giving direction" to the events by affecting and forecasting the future needs, expectations and changes instead of going behind them. The firm moving first can

gain extraordinary benefits and become a pioneer in forming brand image by profiting these opportunities. To be proactive is to anticipate future needs and take action on this basis. In Healthcare industry, it includes coming up with ways or barriers to accident prevention, hazard analysis, tool setting, safety management and disease prevention.

Entrepreneurs are proactive who seek for opportunities and do not rely on luck. They act quickly and decisively to make the most of opportunity before someone else does, as this is the only way to achieve success. Knight (1997) argues that in today's increasing global competitive environment, proactiveness is seen as an important vehicle for survival of firms and for higher performance. Therefore, being a first mover in pursuing new opportunities and participating in developing markets is closely related to firm level entrepreneurship activities. Knight (1997) argues that entrepreneurial firms are active rather than reactive to their environment. Lumpkin and Dess (1996) relate proactiveness to initiative and first- mover advantages and to taking initiative by anticipating and pursuing new opportunities. Lumpkin and Dess (1996) aver that proactiveness may be "crucial to an entrepreneurial orientation because it suggests a forward- looking perspective that is accompanied by innovative" and entrepreneurial activity.

Pro-activeness shows a firm's aggressive pursuit of market opportunities and a strong emphasis on wanting to be among the very first to implement innovation in its industry (Rauch *et al.,* 2009). Pro-activeness is an opportunity-seeking, forward looking perspective characterized by the introduction of new products and services ahead of the competitors and acting in anticipation of future demand (Lumpkin & Dess 1996; Rauch *et al.,* 2009). Miller (1983) defines pro-activeness as an indication of a company's determination to pursue promising opportunities, rather than merely responding to competitors' moves. According to Lumpkin and Dess (1996), proactiveness refers to how a firm relates to market opportunities in the process of new entry**.** They added that pro-activeness involves pursuing opportunities and the will to respond aggressively to competitors.

Wiklund (1999) stated that pro-activeness gives firms the ability to present new products or services to the market ahead of competitors, which also gives them a competitive advantage. Pro-active firms have a greater tendency to lead than to follow in the development of new procedures and technologies and the introduction of new products and services (Lumpkin & Dess, 1996). An entrepreneurial firm instills flexibility and grants individuals and teams the freedom to exercise their creativity to champion new ideas (Wang, 2008). These activities by the firm's team enable the firm to be more pro-active in introducing new products. Pro-activeness suggests an emphasis on initiating activities. It is closely related to innovativeness.

For example, new product innovation is part of innovativeness but also forms part of pro-activeness by the firm (Lumpkin & Dess, 1996).

According to Lumpkin and Dess (1996), the importance of being a first-mover or pioneer has been frequently emphasized in the entrepreneurial process since Schumpeter. Proactive firms are likely to be first-movers when they face threats and/or opportunities in their environment Agca et al., (2009) as cited in Linyiru (2015). In the business world, proactive firms tend to be leaders, rather than followers of other corporations (Lumpkin & Dess, 1996). According to Zahra and Garvis (2000), proactive corporate entrepreneurship, such as first entry, can improve a firm's performance. The first entrants tend to exploit opportunities before their rivals and enjoy significant strategic advantage in the markets Zahra and Garvis (2000).

2.3.3 Risk taking

Risk taking refers to possibility of loss related to quickness in taking bold actions and committing resources in the pursuit of new opportunities (Kolakovic *et al.*, 2007). Baird and Thomas (1985) define risk taking as "venturing into the unknown; committing a relatively large portion of assets; borrowing heavily". For unknown risky actions, uncertainties and risks are generated, such as personal risks, social risks and psychological risks. Risk taking behaviours of individuals or firms range from low risky actions to high risk actions (for example huge borrowing, investing

heavily in unexplored technologies or putting new products onto new markets) as argued by Lumpkin and Dess, (1991).

Lumpkin and Dess (1996) argue that methods and styles of management associated with risk taking are an indication of an entrepreneurial orientation. The duo argue that all activities might be understood to entail a degree of risk, ranging from low risk behaviour such as investing in bank deposits to high risk behaviour such as engaging heavy financial leverage. Miller (1983) argues that a high level of financial leverage may not be enough in itself to classify an enterprise as entrepreneurial along the dimension of risk taking. Lumpkin and Dess (1996) argue that risk is also experienced in terms of innovatively expanding into untried technologies or entering new markets with new products and that risk is a fundamental aspect of entrepreneurship.

Generally, firms having entrepreneurship orientation display risky behaviour by borrowing heavily or by allocating very huge resources to the opportunities in the market in order to get high yields. This can be viewed as the indicator or the measure of their risk taking tendency. Firm- level risk taking requires acting quickly for seizing and valuing the market opportunities, making fast resource combinations and displaying bold action. Boldness in seeking or pursuing opportunities and for the very new product or service attempts is considered as a reflection of entrepreneurial orientation (Lumpkin & Dess, 1991; Antoncic & Hisrich, 2003). Entrepreneurs in entrepreneurial firms are seen to manage the risks better by focusing on lower risk market endeavours by developing various new product and service alternatives targeted to the different market segments or niches (Morris & Kuratko, 2002).

Risk taking involves taking bold actions by venturing into the unknown, borrowing heavily and/or committing significant resources to ventures in uncertain environments (Wang, 2008; Lumpkin *et al.,* 2009; Rauch *et al.,* 2009).

Zahra and Garvis (2000) define risk taking as a company's disposition to support innovative projects, even when the payoff from these activities is uncertain. Subsequently these activities can enhance the company's ability to recognize and

exploit market opportunities ahead of its competitors. Autonomy within the entrepreneurial organization allows individuals to act freely and be able to explore new ideas (Lumpkin *et al.*, 2009) that can create competitive advantage. This type of behaviour by individuals within the firm brings about the possibility of acting on potential ideas for the future growth of the firm. The behaviour of managers by insisting on following the tried-and-tested paths or tending to support only projects with expected returns that are certain, have a negative relation to performance as compared to taking bold actions by entering the unknown business environment (Lumpkin & Dess, 1996). Thus, the support by senior management within the organization allows for individuals to take calculated risks.

Entrepreneurial firms are risk-tolerant and this characteristic often stimulates them to eliminate the kind of traditional authoritarian structures that inhibit collaborative learning (Wang, 2008). These firms allow individuals and teams to act independently and exercise their creativity by taking risks in coming up with new ideas (Lumpkin & Dess, 1996). According to Miller (1983) and Wang (2008), risk-tolerant and innovative firms' managers encourage new ways of thinking - tolerating mistakes and rewarding individuals with new ideas that contribute to innovation and business improvement. The culture of allowing individuals to making mistakes when trying new ways of improving business performance promotes a sense of open-mindedness (Moreno & Casillas, 2008) as cited in Linyiru (2015).

In Healthcare units risk could also include violence from patients, threats from patients and employees, contracting communicable diseases, bullying from employees, infections from HIV/ AIDs, handling aids (or lack of protective gear), Manual Handling, lifting and handling in teams and lifting and lowering. It also means that a company is not afraid to break away from routine, safe, well known core business and venture into the unknown.

2.3.4 Competitive Aggressiveness

Competitive aggressiveness reflects the intensity of a company's efforts to outperform industry rivals, characterized by aggressive and forceful responses to

competitor's actions (Lumpkin& Dess, 2001). Corporate entrepreneurship if defined as entrepreneurship within an existing company, referring to the emergent of behavioural intentions and behaviour of an enterprise, which deviate from the customary way of doing business (Kolakovic *et al.*, 2007). Corporate entrepreneurship processes go on inside an existing company and refer not only to creating of new business ventures, but also to other innovative activities such as development of new products, services, technologies, administrative techniques, strategies and competitive postures.

Firms which could not take a new position against the increased intensity of the competition and/or became late to enter into the growing markets, compute the opportunity costs and try to make alternative strategies to survive or to remain in competition (Birkinshaw, Hood & Young, 2005). Firms which decide to gain share from those markets, adopt competitive aggressive behaviours by employing marketing strategies such as competing on price, increasing promotion and/or combating for the distribution channels or imitating the competitors' actions and/or products (Dess, Lumpkin, & Eisner, 2007). By acting aggressive via marketing tools, they force relatively stronger competitors to make entry barriers for the current markets. From the two points of view –either new entrants or existing firms- the purposes of these bold and aggressive behaviors are initially to remain in competition and then to make profit by fulfilling the opportunities of markets.

Competitive aggressiveness is considered as a strong struggle to overcome the competitors; it is characterized by a combative attitude or aggressive response, which seeks a better positioning in the market or defeat threats. Competitive aggressiveness, which has a relation with the organization's propensity**,** intensely and directly challenges its competitors reaching better market position, seeking to overcome them. Chene Hambrick (1995) deal with the competitive aggressiveness as being an organization's trend in responding aggressively to the competition actions, looking forward to reaching competitive advantage, dominating it with responsiveness.

Similarly, Lumpkin and Dess (2001) characterized it as threat responses. For Venkatraman (1989) as cited in Linyiru (2005), the competitive aggressiveness is the position adopted by a company, through allocating resources in order to gain positions in a specific market faster than its competitors. It can be based on product innovation, market development, and high investment to improve market share and to achieve a competitive position. Covin and Covin (1990) point out that some evidences of competitive aggressiveness can be reached when evaluating the management attitude as far as competitiveness is concerned. This evidence can also reflect the use of nonconventional competition methods instead of traditional or reliable ones (Lumpkin & Dess, 1996).

2.3.5 Healthcare unit and Performance

Healthcare units are said to be performing if service providers adhere to the set standards designed by health professionals in providing care. Performance of the Healthcare unit can be measured from the perspectives of clients or providers (perceived quality) or by measuring adherence levels to the set standards and guidelines. Boller *et al*., (2003) as cited in Kiprotich, (2009) gave the framework for assessing the performance of a Healthcare unit based on the three attributes of structure (material, human, and financial resources of the setting where care occurs), process (what is actually done in giving and receiving care) and outcome (effect of care on the status of the clients). This study has measured performance in terms of reduced maternal mortality, reduced child mortality and increased referrals to the Healthcare unit.

The history of performance measurement in healthcare units goes at least as far as back as Florence Nightingale in the middle of the 19th century. She was concerned about sanitary conditions in hospitals, in both military hospitals in the Crimean War and in London (Nerenz and Neil, 2001). Nightingale developed an elaborate data collection and statistical analysis system that focused primarily on in-hospital mortality and did graphical presentations which highlighted key findings for the audience. The system allowed comparisons from hospital to hospital and unit to unit

within hospitals and within the same hospital over time. The explicit objective measuring system she used allowed her and others to make significant breakthroughs in the understanding of the relationships between sanitary conditions and hospital morbidity and mortality (Nerenz & Neil (2001).

Amony Codman who was a medical Doctor extended Nightingale's research but now did a crusade for public reporting of hospital mortality data in the Boston area for a period of six years. He developed a system of categorizing the way of presenting complaint and type of surgery performed for each of his patients then tracking their course over time to determine outcomes as defined by mortality and morbidity. Other measures of healthcare performance followed for example, outcomes management, performance measures for managed care, processes and outcomes and paying for performance (Nerenz & Neil, 2001).

Waiganjo (2013), noted that the measurement of organisational performance is not easy for business organizations with multiple objectives of profitability, employee satisfaction, productivity, growth, social responsibility and ability to adapt to the ever changing environment among other objectives. She noted that although performance has been traditionally conceptualized in terms of financial measures, some Scholars have proposed a broader performance construct that incorporates non- financial measures including among others market share, product quality, and company image. The study in this study opted to use reduced child mortality, reduced maternal mortality and increased referrals to measure the performance of healthcare units.

2.4 Empirical Review

A number of researches have been done on influence of corporate entrepreneurship on large and small enterprises and in manufacturing industries. Kalokovic, Boris and Bojan (2007) in their research on influence of corporate entrepreneurship on performance of Croatian large companies observed that these firms are risk averse and are also not first movers in the market place.

A research by Kaya and Veysel (2003) on Entrepreneurial Orientation and Performance of Turkish Manufacturing FDI Firms revealed that only risk taking positively affects performance of the firms among the other constructs of Entrepreneurial Orientation constructs. Mokaya (2012) carried out a study on the Kenyan firms to find out how corporate Entrepreneurship affects Organizational Performance. He revealed that CE is closely related to firm performance with firms experiencing high performance levels being characterized by intrapreneurial intensity.

Yang *et al.,* (2007) in their research on CE and market performance in China revealed that almost all dimensions of CE have a positive and significant impact on market performance. They observed that only new business venturing as the only construct that was an exception among the others. They noted that innovativeness was the most important driver of market performance followed by all the other constructs of CE. Another research by Bora and Bulut (2008) in Turkey on financial performance impacts on CE in emerging Markets observed that each dimension of EO, innovativeness, risk taking, proactiveness and competitive aggressiveness have positive correlation with financial performance.

Koigi (2011) in her research on improving Organizational Effectiveness of Public Enterprises in Kenya observed that the Sector lacks in Service delivery and in organizational performance. Koigi (2011) recommended an improvement on the instruments for measuring perceived organizational performance. A research in the Medical field by Wangalwa *et al.,* (2012) on Effectiveness of Kenya's community Health Strategy in delivering community based maternal and new-born healthcare in Busia County revealed that Maternal mortality rate trends in Kenya have remained unacceptably high.

Leiyu *et al.,* (2012) in their research on Clinical Quality performance in U.S Health Centers revealed that clinical care and outcomes among health centers were generally comparable to national average. They observed that depending on the measure, centers with more uninsured patients were likely less to do well, while centers with

more physicians and enabling service providers were more likely to do well. In this research they took national data from the 2009 Uniform Data System then the health centers reviewed patient records and reported aggregate data to the Uniform Data System. Six measures were examined: first-trimester prenatal care, Childhood immunization completion, pap tests, low birth weight, controlled hypertension, and controlled diabetes. The top 25% performing centers were compared with 75% lower performing centers on the measures and the researchers concluded that performance of the health center may be improved by increasing insurance coverage among patients and increasing the ratio of physicians and enabling service providers to patients.

Another research by Nzinga *et al.*, (2013) on service delivery in Kenyan district hospitals on what can be done to learn from literature on mid- managers. The study observed that a lot is being done to strengthen health systems with a focus mostly on Macro- level issues such as training, recruitment, skill mix and distribution but that few attempts have been made to understand the capability on the of health workers. These researchers then focused their study literature on roles of mid-level managers so as to understand how these managers influence service deliver in the quality in the Kenyan hospitals.

The study used a computerized research strategy that was run in Pub, Med, Cochrane Library, Directory of open Access Journals Social Science Research Network, Eldis, Google Scholars and Human Resources for Health Web Site databases using both free-test and Mesh terms for 30 years (1980-2011). They also used citation searching from excluded and included articles and relevant unpublished literature systematically from which they observed that these mid-level managers have a lot of influence and information on the running of district hospitals. The study observed that mid-level managers should be able to build and draw on social networks comprising affect - based linkages and to do this they must embrace their role as managers and engender loyalty, trust and respect, and considered honest and straightforward.

2.5 Critique of Existing Literature

A review of the literature linking corporate entrepreneurship practices to performance of healthcare units shows conflicting outcomes. Some researchers suggest that adopting of corporate entrepreneurship practices lead to improved healthcare unit performance while others suggest that only some of the constructs of CE have an influence on healthcare unit performance. Other researchers argue that adopting CE constructs have a weak relationship with healthcare unit performance. Adopting CE practices may just be of one several factors that improve healthcare unit performance. Also, it may only be successful in firms who can be able to adopt CE practices and not those that are only starters.

Otieno (2012), in his research on performance of manufacturing firms argues that performance of firms can be measured in terms of identified key indicators anchored under the international competitiveness. In healthcare units, performance has been measured in terms of maternal mortality, child mortality and number of referrals which can only be measured in healthcare units and in no other firms. Yet in other firms, performance has been measured in terms of financial gains, unlike in the healthcare units where there are other measures of performance in addition to financial gains.

Corporate entrepreneurship is currently looked at as best practice in business models and yet they are only seen in higher value added sector. Wood and Demenezes (2005) as cited in Waiganjo (2013) revealed that a lot of businesses have proven to be successful without using best practices, these includes corporate entrepreneurship. Wood and Demenezes (2005) argue that from a theoretical position, a wide range of best practices create problems and that every business has its unique way of coming up with its best practice and that their best practice should benefit both shareholders and the workers.

In many of the researches done on corporate entrepreneurship effect on firm performance, innovativeness has always been given as the core of entrepreneurship and that it has the greatest impact on firm performance (Rauch *et al.,* 2009; Wiklund, 1999) as cited in Ambad and Wahab (2013). In this study innovativeness does not significantly influence performance of the healthcare units but proactiveness and competitive aggressiveness significantly influence the performance

2.6 Research Gaps

Most of the readily available research studies undertaken within the research area have been able to examine the influence of corporate entrepreneurship and strategic orientation on performance of firms in other parts of the world; however, very few such studies have been undertaken within the context of firms in Kenya and especially in the healthcare unit. A few such researches done in Kenya are in entrepreneurial orientation influence on performance of manufacturing firms and on Small and Medium enterprises.

Other literature reviewed have revealed that most studies examining the relationship between CE and organization's performance have been conducted mostly in a few developed countries like US and UK, and that only a few researchers have measured the mediators and addressed their importance. The question still left unanswered is the influence of Corporate Entrepreneurship on firm performance in healthcare units. To fill this gap and to further examine the existence of such a relationship, it is important to conduct research in developing countries specifically in Kenya.

The study's discussion about organizational performance is conducted as though organizations are homogeneous entities with clearly defined boundaries and similar contexts and characteristics. Therefore there is need to extend research in Kenya's healthcare units, given the increasing importance of CE on their performance. Addressing these research gaps can help more researchers beyond overly simplistic models of Corporate Entrepreneurship towards a much fuller understanding of the role of CE in healthcare units. This has led to the existence of research gap on which,

this study sought to fill, by determining the influence of corporate entrepreneurship on the performance of Healthcare Units in Kenya.

Much of the research on CE and performance places an emphasis or assumes that each organization is pursuing an integrated set of business objectives and CE practices. This is in contrast with recent developments as firstly; it is seemingly at odds with the move towards more flexible internal structures and strategies, such as strategic alliances, business networks, joint ventures and linkages. Secondly, the approach does not also consider the trend towards outsourcing and inter-organizational contracting and the influence of multi employers and customers in the shaping of performance. The study will contribute to the growing body of literature and knowledge on performance of Healthcare Units in Kenya under corporate entrepreneurship which has been a major influence on performance of other firms.

2.7 Summary

The above chapter reviewed the various corporate entrepreneurship theories that explain the independent and dependent variables. The reviewed theories are then critiqued for relevance to specific variables. The chapter also explored the conceptualization of the independent and the dependent variables by analyzing the relationships between the two sets of variables.

In addition, an empirical review was conducted where past studies both global and local is reviewed in line with the following criteria, title, scope, methodology resulting into a critique. It is from these critiques that the research gap was identified. Based on previous studies, the overall evaluation of corporate entrepreneurship is that the firms involved in entrepreneurial endeavours see more increased growth and profitability levels than firms that do not attempt to engage in intrapreneurship activities (Agca *et al.,* 2009). Thus it can be said that the intensity of intrapreneurship in a firm is positively related to the level of organizational growth and profitability. Wiklund (1999) found that there is a positive relationship between Entrepreneurial Orientation and performance.

A number of other studies have found that there is a positive relationship between a firm's Corporate Entrepreneurship activities and their long-term organizational performance (Zahra & Covin 1995; Covin & Miles 1999; Wiklund, 1999). Entrepreneurial firms must foster organizational learning in order to maximize the effect of Entrepreneurial Orientation on company performance (Wang, 2008). Organizational learning has been explained as knowledge acquisition in the former view and value acquisition in the latter. According to Sebora and Theerapatvong (2009) as cited in Linyiru (2015), an entrepreneurial mindset is encouraged by and related to management support. Management support indicates a willingness to support entrepreneurial behaviour within the organization.

Corporate Entrepreneurship is important for organizational survival, growth, profitability and renewal (Sebora & Theerapatvong 2009; Covin and Miles 1999; Lumpkin and Dess 1996). Performance of Healthcare Units in Kenya is not likely to improve if these Healthcare Units do not practice the constructs of corporate entrepreneurship, as has been demonstrated in other regional integration entities (Knight, 1997 & Wang, 2008). This research is important and valuable in enabling Kenya's Healthcare Units to up-scale their competitiveness and performance in terms of reduced maternal death, reduced child mortality and increased referrals.

The research is important in enhancing an in-depth understanding of the influence of corporate entrepreneurship on performance of Healthcare Units in Kenya. The study will enable a deeper appreciation of the important strategies which a Healthcare Unit needs to adopt in order to enhance their performance and have a competitive edge over competitors (Knight, 1997).

Entrepreneurship theories like the traits, resource and social theory argue that different factors cause different responses of an individual towards entrepreneurial activities. Some scholars propose that it is the psychological makeup of an individual that determines most of his behaviour towards entrepreneurial activities. According to this theory, psychological traits in an individual include need for high achievement, a vision or foresight, ability to face opposition, aggressiveness,

proactiveness and creativity. The other traits include high level of intelligence, good judgment and decision making tendencies and being alert to the environmental changes.

Most of these characteristics are inherited while others are formed during the individual's upbringing which stress on standard of excellence, self-reliance and low father dominance. These traits develop from a point of deprivation in life, causing one to aggressively respond to alleviate the deficiency. Psychological research also highlights that true creativity comes not necessarily from the kind of area one grew up, but on whether one can adopt something that is both new and appropriate.

An entrepreneurial mind-set is a philosophy by which individuals engage in creative acts regardless of the type of work they are engaged in. The resources theory emphasize that performance of an entrepreneur will be enhanced if he or she has physical, reputation, organizational, financial, intelligence and technological resources while the social theory insists that the concern for the society drives entrepreneurs towards a specific business performance. Unfortunately, measuring the extent to which each of the above theories individually contributes to the success of a business is a challenge.

From the above literature, scholars do not agree on a sole factor that enables one to succeed as an entrepreneur but this research has adopted the theory that an entrepreneur is one who has that mind that continually creates new things and improves the existing one to suit the dynamic market. It could be true that such entrepreneurs may have leadership traits as Schumpeter suggests, or may be market driven but all in all, it takes one way of thinking and perception to be innovative and creative.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology and data handling processes that were used to undertake the research. The chapter expounds on the study's research design, population, target population, sampling design, data collection instruments, data collection procedures and method of data analysis.

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure (Orodho, 2005). Kothari (2007) avers that a research design facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximal information with minimal expenditure of effort, time and money. Kerlinger (2000) refers to a research design as a plan and structure used to answer research questions with two basic purposes namely: providing answers to research questions and controlling variance to the study and that the research design also tells on what statistical test to use to analyze the data collected.

This study adopted a mixed research design that is both descriptive and correlational. The descriptive survey design was adopted to investigate and explore of the study variables for an in-depth understanding of the individual variables. The correlational approach was adopted to help investigate how the constructs of corporate entrepreneurship influence the performance of healthcare units. Descriptive survey is a method of collecting data by interviewing or administering a questionnaire to a sample of individuals (Orodho, 2003). The design can also be used when collecting data about people's attitudes, opinions, habits or any of the variety of education or social issues (Orodho & Kombo, 2002). The researcher also explored into secondary

sources of information gathered or obtained through previous researches on the topic of corporate entrepreneurship. Mugenda and Mugenda (2003) avers that exploratory research is good for analysing social scenarios that are characterized by qualitative factors that are not quantitative in nature.

The descriptive survey design is only involved in the in-depth exploration of the study variables without looking into the relationships between them. The study objectives involve determination of the relationship between corporate entrepreneurship and performance of healthcare units. To draw conclusions on these objectives, the correlational design was adopted to help in the determination of the relationship between the variables.

3.3 Target Population

The target population of this study is 71 Healthcare Units in Nairobi County consisting of Hospitals, Health centre, Dispensaries and Health Clinics. The study has investigated whether these Healthcare Units have adopted corporate entrepreneurship constructs and the Healthcare Unit's performance in terms of reduced child mortality, reduced maternal death and increased referrals. Nairobi Hospital and Kenyatta Referral Hospitals were left out as they are in their own category and are only two. The most senior health officer at every health unit studied was considered as the respondents for the units. At the County Hospital, the Medical Superintendent was required to fill the questionnaire, at the Health centre: a Clinical Officer was required to fill the questionnaire while at the Health Clinic/ Dispensary the Nurse in charge was required to fill the questionnaire. These officers were preferred to answer the questionnaires being the CEOs, they have the holistic knowhow of the institution. A drop and pick method was conducted to all 49 Health Officers in the three categories of Health Units in Nairobi. The list of the Health Units in Nairobi is as per Nairobi City County records of 26th January 2015 (see Appendix 6)

3.4 Sampling Frame

A sampling frame is a list, directory or index of cases from which a sample can be selected (Mugenda & Mugenda, 2003). The sampling frame for this study is taken from all the Healthcare units found in Nairobi County which are registered by the City Council. This data was obtained from Nairobi County Health Services with permission from the high office to carry out the study subjects selected from the sampling frame form the units of observation in the study. Nairobi has 71 Healthcare Units in four categories namely: Referral Hospitals, County Hospitals, Health centres and Health Clinics.

3.5 Sample and Sampling technique

The sample included 1 Healthcare unit from 71In this study, stratified random sampling technique was used since the population is non-homogeneous. The researcher did a stratified random sampling of Hospitals, Health centres and Health Clinics as the sub- samples for the study excluding the referral hospitals (Kenyatta National Referral Hospital and Nairobi Hospital) due to their advanced level. The sample size of 49 Healthcare Units with each of the remaining three categories allocated equal proportions as per their contributions of 24, 35 and 41 per cent of the total 49 Health units. This is represented by 12 County Hospitals, 17 Health centres and 20 Health Clinics. The respondents were Medical Superintendents for County Hospitals, Clinical Officers for Health centres and Nurse in Charge for Health Clinics. The above selected officers are better placed to have knowledge in the area of study (See Table 3.1).

Table 3.1: Sample Size

Strata	Population	Proportion	Sample
District hospitals	18	25%	12
Health centers	25	35%	17
Health clinics/ dispensaries	28	39%	20
Total	71	100%	49

3.6 Data collection instruments

The main tool for data collection used in this study is a structured questionnaire. The structured questionnaire was divided into three different parts in order to capture data from different parts of the Healthcare Unit. The first part of the questionnaire reports demographic information of the respondent and that of the Healthcare Unit to enable a clear understanding of the Healthcare Units in Kenya: the second part was to capture data on the level of adoption of corporate entrepreneurship constructs (innovativeness, risk taking, proactiveness and competitive aggressiveness); the third part of the questionnaire was to capture data on child mortality, maternal mortality and on number of referrals.

The questionnairewas designed to address each specific objective as captured in the study (Mugenda & Mugenda, 2003). For each part of the questionnaire, a combination of closed and open ended questions were used to collect data that represents the dependent variable (performance of Healthcare unit) and independent variable (corporate entrepreneurship). Observation technique was also used mostly where the questionnaires were self- administered. Observation on how the respondents answer the questions made it possible for research assistants to clarify areas that the respondents had not clearly understood, hence, clarification and simplification of the research questions was made possible, thereby enabling respondents to provide accurate responses.

3.7 Data collection Procedure

Data collection was mainly based on primary data using structured questionnaires. A Likert scale questionnaire provided quantitative data, and was designed around opinion statements as a means of getting respondents' perceptions of a wide range of corporate entrepreneurship constructs. The unstructured section of the instrument was used to collect the qualitative data which provided a complete detailed description of the respondents' opinions, perceptions and experiences of corporate entrepreneurship in the healthcare unit. This ensured that respondents had the opportunity to respond to most of the questions and ensured full and accurate data (Kothari, 2007).

The research tool for this study was tested for reliability and validity to ensure internal consistency for the variables in measuring performance. The variables were tested for relevance by an expert from the Medical field. The questionnaires were distributed to 49 Healthcare units to be filled by one respondent per unit.

The data was collected through drop and pick method although some still were filled in the presence of the research assistant after making a number of trips to the Healthcare unit. A research assistant was trained on how to handle the research tool and the the topic before being allowed to collect the the data. The questionnaires were administered to the whole sample and it took over 1 month to complete the exercise of distributing and having the questionnaires collected back for analysis.

.3.8 Pilot Test

The study carried out a pilot test on two Hospitals, two Health centres and two Health Clinics by distributing the questionnaires to two Medical Superintendents, two Clinical Officers and two Nurses in charge respectively which is more than the required threshold of 10% of the sample size (Connelly, 2008). Their responses were used to test the validity and reliability of the instrument to be used in the research. The healthcare units used in the Pilot study were not included in the main study. Reliability and validity as a measure of repetitiveness and completeness of an

instrument are taken into consideration under the study before the study can be considered conclusively. Pilot testing is considered important because it helps in establishing at the earliest instance whether the instrument is able to capture responses from respondents when answering research questions.

3.8.1 Validity

Validity is the degree to which a test measures what it is supposed to measure. The content validity of the research instruments was arrived at through expert judgment. Experts help determine content validity by defining in precise terms the domain of the specific content that the test is assured to represent and then determine how well that content universe is sampled by the test items. Experts from the county public health office at city hall assessed the content validity of the questionnaire. In this study the researcher visited two Hospitals, two Health centers and two Health Clinics and administered the questionnaire to two Medical Superintendents, two Clinical Officers and two Nurses in Charge. The 6 respondents gave their responses of the validity of the items in the instrument. The researcher used their responses to adjust the items by removing them completely or making adjustments to validate them.

Apart from content validity which was ensured by giving the data collection instruments to experts for review, Construct validity was also assessed and confirmed to be met. Construct validity was assessed by checking if the instrument met both convergent and discriminant validity based on factor analysis procedures using pilot data collected. Under factor analysis, confirmatory factor analysis was used considering the theoretical and empirical models that informed the choice of indicators used to measure each construct. Factor analysis was used to determine whether the factors (indicators) belong to the variable constructs as used in the questionnaire assuming all factor loadings below 0.4 as unacceptable and dropped (Rahn, 2010; & Zandi 2006). KMO and Bartlett's tests were carried out to ensure that the data collected yielded reliable factor analysis results (Costello & Osborne, 2005).

The factor analysis were also used to ensure construct validity was met by assessing for both convergent and discriminant validity. Convergent validity assesses that items (indicators) that are theoretically said to belong to one construct and to be related are actually related. This was assessed by extracting Average variance extractions (AVEs) for each construct. Convergent validity was said to be met when the AVEs were all above 0.5 (John & Veronica, 2010). Discriminant validity was used to assess that items that do not belong to the same construct and are not meant to be related are actually not related. This was assessed by generating squared multiple correlations and comparing to the AVEs for each construct. Discriminant validity was said to be met when the AVEs were found to be larger than the squared multiple correlations.

3.8.2 Reliability

Reliability is the degree to which a test consistently measures what it is designed to measure which can be expressed as a coefficient. Reliability was measured to determine the extent to which the instrument or measurement procedure produces the same results on repeated trials, or yields consistent and stable results over time across the trials. The reliability of the instruments was tested during piloting. The open ended questions were scored by giving a mark for a relevant response and a zero for a blank or an irrelevant response. The researcher computed Reliability using Cronbach's basic equation for alpha:

$$\propto = \frac{\mathrm{n}}{n-1}\left(1 - \frac{\sum v_i}{V_{test}}\right)$$

Where;

n= number of questions

V_i = Variance of Scores on each question

V_{test} = total variance of overall Scores (not %'s) on the entire test.

The reliability of the instruments was acceptable upon the attainment of a reliability coefficient of 0.70 which is considered a reasonable minimum (Malhotra, 2004).

The administration of the structured questionnaires was therefore, preceded by pilot testing involving six Healthcare Units in Nairobi. The questionnaire as an instrument was used to collect data during the pilot study, corrected and refined after bringing out a few faults and inadequacies. All the questions which required revising were thereafter corrected and refined. Mugenda and Mugenda (2007) advices that once the reliability of the instruments is acceptable, then all the questions that require revising should be revised to make them more meaningful before full scale data collection is done. After amendments on the data collection instrument, a full scale data collection was finally executed. The Healthcare Units used in the pilot study were avoided during the main research so as to avoid biased response from the respondents if given the same questionnaires within a short period of time.

3.9 Data Analysis and Presentation

Both qualitative and quantitative data generated through data collection instruments was coded, entered, cleaned ready for analysis. The data was then analysed using Statistical package for Social Sciences (SPSS) using Statistical tools: percentages, frequencies, means, standard deviations, analysis of variance (ANOVA) as well as interpretational analysis used to identify constructs, themes and patterns that are used to describe and explain issues under research. Data cleaning helps in catching and correcting errors and inconsistent codes (Nachmias & Nachmias , 1996). The data was also used in the analysis of relationships between variables. Qualitative data was organized into themes, categories, tabulating and recombined evidences to address the research questions. This, according to Mugenda and Mugenda (1999) entails creating a factual code which services the purpose of identifying a fact, a feeling or an attitude from the text. This helped the researcher to closely evaluate the usefulness of the information in testing the research hypothesis.

3.9.1 Measurement of variables

The research measured the level of adoption of corporate entrepreneurship constructs by questioning the senior officer (respondent) whether they are practicing activities associated with: innovativeness (moving services close to the people, having right skill workforce, opening up new revenues, keeping standardized procedures and borrowing assets for operations), risk taking (manual handling, lifting and handling in teams, and taking bold actions to achieve objectives), proactiveness (barriers and accident prevention, safety management and disease prevention through vaccination and seclusion in case of contentious diseases) and competitive aggressiveness (investing in Healthcare unit and being first in installing new equipment and technology). The study proceeded to measure the performance of Health care Units in terms of reduced child mortality, reduced maternal death and increased referrals through the records of child mortality, maternal death and number of referrals for the five years running (2010,2011,2012,2013, and 2014) taking the year 2010 as the base year. The results were aggregated as index numbers and calculated using the year 2010 as the base year. Open ended questions were analysed using thematic content analysis where the themes of the responses were coded and frequencies of occurrences sought and discussed.

3.9.2 Regression analysis Model

The study used Multiple Regression Model to analyse the data collected, in order to measure performance of Healthcare Units in Nairobi in terms of reduced child mortality, reduced maternal death and increased referrals. The use of the Multiple Regression Model to analyse the data is recommended by Kothari (2007). The regression model was fitted so as meet the objectives of the study which sought to assess causal relationships (influences) of the independent variables on performance of healthcare units in Nairobi. This study has four independent variables, namely: innovativeness, risk taking, competitive aggressiveness and proactiveness which are important in determining the dependent variable. The study adopted the Ordinary Least Squares (OLS) simple linear model given by the equation below.

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

Where:

Y= Performance of Healthcare unit,

$\beta_0 =$ Intercept,

β_1 to β_4 = Regression coefficient of the independent variables X_1 to X_4

$X_{1=}$ Proactiveness

$X_{2=}$ Risk taking

$X_{3=}$ Innovativeness

$X_{4=}$ Competitive aggressiveness.

e = Error Term

The OLS model adopted was based on the classical assumptions of normality, homoscedasticity and non-autocorrelation of the residual terms and non-multicollinearity of the independent variables. These classical assumptions were tested for the data used to fit the regression model. The R-square was used as a measure of goodness of fit as it measures the explanatory power of the model fitted and analysis of variance (ANOVA) was used to test the general significance of the model fitted.

3.9.3 Tests of Hypothesis

Hypothesis testing was done on the coefficients of the Multivariate Linear Regression coefficients. The hypothesis testing was carried out using the Fisher's test. Each hypothesis was tested for significance of its predictor variable on the dependent variable, using ordinary least square linear regression model formulated to describe relationships.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter discusses the findings of the study with focus on the response rate, reliability of the data, demographic details of the respondents and those of the Healthcare units in Nairobi. The discussion started with response rate, reliability and validity, demographic analysis, descriptive analysis, inferential analysis,hypothesis results and association of the variables as purely based on the study objectives in chapter one. This information was organized and presented in the form of bar graphs, pie charts, ANOVA tables and frequency distribution tables.

4.2 Response Rate

The study collected data from the sampled 49 units from the target population of 71 healthcare units in Nairobi County. Questionnaires were delivered to the 49 units out of which 41 were returned. This represents a response rate of 83.7% of the sample which the researcher considered an adequate response rate. This is in line with Mugenda (2012) who stated that a response rate of 50% is adequate, 60% and above as good and above 70% very good (See Table 4.1).

Table 4.1: Response rate

Sector	Sample size	Returned	Response rate
County Hospitals	12	10	83.333%
Health Centre	17	14	82.353%
Health clinics	20	17	85.000%
Total	49	41	83.673%

4.3 Reliability and validity

A pilot study was conducted with the aim of testing the validity and reliability of data collection instruments. According to Blumberg, Cooper and Schindler (2011) a pilot test is aimed to confirm if questions are clear and short and also test the questionnaire credibility and that the pilot test should constitute at least 1% of the sample size.

4.3.1 Factor Analysis

Factor analysis is a dimension reduction technique used to analyse the underlying composite dimensions of the variables in the data set. The set of smaller underlying composite dimensions of the variables are referred to as factors. Factor loadings are the variance and correlations between the variables constructs and the factors (Mugenda & Mugenda, 2012).

Factor loadings assume values between zero and one. This study adopted Confirmatory Factor Analysis (CFA) to determine whether the factors (indicators) belong to the variable constructs as used in the questionnaire assuming all factor loadings below 0.4 as unacceptable and dropped. From the analysis, all constructs retained had indicators with factor loadings above 0.4. Any items with factor loadings below 0.4 were expunged. The factor loadings matrix is shown in Appendix 3. According to Rahn (2010) and Zandi (2006), a factor loading equal to or greater than 0.4 is considered adequate. This is further supported by Black (2002) who asserts that a factor loading of 0.4 has good factor stability and deemed to lead to desirable and acceptable solutions.

4.3.2 Construct validity

Factor analysis results were used at the pilot stage to assess construct validity by looking into both convergent and discriminant validity. Convergent validity tests if constructs that were expected to be related were related while discriminant validity tests to confirm that constructs that were expected not to be related were actually not related.

Convergent validity was assessed by the researcher by computation and analysis of the Average Variance Extracted (AVE) within each construct (John & Veronica, 2010). According to Kane (2013) convergent validity is said to be implied if the AVEs are all above 0.5. The results on the average variance extracted for this pilot study shows that from the retained factors, all the constructs have an average variance extracted above 0.5 implying convergent validity. This is shown in Table 4.2:

Table 4.2: Average Variance Extracted

Construct	**AVE**
Innovativeness	0.523
Risk taking	0.568
Pro-activeness	0.714
Competitive aggressiveness	0.804
Performance	0.549

The results for the measures testing discriminant validity are shown in Table 4.3. To measure discriminant validity, a comparison of the average variance extracted for each construct and the squared correlations were computed and tabulated. Table 4.3 shows the comparison with the AVE on the diagonal as highlighted. On comparison, all the AVEs are greater than the squared correlations between the constructs implying that the instrument exhibits discriminant validity. If the AVE is higher than the squared correlations between constructs, it implies discriminant validity (Koufteris, 2015).

Table 4.3: Squared correlations and AVE

	Innovativeness	**Risk taking**	**Pro-activeness**	**Competitive aggressiveness**	**Performance**
Innovativeness	0.523	0.116	0.105	0.278	0.235
Risk taking	0.116	0.568	0.064	0.240	0.200
Pro-activeness	0.105	0.064	0.714	0.274	0.253
Competitive aggressiveness	0.278	0.240	0.274	0.804	0.261
Performance	0.235	0.200	0.253	0.261	0.549

4.3.3 KMO and Bartlett's test

The Kaiser-Meyer-Olkin measures of sampling adequacy (KMO) and Bartlett's test of sphericity are tests of sampling adequacy. The KMO measures the variance proportion in variables that are as result of the underlying factors. The KMO value ranges from 0 to 1 where a high KMO value is desired. A zero indicates that the sum of partial correlation is large relative to the sum of correlations indicating diffusions in the patterns of correlations, and hence, factor analysis is likely to be inappropriate (Costello & Osborne, 2005). From the Pilot study as shown in Table 4.4, the KMO value is 0.841 which tends to 1 indicating that the patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors. The Bartlett's test was used to confirm that the relationships between factors are significant. The p-value of the chi-square statistic of the test is less than 0.05 implying that the relationship between factors is significant and therefore factor analysis would be useful from the data collected for pilot.

Table 4.4: KMO measures of sampling adequacy Bartlett's test of Sphericity

Test	Value	
Kaiser-Meyer-Olkin measure of sampling adequacy.		0.841
Bartlett's test of sphericity	Approx. Chi-square	641.139
	Df	253
	sig.	0.000

4.3.4 Reliability

To test the ability of the instrument used to produce consistent and stable measurements, a reliability test was conducted. To assess the construct reliability, that is the extent of an error in a measurement, this study used Cronbach alpha (Neuman, 2003). This test of reliability was based on Cronbach alpha of 0.70 which was generated by statistical package for social sciences (SPSS) as shown in Table 4.5. All the constructs were found to have Cronbach alpha greater than 0.7 thus considered exhibiting adequate reliability.

Table 4.5: Reliability

Variable	Number of Items	Cronbach's Alpha	Comment
Innovativeness	6	0.751	Accepted
Risk taking	12	0.851	Accepted
Pro-activeness	5	0.795	Accepted
Competitive aggressiveness	2	0.744	Accepted
Performance	4	0.856	Accepted

4.4 Demographic characteristics of respondents

This section presents the demographic information such as age of respondent, level of education, years the respondents has worked in the healthcare unit, number of

employees in the unit, the duration of service of the respondent in the healthcare unit, number of trainings received by respondent while in the healthcare unit and the sponsor of healthcare unit.

4.4.1 Age of the respondents

The study sought to determine the age of the key respondents who answered the questionnaire for each unit. The analysis is presented in Figure 4.1. Majority (41.5%) of the respondents were aged between 31 to 40 years, 15 respondents were aged between 41 and 50, 6 respondents were aged between 26 years and 30 years old and only 3 respondents were aged over 50 years. None of the respondents was found to be less than 25 years old. The findings imply that most of the respondents were middle aged. They were in their prime working age and hence had knowledge on the issues the study was seeking to find.

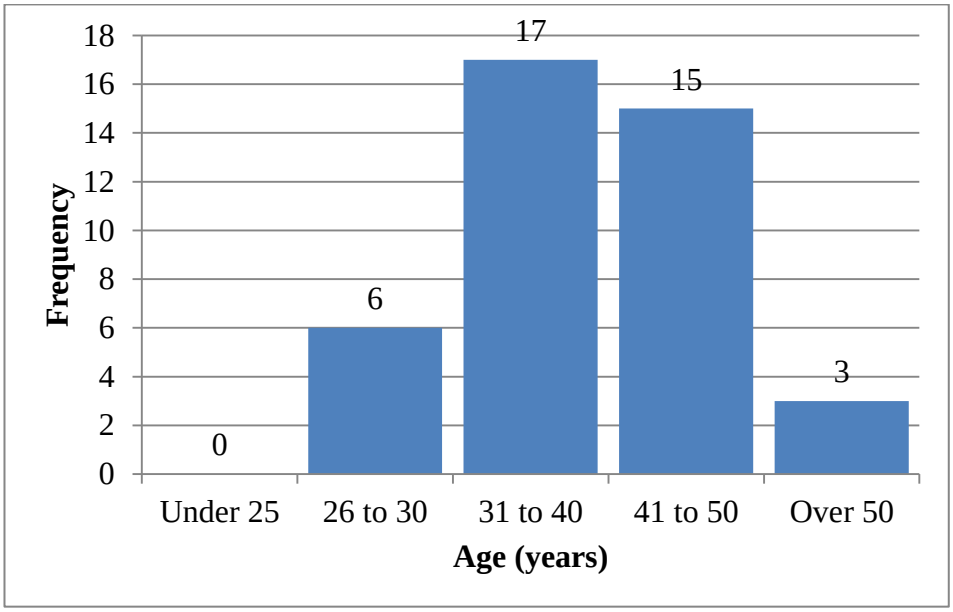

Figure 4.1: Age of respondents

4.4.2 Level of education of respondents

To determine the level of education of the respondents from the healthcare units was important, as a measure of academic maturity and capability of the key respondents.

Majority (49.2%) of the key respondents were undergraduate degree holders, 28.8% diploma holders and 22% of the respondents were holders of post-graduate degrees as shown in Figure 4.2. The findings imply that most of the respondents are at a high level of education which could have contributed to the reliable responses.

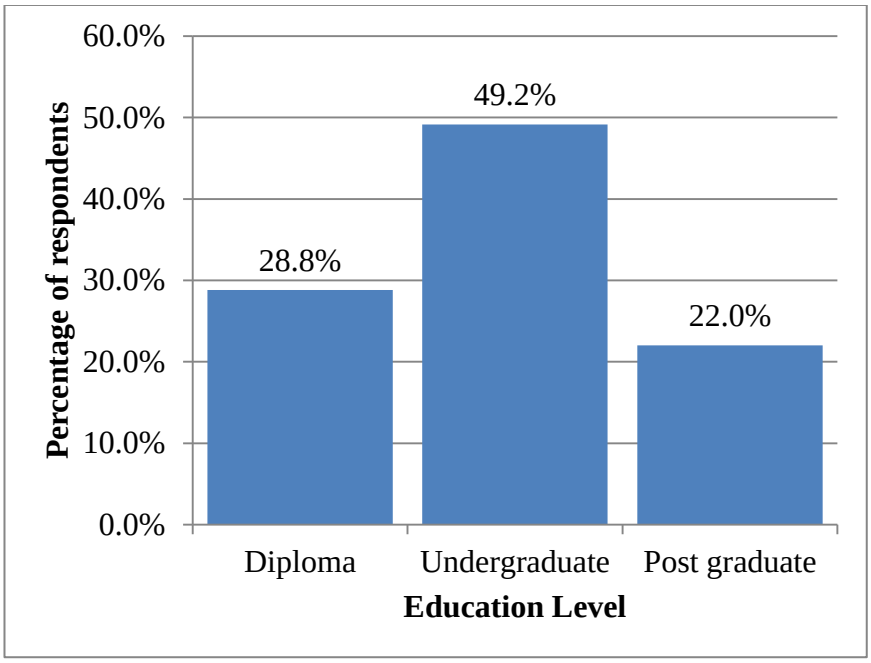

Figure 4.2: Level of education of respondents

4.4.3 Length of service with Units

It was important to determine the length of service the key respondents had been with the healthcare unit. As shown in Figure 4.3 majority (39%) of respondents had worked with the healthcare units for 4 to 6 years which is a period long enough for them to know and reliably answer the questionnaire for the healthcare units. Another 32.2% had worked for up to 3 years with the healthcare units and only 10.2% of the respondents had worked in the healthcare units for less than 1 year. The findings imply that most of the respondents had worked long enough in the healthcare units and hence had knowledge about the issues that the researcher was looking for.

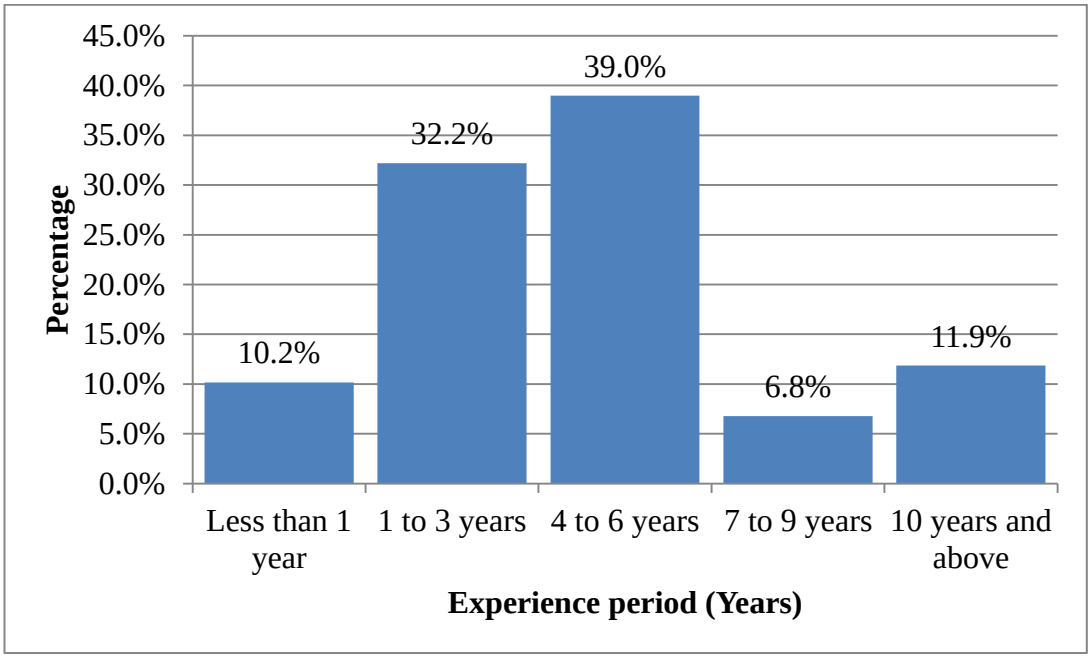

Figure 4.3: Years of experience with the unit

4.4.4 Number of trainings received while in service

The study also sought to determine the trainings that the respondents had received during the service to the unit. These are non-academic professional or on-the-job trainings received during the experience. It was noted that the health units take into account the relevance of training their staff. Figure 4.4 shows that majority (37.3%) of the respondents had received more than 4 trainings for the period they had been in service with the units, 49.2% had had between 2 to 4 trainings and 3.4% of the respondents had not undertaken any training since they joined the healthcare units. These results revealed that nearly all the respondents had undertaken a number of trainings which means they were able to offer services that were of quality to the patients and use the latest equipment in the market.

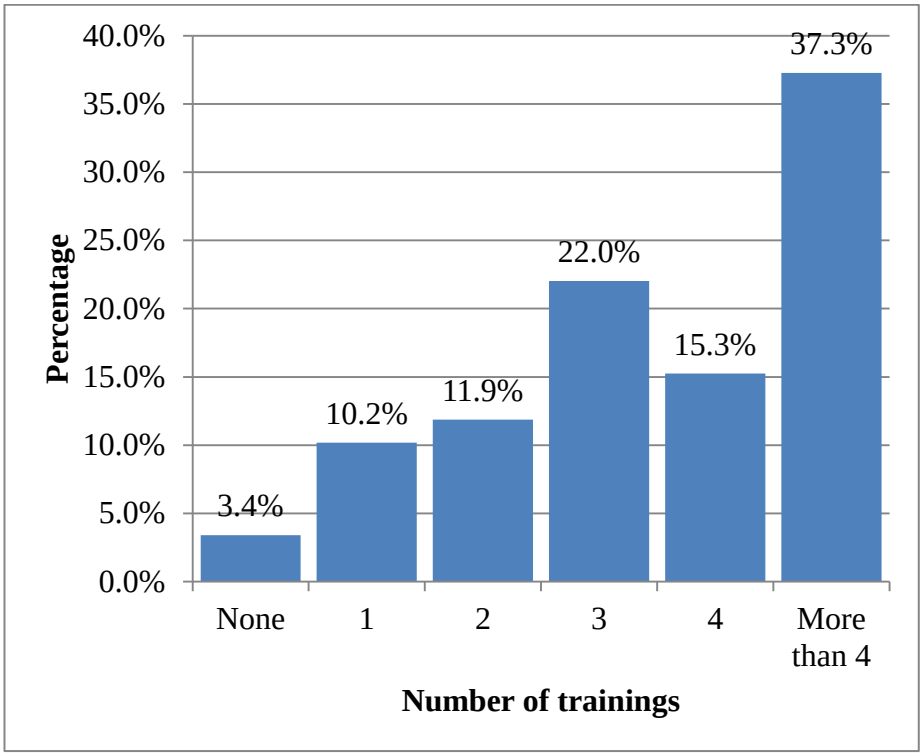

Figure 4.4: Number of trainings received

4.4.5 Sponsor of unit

The units were categorised based on the main sponsor of the units. Majority (25.4%) of the units being studied were privately sponsored units, 22% were sponsored by churches, 20.3% sponsored by the central government, 18.6% by county government and only 13.6% of the units were mission hospitals as shown in Figure 4.5.

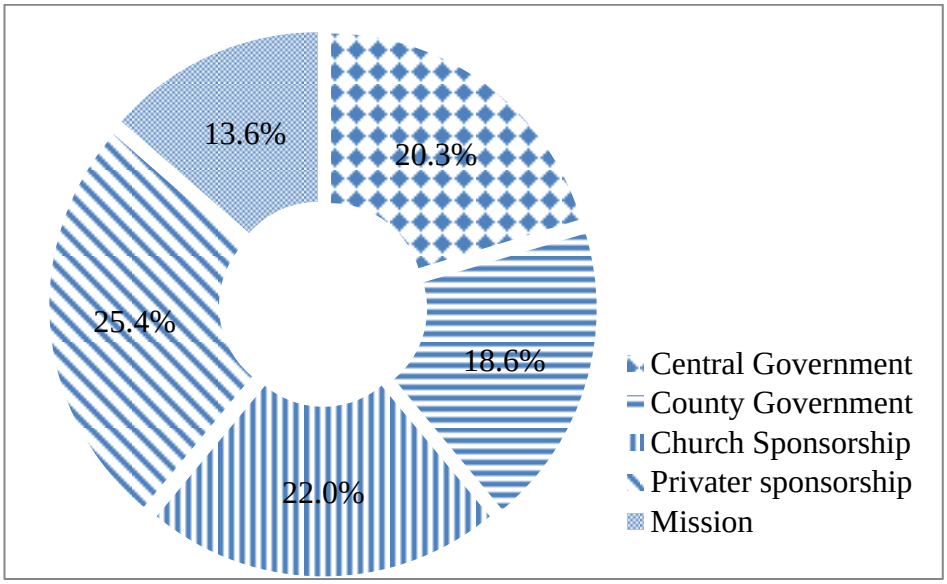

Figure 4.5: Unit sponsor

4.4.6: Period of operation of the healthcare units.

The study also sought to find out the length of the period that the units had been in operation. Most of the healthcare units had been in operation for less than 10 years. This constituted about 32.2% of the units studied while 25.4% of the units had been operating for 10 to 15 years. This means that over 60% of the units being studied had been in operation for only up to 15 years. Less than 30% had operated for more than 20 years. (See Figure 4.6). Majority of the studies healthcare units were young and less 10 years old; older institutions tend to have more resources and would therefore be expected to perform better.

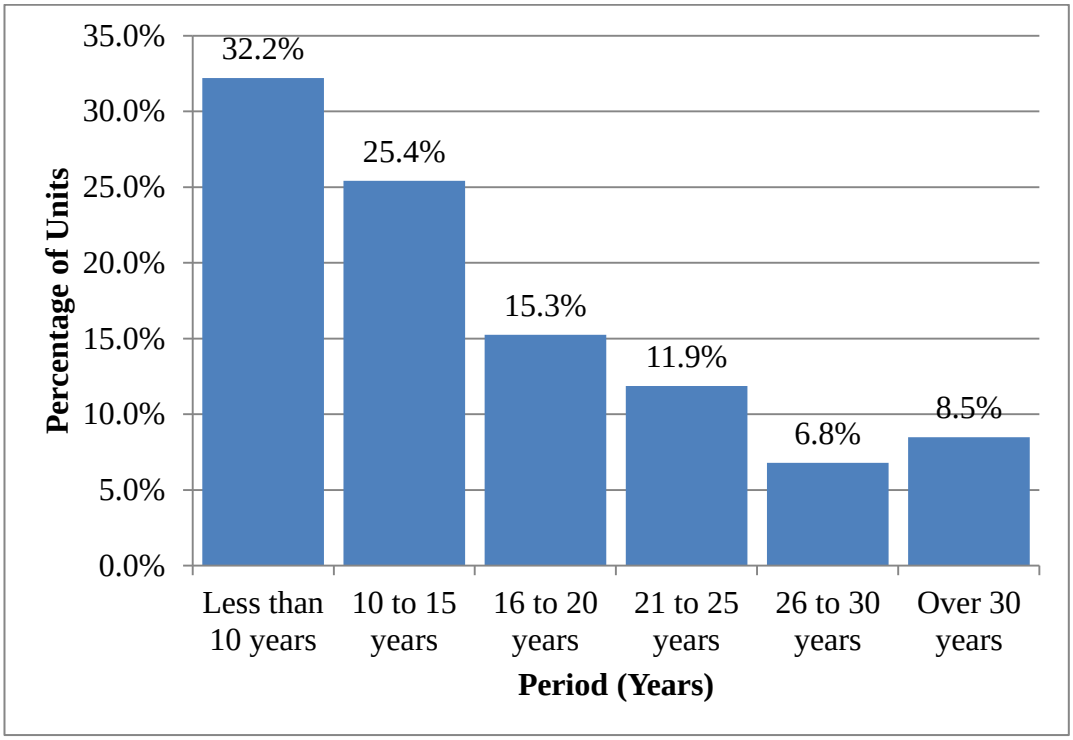

Figure 4.6: Period of operation of healthcare units

4.4.7 Number of employees

To determine the size of the healthcare unit, the study sought to determine the number of employees in the unit. Larger healthcare units require more number of employees to manage the number of patients. As shown in Figure 4.7 majority (39%) of the units had 50 employees or less. Another 18.6% of the units had 51 to 100 employees. Only 15.3% of the units had more than 200 employees with 10% having more than 300 employees to offer service.

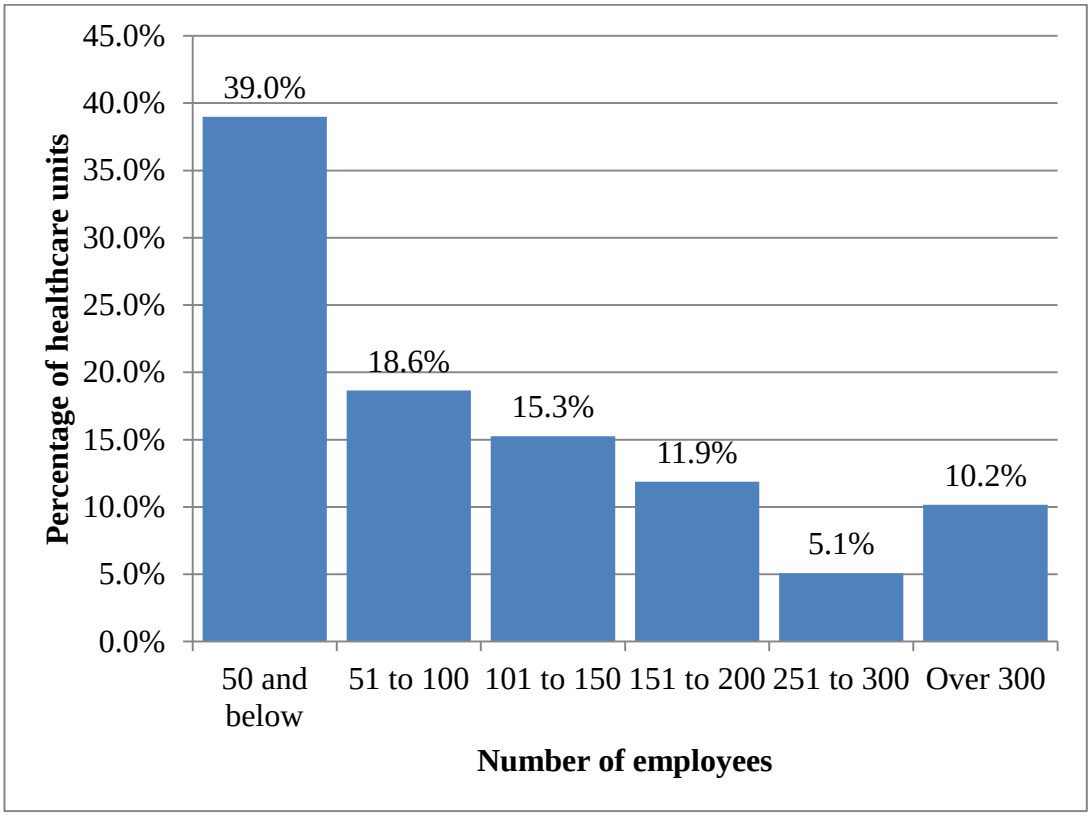

Figure 4.7: Number of employees

4.5 Descriptive analysis

Descriptive analysis was used for in depth analyses of individual study variables without seeking interrelationship between variables. Under descriptive analysis, the study focused on the measures of central tendency of the observed indicators seeking for in depth description of the measurements of each variable from the indicators. The average measures used depended on the scales of measurement used for the indicators.

4.5.1 Innovativeness

To determine the levels of innovativeness of the healthcare units, the researcher sought to find out from the respondents on various measurements of innovativeness

(moving services close to patients, hiring highly skilled workforce, opening up new revenues and standardising operating procedures). The indicators of innovativeness were measured categorically on an ordinal scale of 5. The measure of central tendency used on the analysis of the indicators of innovativeness was the mode. The analysis is presented in Table 4.6 which shows frequency tables of each indicator with the percentage of responses per category.

To measure this variable, the respondents were first asked how much they agreed with the statement that patients and guardians are allowed to contact the doctor on phone to book an appointment or to consult in the evenings and weekends; to the statement, 20.3% of the respondents strongly disagreed to the statement saying that patients and guardians are never allowed to contact the doctor on phone, book an appointment or to consult in the evenings and weekends. The analysis also shows that 15.3% of the respondents said that they are rarely allowed, while 28.8% of the respondents said that it is only sometimes that patients and guardians are allowed to contact doctors on phone to book an appointment or to consult in the evenings and weekends. There were 13.6% of the respondents who agreed to the statement stating that patients and guardians are usually allowed to contact the doctor on phone to book appointment or to consult in the evenings and weekends. Only 22% of the respondents agreed to the statement observing that patients and guardians are always allowed to contact the doctor on phone to book an appointment or to consult in the evenings and weekends. The modal class of the responses to this indicator was found to be 3.

This implies that on average, patients and guardians are only sometimes allowed to contact the doctors on phone to book an appointment or to consult in the evenings and weekends in the healthcare units. Healthcare units that allow the patients to book appointments online are likely to have more clients; this is because it is more convenient and saves time and resources. The time savings experienced by a facility can translate into monetary savings, as both staff time and services translate into expenses and revenue, respectively leads to improved performance of the healthcare units.

Considering the indicator on the level of agreement with the statement that skills and training requirements are tightly linked to the tasks at hand; only 1.7% of the respondents observed that skills and training requirements are never tightly linked to the tasks at hand, 6.8% observed that skills and training requirements are rarely tightly linked to the tasks at hand,10.2% of the respondents observed that it is only sometimes that skills and training requirements are tightly linked to the tasks at hand. A majority (45.8%) of the respondents observed that skills and training requirements are usually tightly linked to the tasks at hand and the remaining 35.6% observed that skills and training requirements are always tightly linked to the tasks at hand. The modal class of the responses to this indicator was found to be 4. This implies that on average, skills and training requirements are usually tightly linked to the tasks at hand in the healthcare units.

The results of this study disagree with those of Campbell et al., (2015) who in their study revealed that it should not always be that skills and training requirements are always tightly linked to the tasks at hand. In their research in India, they observed that Life-Spring Hospitals uses midwives to provide most of the care at its maternity hospitals. This allows just a single doctor to oversee significantly more patients by focusing on tasks that specifically require a doctor's attention which lowers charges for a normal delivery. In the United States, Minute-Clinic uses nurse-practitioners rather than physicians to staff primary-care clinics. In some countries, this approach also helps to ameliorate shortages of medical talent. In sub-Saharan Africa, for example, the Health-Store Foundation has trained community health workers to diagnose and treat the region's top five diseases, which together account for more than half of preventable deaths there (Campbell, *et al.*, 2015).

The study sought to find out the perception of respondents on the indicator that the healthcare units have standardised operating procedures in all clinical protocols; none of the respondents gave the observation that the healthcare units never have standardised operating procedures in all clinical protocols. Only 1.9% of the respondents observed that their healthcare units rarely have standardised operating procedures in all clinical protocols, 5.1% of the respondents observed that in their

healthcare units it is only sometimes that they have standardised operating procedures in all clinical protocols, 20.3% of the respondents observed that their healthcare units usually have standardised operating procedures in all clinical protocols. The majority (62.7%) of the respondents observed that their healthcare units always have standardised operating procedures in all clinical protocols. The modal class of the responses to this indicator was found to be 5. This implies that on average, the healthcare units always have standardised operating procedures in all clinical protocols.

This research results agree with those of Campbell *et al.*, (2015) which revealed that ‘repurposing” mobile-phone systems, call centers, and other existing technologies and infrastructure allows innovators to extend health care access, increase the standardization of care, and improve labor productivity.

To measure innovativeness, the respondents were also asked how much they agreed with the statement that existing institutions, infrastructure and networking is used to reduce capital investments and operating costs; to this statement, 1.7% of the respondents observed that existing institutions, infrastructure and networking are never used to reduce capital investments and operating costs; 23.7% of the respondents observed that in their healthcare units they rarely use existing institutions, infrastructure and networking to reduce capital investments and operating costs; another 20.3% of the respondents observed that their healthcare units sometimes use existing institutions, infrastructure and networking to reduce capital investments and operating costs; 37.3% of the respondents observed that their healthcare units usually use existing institutions, infrastructure and networking to reduce capital investments and operating costs and the remaining 16.9% of the respondents observed that their healthcare units always use existing institutions, infrastructure and networking to reduce capital investments and operating costs. The modal class of the responses to this indicator was found to be 4. The implication here is that on average, existing institutions, infrastructure and networking is usually used to reduce capital investments and operating costs in the healthcare units.

Katz (2013) observed that the use of the existing technology infrastructure would be useful in any part of the world where health care resources are scarce. Katz (2013) asserts that the approach can also provide benefits in developed countries and that, technology could be used, for example, to reduce emergency-room overcrowding by providing phone or Internet-based advice and triage services during evenings and weekends. Similarly, it could be used to deliver care remotely for patients who require ongoing treatment for diabetes, asthma, or other chronic diseases. This research therefore agrees with that of Katz (2013) on the use of existing institutions, infrastructure and networking in usually used to reduce capital investments operating costs in the healthcare units.

The study sought to find out how much the respondents agreed to the statement that revenue streams are opened up to extend activities into other sectors like shops, restaurants, churches; to this statement, 15.3% of the respondents observed that revenue streams are never opened up to extend activities into other sectors. Twenty two per cent of the respondents observed that their healthcare units rarely opened up revenue streams to extend activities into sectors like shops, restaurants, and churches. Another 28.8% of the respondents observed that their healthcare sometimes opened up revenue streams to extend activities into other sectors; 18.6% of the respondents observed that their healthcare units usually open up revenue streams to extend activities into other sectors like shops, restaurants, churches. The remaining 15.3% of the respondents observed that their healthcare units always opened up revenue streams to extend activities into other sectors like shops, restaurants, churches. The modal class of the responses to this indicator was found to be 3, implying that on average, revenue streams are sometimes opened up to extend activities into other sectors like shops, restaurants, churches in the healthcare units.

Many health care innovators extend their activities into other sectors even shops and restaurants to capture additional revenue streams, use them to subsidize costs, or both. Business activities in other sectors can even promote core health care services. Thailand's Population and Community Development Association (PDA), which focuses on family planning and the prevention of sexually transmitted diseases,

established a chain of restaurants and resorts to raise revenue and to get out the message. Green-star, a Pakistani nongovernmental organization that focuses on family planning, operates an entire network of retail outlets that sell products such as condoms and offer family-planning advice and health services for women and children.

The other indicator considered for measuring innovativeness was on whether low cost franchise model is used to take care -givers close to patients; to this statement, 5.1% of the respondents observed that low cost franchise model is never used to take care -givers close to patients; 27.1% of the respondents observed that their units rarely use low cost franchise model to take care -givers close to patients ;13.6% of the respondents observed that in their healthcare units low cost franchise model is sometimes used to take care -givers close to patients; 32.2% of the respondents observed that the healthcare units usually use low cost franchise model to take care-givers close to patients, and the remaining 22% of the respondents observed that low cost franchise mode in their healthcare units is always used to take care -givers close to patients . The modal class of the responses to this indicator was found to be 4. This has an implication that on average, low cost franchise model is usually used to take care -givers close to patients by the healthcare units. The act of franchising is practiced in 94.9% of the healthcare units of the respondents with only 5.1% observing that they never practice franchising to take care- givers close to the patients. Therefore the results are an indication that healthcare units are practicing CE.

The questionnaire also considered the measurement on how much respondents agree that the team carries out duties using handling aids; to this statement, 35.6% of the respondents observed that in their healthcare units, the teams never carry out duties using handling aids. One point seven per cent of the respondents observed that in their healthcare units the teams rarely carry out duties using handling aids. Another one point seven per cent respondents observed that it is only sometimes that in their healthcare units the teams carry out duties using handling aids. Thirty nine per cent of the respondents observed that in their healthcare units, the teams usually carry out

duties using handling aids. The remaining 22% of the respondents observed that teams in their healthcare units always carry out duties using handling aids. The modal class of the responses to this indicator was found to be 4. This implies that on average, teams in healthcare units usually carries out duties using handling aids. Use of handling aids is a measure of innovativeness and 61.1% of the respondents observed that they always or usually carry out duties using handling aids which implies practicing CE. (See Table 4.6):

Table 4.6: Innovativeness indicators

Indicator	**Never 1**	**Rarely 2**	**Sometimes 3**	**Usually 4**	**Always 5**	**Mode**
Patients and guardians are allowed to contact the doctor on phone to book an appointment or to consult in the evenings and weekends	20.3%	15.3 %	28.8 %	13.6%	22.0%	3
Skills and training requirements are tightly linked to the tasks at hand	1.7%	6.8 %	10.2 %	45.8%	35.6%	4
The unit have standardised operating procedures in all clinical protocols	0.0%	11.9 %	5.1 %	20.3%	62.7%	5
Existing institutions, infrastructure and networking is used to reduce capital investments and operating costs	1.7%	23.7 %	20.3 %	37.3%	16.9%	4
Revenue streams are opened up to extend activities into other sectors like shops, restaurants, churches, etc.	15.3%	22.0 %	28.8 %	18.6%	15.3%	3
Low cost franchise model is used to take care-givers close to patients	5.1%	27.1 %	13.6 %	32.2%	22.0%	4
The team carries out duties using handling aids	35.6%	1.7 %	1.7 %	39.0%	22.0%	4

4.5.2 Risk Taking

Risk taking was also an independent variable under this study. This variable was also measured by observed indicators measured on an ordinal scale of 5 and thus the mode was used as a measure of central tendency and analysis presented in frequency table. The results for the analysis of risk taking are presented in Table 4.7.

To measure Risk taking variable, the respondents were asked how much they agreed with the statement that the team believes in taking bold actions necessary to achieve the health care unit's objectives; to this indicator, 5.1% of the respondents observed that their healthcare units never believes in taking bold actions necessary to achieve the health care unit's objectives, 3.4% of the respondents observed that their healthcare units rarely believe in taking bold actions necessary to achieve the health care unit's objectives, 25.4% observed that it is only sometimes they take bold actions necessary to achieve the healthcare unit's objectives, 28.8% observed that their healthcare units usually believe in taking bold actions necessary to achieve the health care unit's objectives and the remaining 37.3% of the respondents observed that their healthcare units always believe in taking bold actions necessary to achieve the health care unit's objectives. The modal class of the responses to this indicator was found to be 5. This has an implication that on average, the team always believes in taking bold actions necessary to achieve the health care unit's objectives in the healthcare units.

The study also sought to find out the perception of respondents on the indicator that the team gets threats from patients and other employees; to this statement, 16.9% of the respondents observed that teams in their healthcare units never get threats from patients and other employees, 32.2% of the respondents observed that their healthcare units rarely get threats from patients and other employees, 42.1% of the respondents observed that their healthcare units sometimes get threats from patients and other employees, 3.4% of the respondents observed that their healthcare units usually get threats from patients and other employees and another 3.4% of the respondents observed that their healthcare units always get threats from patients and

other employees. The modal class of the responses to this indicator was found to be 3. This has an implication that on average, the team sometimes gets threats from patients and other employees in the healthcare units.

Patient violence towards clinicians requires both attention and preparation to reduce risk and provide for the safety of the clinician. Clinicians are encouraged to identify and evaluate risk in their practice settings. Once risk is identified, the clinician should implement a safety plan that is re-evaluated at intervals to ensure that it is up to date and being followed. Environmental and organizational factors have been associated with patient and family assaults on health care workers, including understaffing (especially during times of increased activity such as meal times), poor workplace security, unrestricted movement by the public around the facility, and transporting patients. The presence of security personnel reduces the rate of assaults, while increased risk is associated with the perception that administrators consider assaults to be part of the job, receiving assault prevention training, a high patient/personnel ratio, working primarily with mental health patients, and working with patients who have long hospital stays.

Considering the indicator on the level of agreement with the statement that injuries occur while lifting and lowering equipment or patients; to this statement, 18.6% of the respondents observed that employees of their healthcare units never get injuries that occur while lifting and lowering equipment or patients, 64.4% of the respondents observed that employees of the healthcare units rarely get injuries that occur while lifting and lowering equipment or patients, 10.2% of the respondents observed that employees of the healthcare units sometimes get injuries that occur while lifting and lowering equipment or patients. None of the respondents observed that employees of the healthcare units usually get injuries that occur while lifting and lowering equipment or patients. The remaining 6.8% of the respondents observed that employees of the healthcare units always get injuries that occur while lifting and lowering equipment or patients. The modal class of the responses to this indicator was found to be 2. This has an implication that on average, injuries rarely occur while lifting and lowering equipment or patients in the healthcare units.

The results of this study are in agreement with those of Cudjoe (2011) that was to examine the effect of occupational health and safety on job performance. His population of study included; medical doctors/officers, administrators, technicians, cooks, nurse etc. in the departments and units of the hospital. Eighty respondents formed the sample size of the study. Data was collected through questionnaire, interviews and review of relevant literature from books, articles, website etc. It was found out that the current occupational health and safety practices at the hospital were inadequate. Staff commitment and compliance to health and safety rules was also low. It was recommended that management of the hospital constitute a safety committee and maintain regular monitoring, inspection and evaluation and conduct reviews for improvement.

Another research by Kwame (year not known) on the Occurrence of Medication errors and the Occurrence of risk factors for Medication errors in state hospitals in Ghana agrees with the study. Kwame observed that safety is not the best since there was ample evidence that the occurrence rate was high and the risk factors for errors were prevailing in the hospital setting. He averred that there is need for pragmatic effort by managements to intensify coordination between the stages of care and the professionals and patients interaction in the course of care delivery.

Respondents were also asked on whether employees contract infectious diseases from patients; to this statement, 59.3% of the respondents observed that employees in their healthcare never contract infectious diseases from patients, 20.3% of the respondents observed that employees in their healthcare units rarely contract infectious diseases from patients, 16.9% of the respondents observed that employees in their healthcare units sometimes contract infectious diseases from patients while 3.4% of the respondents observed that employees in their healthcare units usually contract infectious diseases from patients. None of the respondents observed that employees in their healthcare units always contract infectious diseases from patients. The modal class of the responses to this indicator was found to be 1. This implies that on average, employees never contract infectious diseases from patients in the healthcare units.

The results of this study agree with those of Nienhaus *et al.,* (2012) that carried out their study in Germany which is a low-incidence country. Their study revealed that TB still pose a threat for HCWs and that screening for TB should be maintained. They observed that even though they are declining, HBV and HBV infections are still frequent and trends should be watched closely. Trends in NSIs should be observed closely in the following years in order to evaluate the effect of new regulations on the use of safety devices (Nienhaus *et al.,* 2012). In this study, 16.9% of the respondents agreed to the statement observing that they sometimes contract infectious diseases from patients and another 3.4% observed that they usually contract infectious diseases. This is an indication that 20.3% of health care workers contract infectious diseases from patients which is a very high percentage of infections.

Analysis of to whether employees suffer from injuries caused by needle stick while injecting patients; to this statement, 64.4% of the respondents observed that employees in their healthcare units never suffer from injuries caused by needle stick while injecting patients, 25.4% of the respondents observed that employees in their healthcare units rarely suffer from injuries caused by needle stick while injecting patients 6.8% of the respondents observed that employees in their healthcare units sometimes suffer from injuries caused by needle stick while injecting patients. None of the respondents observed that employees in their healthcare units usually suffer from injuries caused by needle stick while injecting patients and 3.4% of the respondents observed that employees in their healthcare units always suffer from injuries caused by needle stick while injecting patients. The modal class of the responses to this indicator was found to be 1. This has an implication that on average, employees never suffer from injuries caused by needle stick while injecting patients in the healthcare units but there is a 3.4% of the respondents that stated that they always suffered from needle stick. This percentage is quite high which justifies the existence of the risk.

These results agree with the results by Salminen and Parantainen (2012) cited in Thapa (2015) who carried out a study in the district of Helsinki. Their study revealed that approximately five hundred cases of needlestick injuries (NSIs) were reported in district of Helsinki and regional capital and among them fifty cases of contamination sources were known to be a carrier of hepatitis B virus, hepatitis C virus or human immunodeficiency virus contributing to one fourth of the occupational injuries. Another research by Wafula (2012) revealed that nurses were among healthcare workers at the highest risk of sharps injury and that the critical care section presented more sharps injury risks than other sections at the hospital. Underreporting of medical sharps injury was also common and that many injured respondents did not seek for post-exposure prophylaxis.

The next indicator was on whether employees get blood and body fluid spills from patients; to this statement, 54.2% of the respondents observed that employees in their healthcare units never get blood and body fluid spills from patients, 16.9% of the respondents observed that employees in their healthcare units rarely, 18.6% of the respondents observed that sometimes get blood and body fluid spills from patients, 3.4% of the respondents observed that employees in their healthcare units usually get blood and body fluid spills from patients and only 6.8% of the respondents observed that employees in their healthcare units always get blood and body fluid spills from patients. The modal class of the responses to this indicator was found to be 1, implying that on average, employees never get blood and body fluid spills from patients in the healthcare units.

The study findings agree with those of Ngesa (2008). Ngesa (2008) carried out a study to determine the knowledge of Universal Precautions Policy by Registered Nurses and their perception of Occupational risk of exposure to blood-borne pathogens. Ngesa (2008) in her study revealed a high level of occupational exposure, of which majority went unreported despite the respondent's awareness of the risk of occupationally acquired blood-borne infections.

Katz (2013) observed that blood and body fluid spills from patients may expose healthcare workers to more than 20 different blood-borne pathogens, the most important of which being hepatitis B virus, hepatitis C virus, and human immunodeficiency virus (HIV) as observed by Katz (2013). Katz (2013) avers that all blood, body fluids, secretions, and excretions, except sweat, can contain transmissible infectious agents.

Table 4.7: Risk taking culture

Indicator	**Never 1**	**Rarely 2**	**Sometimes 3**	**Usually 4**	**Always 5**	**Mode**
The team believes in taking bold actions necessary to achieve the health care unit's objectives	5.1%	3.4%	25.4%	28.8%	37.3%	5
the team gets threats from patients and other employees	16.9%	32.2%	44.1%	3.4%	3.4%	3
Injuries occur while lifting and lowering equipment or patients	18.6%	64.4%	10.2%	0.0%	6.8%	2
Employees contract infectious diseases from patients	59.3%	20.3%	16.9%	3.4%	0.0%	1
Employees suffer from injuries caused by needle sick while injecting patients	64.4%	25.4%	6.8%	0.0%	3.4%	1
Employees get blood and body fluid spills from patients	54.2%	16.9%	18.6%	3.4%	6.8%	1

4.5.3 Pro-activeness

Another independent variable the researcher studied was pro-activeness. The mode was used as the average being that the variable indicators were also measured categorically on an ordinal scale of 5. The analysis of pro-activeness is shown in frequency Table 4.8.

To measure this variable, the respondents were asked how much they agreed with the statement that barriers and accident preventions are carried out; to this statement, 28.8% of the respondents observed that barriers and accident preventions at their healthcare units are never carried out; 8.5% of the respondents observed that barriers and accident preventions at their healthcare units are rarely carried out; 6.8% of the respondents observed that barriers and accident preventions at their healthcare units are sometimes carried out; 28.8% of the respondents observed that barriers and accident preventions at their healthcare units are usually carried out. The remaining 27.1% of the respondents observed that barriers and accident preventions at their healthcare units are always carried out. The modal class of the responses to this indicator was found to be 1. This has implications that on average, barriers and accident prevention are never carried out in the healthcare units.

These results are in agreement with those of Watson (2017) on Fall prevention in an Acute Care Hospital. Watson surveyed the challenges encountered by Patients, Staff and Administrators using a mixed method approach. The research revealed that; 1. Most falls occurred in the Medicine and Neurosciences units and that it was frequent between 10.00 am and 12.00pm when staffs were generally preoccupied with multiple tasks. 2. The research recommended a change on how the hospital assessed falls risk and 3. Contributing factors to the fall included; inadequate hospital policies, lack of staff education and patient cognitive and mobility issues while in hospital.

The study sought to find out the perception of respondents on the indicator that hazard analysis is carried out; to this statement, 3.4% of the respondents observed that hazard analysis is never carried out in their healthcare units; 6.8% of the respondents observed that hazard analysis is rarely carried out in their healthcare

units; 10.2% of the respondents observed that hazard analysis is sometimes carried out in their healthcare units. A majority of the respondents (50.8%) observed that hazard analysis is usually carried out in their healthcare units. The remaining 28.8% of the respondents observed that hazard analysis is always carried out in their healthcare units. The modal class of the responses to this indicator was found to be 4. This implies that on average, hazard analysis is usually carried out in the healthcare units.

Hazard analysis is a measure of proactiveness and from the responses, the healthcare units are practicing proactiveness except about 3.4% who never carry out hazard analysis actions and 6.8% who rarely carry out the exercise. This is an indication that about 80.8% of the healthcare units are practicing CE while only 10.2% are not practicing it.

Considering the indicator on the level of agreement with the statement that disease prevention is carried out; to this statement, 0% of the respondents observed that in their healthcare units, disease prevention is never or rarely carried out; 8.5% of the respondents observed that in their healthcare units, disease prevention is sometimes carried out; 33.9% of the respondents observed that in their healthcare units, disease prevention is usually carried out; 57.6% of the respondents observed that in their healthcare units, disease prevention is always carried out. The modal class of the responses to this indicator was found to be 5, implying that on average, disease prevention is always carried out in the healthcare units.

Disease prevention being an indicator of proactive behaviour, from the response the research observes that the healthcare units carry out CE. Disease prevention is a measure of proactive behaviour therefore from the results of the respondents it confirms that the healthcare units are practicing CE although 8.5% observed that it is only sometimes that they practice proactiveness

The respondents from the healthcare units were also asked on whether safety management is carried out; to this statement, 3.4% of the respondents disagreed and observed that safety management is never carried out in their healthcare units. None

of the respondents gave the observation of the healthcare unit rarely carrying out safety management; 11.9% of the respondents observed that it is only sometimes that their healthcare units carry out safety management; 32.2% of the respondents observed that their healthcare units usually carry out safety management. The remaining 52.5% of the respondents observed that their healthcare units always carry out safety management. The modal class of the responses to this indicator was found to be 5. The implication here is that on average, safety management is always carried out in the healthcare units although 3.4% of the respondents observed that their healthcare units never carry out safety management.

This is an indicator that there is need for healthcare units to reinforce safety management programmes which agrees with a research carried out by Barrow (2012). Barrow's research was on patient safety culture in the Ghambia Public Hospitals using a cross- Sectional Survey. Barrow's research revealed that workers in Ghambia have a low perception about patient safety culture and physicians were found to give a negative opinion and were less likely to give a positive opinion about the factors of patient safety culture. The research recommended training of healthcare workers on patient safety and broad based research including all categories of healthcare organizations are highly recommended in order to improve patient safety culture Barrow (2012).

The respondents were also asked whether there are tool sets used during service to clients; to this statement, only 3.4% of the respondents disagreed to the statement observing that their healthcare units never have tool sets to use during service to clients; 3.4% of the respondents observed that their healthcare units rarely use tool sets during service to clients; 13.6% of the respondents observed that in their healthcare units it is only sometimes that tool sets are used during service to clients; 8.5% of the respondents observed that their healthcare units usually use tool sets during service to clients. Most of the respondents (71.2%) observed that their healthcare units always use tool sets during service to clients. The modal class of the responses to this indicator was found to be 5. This has an implication that on average,

tool sets are always used during service to clients in the healthcare units. (See Table 4.8).

Table 4. 8: Pro-activeness

Indicator	Never	Rarely	Sometimes	Usually	Always	Mode
	1	2	3	4	5	
Barriers and accident preventions are carried out	28.8%	8.5%	6.8%	28.8%	27.1%	1
Hazard analysis is carried out	3.4%	6.8%	10.2%	50.8%	28.8%	4
Disease prevention is carried out	0.0%	0.0%	8.5%	33.9%	57.6%	5
Safety management is carried out	3.4%	0.0%	11.9%	32.2%	52.5%	5
There are tool sets used during service to clients	3.4%	3.4%	13.6%	8.5%	71.2%	5

4.5.4 Competitive aggressiveness

Competitive aggressiveness was also considered as an independent variable affecting the performance of health care units. The variable was measured using 2 indicators measured on an ordinal scale with five categories. The results for these two indicators are presented in the frequency Table 4.9 with the mode as the measure of central tendency.

To measure this variable, the respondents were asked how much they agreed with the statement that actions are initiated rather than response to competitors; to this statement, none of the respondents observed that actions are never initiated rather than response to competitors; 5.1% of the respondents observed that actions are rarely initiated rather than response to competitors; 20.3% of the respondents observed that in their healthcare units, actions are sometimes initiated rather than

response to competitors;30.5% of the respondents observed that in their healthcare units, actions are usually initiated rather than response to competitors and 40.1% of the respondents observed that in their healthcare units, actions are always initiated rather than response to competitors. The modal class of the responses to this indicator was found to be 5, implying that on average, actions are always initiated rather than response to competitors in the healthcare units.

The results observed in this research is in agreement with many other researches that aver that a competitive aggressive firm is one that does not take new positions against the increased intensity of the competition or take late entry into the market, come up with new strategies to survive and remain in the competition gaining share of the markets. The results of this research is in agreement with that carried out by Bora and Bulut (2008) who aver in their study that competitive aggressiveness positively affects financial performance of the firm.

To measure this variable, the respondents were also asked how much they agreed with the statement that their healthcare unit is the first to introduce new products, services administrative and operating techniques; to this statement, none of the respondents observed that their healthcare units are never the first to introduce new products, services administrative and operating techniques; 3.4% of the respondents observed that their healthcare units are rarely the first to introduce new products, services administrative and operating techniques; 37.3% of the respondents observed that their healthcare units are sometimes the first to introduce new products, services administrative and operating techniques; 28.8% of the respondents observed that their healthcare units are usually the first to introduce new products, services administrative and operating techniques and 30.5% of respondents observed that their healthcare units are always the first to introduce new products, services administrative and operating techniques. The modal class of the responses to this indicator was found to be 3.

The implication here is that on average, the healthcare units are sometimes the first to introduce new products, services administrative and operating techniques. The results from the respondents indicates that some healthcare units are yet to become competitive in offering services to the patients therefore they are not yet practicing Corporate Entrepreneurship. (See Table 4.9).

Table 4. 9: Competitive aggressiveness

Indicator	Never 1	Rarely 2	Sometimes 3	Usually 4	Always 5	Mode
Actions are initiated rather than response to competitors	0.0%	5.1%	20.3%	30.5%	44.1%	5
The unit is the first to introduce new products, services administrative and operating techniques	0.0%	3.4%	37.3%	28.8%	30.5%	3

4.5.5 Performance

Performance is the dependent variable in the study. The study sought to determine the influence of the independent variables on the dependent variable, performance of healthcare units in Nairobi County. The performance of the units was measured using various indicators of health performance, for instance, reduced child mortality, reduced maternal mortality at birth, reduced maternal mortality during pregnancy and increased referrals to the Healthcare unit.

Data on child mortality was collected by asking the number of infant deaths verses the number of births carried out at the healthcare unit. The study sought to determine

the reduction in infant mortality as a measure of positive performance of health care units. From data collected the study computed the ratio of number of infant deaths to number of live birth which normalised the scale of this indicator and determined the annual decreases in infant mortality. Based on the ratio scale, the study used the mean and the standard deviation as the measures of central tendency and the measures of dispersion respectively.

As shown in Table 4.10, the annual average reduction in infant mortality over the 5 years was found to be 0.209% with a standard deviation of 1.028%. From the year 2011, the mortality rate was found to have annual reductions through to 2013 but in 2014 the health care units had an average increase in infant mortality of 0.635% instead of a reduction. The standard deviations were much higher than the average reductions implying possible increases in mortality instead of decreases. The statistics for the five year period show an annual average standard deviation of 1.028 and a 95% confident interval with a lower and limits of -0.115% and 0.534% respectively. This confirms that despite the mean reduction in infant mortality of 0.209%, there are hospitals in the population that recorded increased infant mortality (See Table 4.10).

Table 4.10: Infant mortality

	N	Average Infant Mortality rate	Mean Reduction	Std. Deviation of Reduction	95% Confidence Interval for Mean	
2010	41	0.018				
2011	41	0.013	0.480%	3.472%	-0.616%	1.576%
2012	41	0.007	0.595%	3.319%	-0.452%	1.643%
2013	41	0.003	0.397%	1.328%	-0.022%	0.816%
2014	41	0.009	-0.635%	2.670%	-1.478%	0.207%
Annual Average	41	0.010	0.209%	1.028%	-0.115%	0.534%

Reduction in maternal mortality is one of the measures of healthcare performance considered in the study. This measures the performance of the units in controlling the deaths of mothers who go for delivery at the hospitals or health facilities. Maternal mortality during birth is the rate of deaths of the mothers during child birth. The measure for maternal mortality is the number of maternal death per 100,000 live births. The maternal mortality during birth was analysed as the ratio of number of mothers dying at child birth to the number of births in the unit and further, annual reduction in the mortality rates calculated. Further the annual reduction in the mortality rates were calculated and used as the indicator of performance. The mean was used as the descriptive measure of central tendency to analyse the reduction in maternal mortality.

As shown in Table 4.11, the overall reduction in maternal mortality over the 5 years was found to be 0.270% with a standard deviation of 0.855%. From the year 2011, the mortality rate was found to have an average annual reductions through to 2013 but in 2014 the health care units had an average increase in maternal mortality during birth of 0.220% instead of a reduction. The overall change in the five years was however noted to be a reduction of 0.270%. The standard deviations were much higher than the average reductions implying possible increases in mortality instead of decreases. The overall statistics for the five year period show a standard deviation of 0.855% and a 95% confident interval with a lower and limits of 0.000% and 0.540% respectively. This confirms that on average all the hospitals in the population recorded no overall increased maternal mortality during birth in the 5 years but the expectation is that any hospital in the population had an overall reduced prenatal maternal mortality or no overall change in the mortality rate.

Table 4.11: maternal mortality during birth

	N	Average maternal Mortality rate	Mean Reduction	Std. Deviation of Reduction	95% Confidence Interval for Mean	
2010	41	0.014				
2011	41	0.009	0.530%	2.981%	-0.410%	1.470%
2012	41	0.005	0.330%	3.494%	-0.770%	1.440%
2013	41	0.001	0.430%	1.360%	0.000%	0.860%
2014	41	0.003	-0.220%	0.891%	-0.500%	0.060%
Annual Average	41	0.007	0.270%	0.855%	0.000%	0.540%

To further measure the performance of the healthcare units in antenatal care, the study also sought to determine maternal mortality during pregnancy as an indicator of positive performance. Maternal mortality during pregnancy was measured as the ratio of number of maternal deaths during pregnancy to the total number of antenatal clinics registered in the unit after which the reductions in the rates were calculated. As shown in Table 4.12, the overall reduction in maternal deaths during pregnancy was found to be 0.120% with a standard deviation of 0.399%. The standard deviation shows that the low mortality ratio also had a low variation across the healthcare units. In the years 2011 and 2013, the healthcare units recorded average reductions in the maternal mortality rates of 0.400% and 0.290% respectively but in 2012 and 2014 the health care units had average increases in maternal mortality rates during pregnancy of 0.040% and 0.180 respectively. The overall change in the five years was however noted to be a reduction of 0.120%.

The standard deviations were much higher than the average reductions implying possible increases in mortality instead of decreases for some Healthcare units. The overall statistics for the five year period shows a standard deviation of 0.399 and a 95% confident interval with a lower and limits of -0.010% and 0.240% respectively.

This confirms that despite the mean reduction in maternal mortality during pregnancy of 0.120%, there are Healthcare units in the sample that recorded increase in maternal mortality during pregnancy.

Table 4.12: maternal mortality during pregnancy.

	N	Average maternal Mortality rate	Mean Reduction	Std. Deviation of Reduction	95% Confidence Interval for Mean	
2010	41	0.008				
2011	41	0.004	0.400%	1.324%	-0.020%	0.810%
2012	41	0.004	-0.040%	1.454%	-0.500%	0.420%
2013	41	0.001	0.290%	1.224%	-0.090%	0.680%
2014	41	0.003	-0.180%	0.883%	-0.460%	0.100%
Annual Average	41	0.004	0.120%	0.399%	-0.010%	0.240%

The study also considered referrals as an indicator of performance of the healthcare units. This indicator was measured as increase in the number of client referrals to the healthcare units to depict positive improvement in performance. The referral rates were first determined as a ratio of the total number of referrals to the total number of antenatal clinics then further the annual increases in the referral rates computed as the measure of performance. The results show that on average, the healthcare units had an overall mean increase in referral rates of 0.150%. In all the years from 2011 to 2014 except for 2013, the healthcare units had average increases in referral rates. In the year 2013 however, the healthcare units had a mean reduction in the referral rates of 3.710%. The overall however shows that the healthcare units had mean increase in referral rates for all the 5 year period.

The dispersion measure shows a high variation of this indicator with a standard deviation of 1.675 implying high differences in referrals across the healthcare units. The fact that the standard deviation is higher than the overall mean shows that there is heterogeneity, implying that there are some Healthcare units in the sample

population that recorded reduced referral rates instead of increased referral rates. This is confirmed by the population confidence interval that has a lower and upper bounds of -0.370% and 0.680% respectively. The results are shown in Table 4.13,

Table 4.13: Referrals rates

	N	Average referrals ratio	Mean increase	Std. Deviation of increase	95% Confidence Interval for Mean	
2010	41	0.037				
2011	41	0.059	2.200%	7.688%	-0.230%	4.630%
2012	41	0.022	-3.710%	14.421%	-8.270%	0.840%
2013	41	0.043	2.120%	7.512%	-0.250%	4.490%
2014	41	0.043	0.010%	4.038%	-1.260%	1.290%
Annual Average	41	0.041	0.150%	1.675%	-0.370%	0.680%

4.6 Content Analysis

Content analysis was used to analyse the qualitative questions of the questionnaire. This includes the binary measured questions and the open-ended questions. The qualitative binary questions closed to yes and no responses were analysed and presented in pie-charts while the open-ended questions were analysed using a thematic approach. Thematic analysis is used to analyse text data that are coded into themes and analysed using frequencies of the themes. Figure 4.8 shows the response to the questions as to whether the healthcare units provide counselling services during pregnancies. Majority (98%) of the healthcare units studied were found to have provisions for pre-natal counselling services. Only 2% of the respondents said that their healthcare units do not provide counselling services during pregnancies.

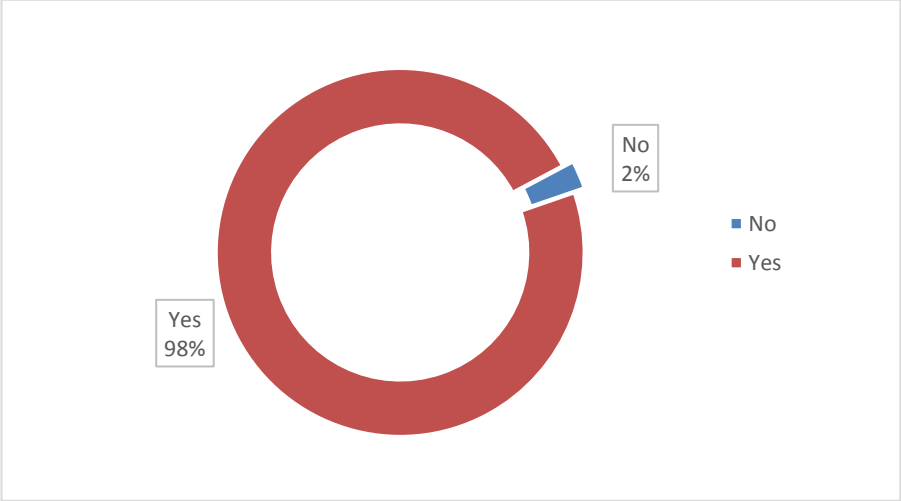

Figure 4.8: Counseling Services during pregnancies

Figure 4.9 shows the response to the questions as to whether the healthcare units provide counselling services during delivery. Majority (63%) of the healthcare units studied were found to have provisions for counselling during pregnancies. However, the counselling services during delivery was noted not to be provided by many more healthcare units compared to the counselling services during pregnancies which almost all (98%) were found to offer. There were 37% of the respondents who said that their healthcare units do not provide counselling services during delivery.

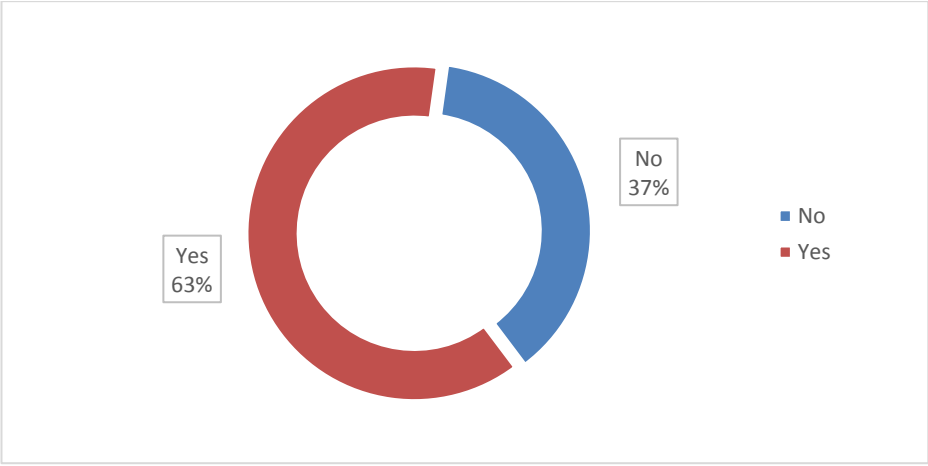

Figure 4.9: Counseling Services during delivery

The study also sought to determine whether the health units have an ambulance or any other means of transport. When asked, it was noted that all (100%) the healthcare units have an ambulence or atleast have some mode of transportation for patients and medical requirements.

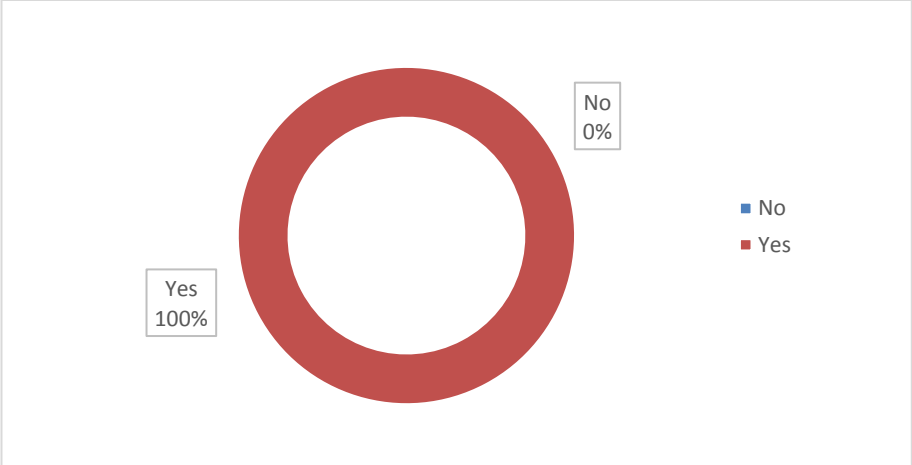

Figure 4.10: Ambulance or other transportion services

Thematic analysis was carried out on the open-ended questions regarding the bold steps taken to deal with the complications. Under thematic analysis, the text information written by the respondents on the open-ended questions were assessed and themes determined. The themes were then coded and the frequency of occurrences of the theme codes across the responses assessed and reported.

From the thematic analysis on the question of complications supervised, the results were as shown in table 4.14. It was observed that placenta pravia is a common complication in the healthcare units and the steps taken by healthcare takers were same, where the mother was taken in for a C-Section. The other complication that came out of the many respondents was where the baby came in a breech position and many said they applied pressure on the mother's abdomen to help the baby to come out. The other complication noted by most respondents was puchal cord, where the umbilical cord is wrapped round the baby's neck.

The other complication given was foetal distress and most of the respondents said they exerted force on the mother's abdomen to get the baby out. The other complication noted by respondents was meconium aspiration of the baby and the steps taken are clearing it from the baby's nose and mouth at birth and if the case is serious the baby is taken to ICU for specialized care. The other complication the respondents gave was that of babies being too big to pass through the mother's pelvis. The management given was either the mother is taken for C-Section or administering a drug to induce contractions first.

Table 4. 14: Thematic analysis on delivery complications

Complication Themes	**Frequency**	**Themes on Steps taken**	**Frequency**
Placenta pravia	31	C-section	25
		Exerted pressure on abdomen to force the baby out	2
		Referral	4
Baby in a breech position	35	Applied pressure on the mother's abdomen to help the baby to come out.	28
		Referral	7
Puchal cord	25	C-section	20
		Referral	5
Foetal distress	12	Exerted force on the mother's abdomen to get the baby out	10
		N/A	2
Meconium aspiration	10	Clearing it from the baby's nose and mouth at birth	5
		ICU	3
		N/A	2
Big Babies	20	C-Section	15
		Cut to increase size of the birth canal to allow the baby to come out	5

Table 4.15 shows the content analysis results summary on the new born complications and steps taken. On the item of new born complications, most of the respondents gave prematurity or underweight babies as the most common complication but did not say how they managed the complication. Only two respondents stated that babies of low weight or premature at birth are put in the incubator under normal human body temperature. This could mean that the healthcare units could be lacking the facility or it was an oversight on the respondents while filling the questionnaire.

The other complication given by most respondents was that of injuries caused by birth. The respondents highlighted stitching in case of a tear or cut on the new born. In case the injury has caused a wound on the new born, the wound is dressed up. The respondents also gave administering an anti-inflammatory or by carrying out resuscitation as a way of managing some injuries on the new born. Some respondents on this item gave vomiting or abdominal disorder of the new born as the most common complication. The management used on this complication they all gave, was administering IV fluid to the new born. The other common complication given by some respondents was that of difficulty in breathing or respiratory disorder. The respondents said they managed this problem by taking the new born to the ICU and administering oxygen.

From the common complications highlighted by the respondents, the researcher concludes that: One, the healthcare units have a standardized operating procedure followed on every complication they encounter. Two, the most common complications encountered in the healthcare units are the same: Namely, breathing difficulty or respiratory disorder, vomiting or abdominal disorder, injuries caused by birth, prematurity or underweight babies.

Table 4.15: Thematic analysis on delivery complications

Theme of complications	Frequency	Steps taken	Frequency
Prematurity	19	Incubation	17
		N/A	2
Underweight babies	5	Admitted	5
Injuries caused by birth	25	Stitching	20
		Dressed up	5
		Administering an anti-inflammatory	25
		Carrying out resuscitation	22
Vomiting or abdominal disorder	15	Administering IV fluid to the new born	15
Difficulty in breathing or respiratory disorder	11	ICU and administering oxygen	9
		Referred	2

4.7 Inferential Statistical Analysis

At the inferential stage of analysis, the study sought to explore the nature of relationship between Corporate Entrepreneurship and the performance of healthcare units in Nairobi County in Kenya. Statistical techniques were adopted to determine the relationship between the independent variables and the dependent variable and further determined the levels of influence that corporate entrepreneurship has on the performance of healthcare units in Nairobi County . The analysis adopted parametric estimation techniques that require the variables used to be measured on a continuous scale. The continuous latent variables used for the parametric inferential analysis resulted from dimension reduction of the large dimension of observed indicators of each constructs using factor analysis.

4.7.1 Bivariate analysis of Innovativeness and performance of healthcare units

The study assessed the influence of Innovativeness on performance of healthcare units in Nairobi County.. The results from factor analysis for dimension reduction of

the observed indicators yielded the quantitative latent variable of innovativeness and that of performance that were used to explore the relationship between innovativeness and performance. A correlation analysis was carried out between innovativeness and performance. The Pearson correlation coefficient of 0.340 shows a positive direct relationship between performance and innovativeness. The 2 tailed significance tests of the correlation coefficients shows a p-value of 0.029 which is less than 0.05 implying that the relationship is significant.

This finding that innovativeness has a significant relationship with performance of healthcare units in Nairobi Count is consistent with the study carried out by Kuratko and Welsch (1994) and Morris and Kuratko (2002) who averred that innovation is the first dimension that characterizes an entrepreneurial company. They argue that personal initiatives create an atmosphere of innovation, and innovative programmes which help to build an entrepreneurial company. In his study, the majority of the respondents observed that their healthcare units usually use low cost franchise model to take care- givers close to patients and this is an example of personal initiative as observed by the above researchers. (See Table 4.16).

Table 4.16: Correlation analysis for Innovativeness units

		Performance	**Innovativeness**
Performance	Pearson's ρ	1	.340*
	2-tailed Sig.		.029
	N	41	41
Innovativeness	Pearson's ρ	.340*	1
	2-tailed Sig.	.029	
	N	41	41

In Table 4.17 the study presents the results of the relationship and explanatory power of the bivariate model for the influence of innovativeness and performance. The R value of .340 shows that there is a positive linear relationship between innovativeness and performance. The R^2 is the coefficient of determination which

indicates that explanatory power of the independent variables is 0.116. This means that 11.6% of the variation in performance is explained by the variation of innovativeness in the model $Y = \beta_0 + \beta_1 X_1$. The remaining 88.4% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model.

Table 4.17: Model Summaries for Innovativeness

R	R Square	Adjusted R Square	Std. Error of the Estimate
.340a	0.116	0.093	0.12012

a Predictors: (Constant), Innovativeness

The ANOVA results show that the influence of innovativeness on performance of healthcare units in Kenya quality is significant. The p-value of the F-statistic as shown in the ANOVA table is 0.029 which is less the 0.05 implying general significance of the one parameter model thus implying that innovativeness significantly influences performance of healthcare units. This agrees with the study of Kaya and Veysel (2003) who revealed that innovation significantly affects performance of Turkish manufacturing FDI firms. Refer to Table 4.18:

Table 4.18: ANOVA table for Innovativeness

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.074	1	0.074	5.112	.029b
Residual	0.563	39	0.014		
Total	0.636	40			

a Dependent Variable: Performance

b Predictors: (Constant), Innovativeness

The study results revealed a statistically significant and positive linear relationship between innovativeness and performance of healthcare units ($\beta = 0.044$, $t = 2.261$and

p-value = 0.029). The relationship was statistically significant because the p-value is less than 0.05. The model shows that every unit increase in the levels of innovativeness leads to a 0.044 increase in performance of healthcare units keeping other factors constant. The resulting regression model that predicts the level of performance of healthcare units for a given level of Innovativeness is given by the equation below:

$Y = 0 + 0.044X + e$

A study by Ambad and Wahab (2013) to investigate the relationship between corporate entrepreneurship dimensions and firm performance among large firms in Malaysia also agrees with the results of this study on innovativeness and performance. Their research revealed that CE Practices in large firms have significant effect on firm performance. The duo revealed that three dimensions namely innovativeness, pro-activeness and corporate venturing as having increased the performance of the firms with innovation being the core of entrepreneurship and that it had the greatest impact on firm performance. Refer to Table 4.19,

Table 4.19: Coefficients for Innovativeness

Variable	β coefficient	Std. Error	t	P-value.
(Constant)	-0.005	0.019	-0.268	0.79
Innovativeness	0.044	0.02	2.261	0.029

4.7.2 Bivariate analysis for risk taking

The second objective required the study to determine the effect of risk taking on performance of healthcare units in Nairobi County.. The inferential analysis on the relationship between risk taking and performance was also done using the latent variables resulting from factor analysis of the observed indicators risk taking and performance. A correlation analysis was carried out between risk taking and

performance of healthcare units as shown in Table 4.20. The Pearson correlation coefficient shows was found to be 0.325 that shows positive direct relationship between performance of healthcare units and risk taking. The 2 tailed significance tests of the correlation coefficients shows a p-value of 0.038 which is less than 0.05 implying that the relationship is significant.

This is in contrast to a research by Shamsuddin *et al.,* (2012) on dimensions of corporate entrepreneurship and the performance of established organization in Malaysia revealed that risk-taking does not have a direct effect on financial performance of the company, but with indirect effect of moderating factors, it showed a significant effect on financial performance. Their study revealed that resource availability, supportive organizational structure and rewards moderated the relationship between risk-taking and financial performance but not significantly. This study's results are however consistent with many other researches that have revealed that risk taking have a significant relationship with performance of firms (Kalokovic et al., 2007, Lumpkin & Dess, 1996, Lumpkin & Dess, 1991, Antoncic &Hisrich, 2003 and Kaya & Veysel, 2003).

Table 4.20: Correlation analysis for risk taking

		Performance	**risk taking**
Performance	Pearson's ρ	1	.325*
	2-tailed Sig.		.038
	N	41	41
risk taking	Pearson's ρ	.325*	1
	2-tailed Sig.	.038	
	N	41	41

Table 4.21 shows that there is a positive linear relationship between risk taking and performance. The R value of .324 shows the positive linear relationship between Risk taking and performance. The R^2 is the coefficient of determination which indicates that explanatory power of the independent variables is 0.106. This means

that 10.66% of the variation in performance is explained by the variation of risk taking in the model $Y = \beta_0 + \beta_1 X_1$. The remaining 89.4% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model.

Table 4.21: Model Summary for Risk taking

R	R Square	Adjusted R Square	Std. Error of the Estimate
.325a	0.106	0.083	0.12081

a Predictors: (Constant), Risk taking

The ANOVA results on Table 4.22 show that the influence of risk taking on performance of healthcare units in Kenya quality is significant. The p-value of the F-statistic as shown in the ANOVA table is 0.038 which is less than the 0.05 implying general significance of the one parameter model thus implying that risk taking significantly influences performance of healthcare units. A research by Kaya and Veysel (2003) on entrepreneurial orientation and performance of Turkish manufacturing FDI firms also revealed that risk taking positively affects firms although not significantly. The duo argues that managers should scan external environment to identify changes and opportunities and take calculated risks to gain advantage of these opportunities.

Table 4.22: ANOVA table for Risk taking

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.067	1	0.067	4.609	.038b
Residual	0.569	39	0.015		
Total	0.636	40			

a Dependent Variable: Performance

b Predictors: (Constant), Risk taking

From the Table 4.23, the regression results show that risk taking had a significant positive influence on the performance of healthcare units in Nairobi County (β = 0.043, t = 2.147 and p-value = 0.038). From the above regression results, the p-value < 0.05 implying significance of the coefficient of risk taking in the model. The model shows that with every unit increase in the levels of Risk taking there is a 0.043 increase in the levels of performance of healthcare units in Kenya. The equation below shows the resulting regression model that predicts the level of performance of healthcare units for a given level of Risk taking:

$Y = 0 + 0.043X + e$

Table 4.23: Coefficients for Risk taking

Variable	β coefficient	Std. Error	t	P-value.
(Constant)	-0.006	0.019	-0.333	0.741
Risk taking	0.043	0.02	2.147	0.038

4.7.3 Bivariate analysis of pro-activeness and performance

The study also fitted a regression model to determine the significance of the influence of pro-activeness on performance of healthcare units in Kenya. Factor analysis also yielded a latent variable by reducing the dimensions of the observed indicators that used to measure pro-activeness. The latent variable was used in the analysis to determine the relationship between pro-activeness and performance. Table 4.24 shows the correlation coefficients of the pro-activeness and performance. The correlation coefficient was found to be 0.528 which also shows a positive but moderate relationship. The p-value of the coefficient was found to be 0.000 which is less than 0.05 implying that the relationship between performance and pro-activeness is significant at 0.05 level of significance.

These results disagree with those of Lwamba, Bwisa, and Sakwa (2014), in their empirical study on manufacturing firms in developing Countries, specifically Kenyan manufacturing Firms. Lwamba, Bwisa, and Sakwa (2014) carried out an empirical study on Kenya's manufacturing firms and revealed that pro-activeness as one of the corporate entrepreneurship dimensions does not affect Financial Performance of these Firms. In agreement is a research by Karacaoglu *et al.,* (2013) who, in their research used five dimensions of corporate entrepreneurship; Innovativeness, Autonomy, Competitive Aggressiveness, Proactiveness and Risk Taking. Their results revealed that pro-activeness is one among the dimensions that has positive effect on firm performance.

Table 4.24: correlation analysis for pro-activeness

		Performance	**pro-activeness**
Performance	Pearson's ρ	1	.528 **
	2-tailed Sig.		.000
	N	41	41
pro-activeness	Pearson's ρ	.528 **	1
	2-tailed Sig.	.000	
	N	41	41

In Table 4.25 the researcher presented the results of the relationship and explanatory power of the bivariate model for the influence of pro-activeness and performance. The R value of .528 shows a positive linear relationship between pro-activeness and performance. The R^2 is the coefficient of determination which indicates that explanatory power of the independent variables is 0.279. This means that 27.9% of the variation in performance is explained by the variation of pro-activeness in the model $Y = \beta_0 + \beta_1 X_1$. The remaining 72.1% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model.

Table 4.25: Model summary for Pro-activeness

R	R Square	Adjusted R Square	Std. Error of the Estimate
.528a	0.279	0.26	0.10848

a Predictors: (Constant), pro-activeness

The ANOVA results show that the influence of pro-activeness on performance of healthcare units in Nairobi County quality is significant. The p-value of the F-statistic as shown in the ANOVA table is 0.000 which is less the 0.05 implying general significance of the one parameter model thus implying that pro-activeness significantly influences performance of healthcare units. This is in agreement with many other researches that have been done (Kalokovic et al., 2007, Lumpkin & Dess, 1996, Lumpkin & Dess, 1991, Antoncic &Hesrich, 2003, Kaya &Veysel, 2003, Wang, yen, Hong & Tsai, 2008). (See Table 4.226).

Table 4.26: ANOVA table for Pro-activeness

	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.178	1	0.178	15.087	.000b
Residual	0.459	39	0.012		
Total	0.636	40			

a Dependent Variable: Performance

b Predictors: (Constant), pro-activeness

The regression results revealed that pro-activeness has a significant positive influence on performance of healthcare units in Nairobi County($\beta = 0.065$, $t = 3.884$ and p-value = 0.000) the p-value of the coefficient of pro-activeness is less of 0.05. The model shows that every unit increase in the levels of Pro-activeness leads to a 0.065 improvement in performance measurements of healthcare units in Nairobi County. The resulting regression model that predicts the level of performance of healthcare units for a given level of Pro-activeness is given by the equation below:

$Y = 0 + 0.065X + e$

These results supports the study by Shamsuddin *et al.,* (2012) that revealed that pro-activeness has a positive and significant impact on financial performance of a company. Shamsuddin *et al.,* (2012) carried out a research to analyse the effect of corporate entrepreneurship dimensions on the financial performance of intrapreneurship companies of established Malaysian state government- linked corporations. They studied four dimensions of corporate entrepreneurship; 1.proactiveness; 2. Risk- taking; 3. Innovativeness; and 4. Self-renewal and the results of their study revealed that pro-activeness has a positive and significant impact on financial performance of the companies. Refer to Table 4.27,

Table 4.27: Coefficients for Pro-activeness

Variable	β coefficient	Std. Error	t	P-value.
(Constant)	0.000	0.017	0.01	0.992
Pro-activeness	0.065	0.017	3.884	0.000

4.7.4 Bivariate analysis for competitive aggressiveness

In order to be able to assess the influence that competitive aggressiveness has on performance of healthcare units in Kenya. The relationship between performance and competitive aggressiveness was also found to be positive and moderate as shown in Table 4.28. The correlation analysis was done on the latent variables of competitive aggressiveness and performance. The latent variables used were results of factor analysis to reduce the dimensions of the several observed indicators used to measure the constructs. The correlation coefficient 0.485 has a p-value of 0.001 which is less than 0.05 implying significance of the coefficient at 0.05 level of significance. This shows that competitive aggressiveness has a significant positive but moderate direct relationship with performance of the healthcare units.

The results of this research disagree with those of Karacaoglu *et al.,* (2013) who, in their research used five dimensions of corporate entrepreneurship; Innovativeness, Autonomy, Competitive Aggressiveness, Pro-activeness and Risk Taking. Their results revealed that Competitive Aggressiveness has no relationship with financial performance of the firms. The results are however in agreement with many other researches that have been done that reveal a significant positive relationship between competitive aggressiveness and performance, (Kalokovic *et al.,* 2007, Lumpkin & Dess, 1996, Lumpkin & Dess, 1991, Antoncic &Hesrich, 2003, Kaya &Veysel, 2003, Wang, yen, Hong & Tsai, 2008, Aktan and Bulut, 2008).

Table 4.28: Correlation analysis for competitive aggressiveness

		Performance	**competitive aggressiveness**
Performance	Pearson's ρ	1	.485**
	2-tailed Sig.		.001
	N	41	41
competitive aggressiveness	Pearson's ρ	.485**	1
	2-tailed Sig.	.001	
	N	41	41

The study fitted a regression model to determine the significance of the influence that is presented on Table 4.29 as a summary of regression model fitness. The Table 4.29 the study shows the relationship and explanatory power of the bivariate model for the influence of competitive aggressiveness and performance. The R value of .485 shows a positive linear relationship between competitive aggressiveness and performance. The R^2 is the coefficient of determination which indicates that explanatory power of the independent variables is 0.236. This means that 23.6% of

the variation in performance is explained by the variation of competitive aggressiveness in the model $Y = \beta_0 + \beta_1 X_1$. The remaining 76.4% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model.

Table 4.29: Model summary for Competitive aggressiveness

R	R Square	Adjusted R Square	Std. Error of the Estimate
.485a	0.236	0.216	0.11169

a Predictors: (Constant), competitive aggressiveness

The ANOVA results show that the influence of competitive aggressiveness on performance of healthcare units in Kenya quality is significant. The p-value of the F-statistic as shown in the ANOVA table is 0.001 which is less the 0.05 implying general significance of the one parameter model thus implying that competitive aggressiveness taking significantly influences performance of healthcare units.

This is in agreement with a study in by Osoro (2012). Osoro (2012), in his study on Entrepreneurial Orientation on Business Performance of Small and Medium Enterprises, revealed that an increase in performance is possible through entrepreneurial orientation. He argues that entrepreneurial orientation plays a significant role as it is associated with increased earnings for SMEs through individual behaviour associated with an entrepreneurial orientation and learning related factors. His results are therefore in tandem with the results of this study since he also used Competitive Aggressiveness as one of the constructs of Corporate Orientation and revealed that it has a positive significance with Business Performance of Small and Medium Enterprises. (See Table 4.30).

Table 4.30: ANOVA table for Competitive aggressiveness

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.15	1	0.15	12.023	.001b
Residual	0.486	39	0.012		
Total	0.636	40			

a Dependent Variable: Performance

b Predictors: (Constant), competitive aggressiveness

The regression results revealed that competitive aggressiveness has a significant positive influence on performance of healthcare units in Kenya (β= 0.068, t = 3.467 and p-value = 0.001) the p-value of the coefficient of competitive aggressiveness is less of 0.05. The estimated model shows that with every unit increase in the levels of Competitive aggressiveness there is a 0.068 increase in performance of healthcare units in Kenya. To predict the level of performance of healthcare units for a given level of Competitive aggressiveness, the equation below was generated from the model results.

$Y = 0 + 0.068X+e$

These results agree with those of Lwamba, Bwisa, and Sakwa (2014), in their empirical study to explore the effect of Corporate Entrepreneurship on Financial Performance of Manufacturing Firms in developing Countries, specifically Kenyan manufacturing Firms. Their study revealed that competitive aggressiveness as one of the corporate entrepreneurship dimensions has a positive effect on Financial Performance of the Firms. In their research they used a sample of two hundred manufacturing firms and hypothesized; 1) Innovativeness has positive effect on financial performance; 2) Risk taking has positive effect on financial performance; 3) Pro-activeness has positive effect on financial performance; 4) Autonomy has positive effect on financial performance; and 5) Competitive Aggressiveness has positive effect on financial performance. The findings of their survey enabled them

to accept hypotheses 5 among others that revealed that Competitive Aggressiveness has a positive influence on financial performance as shown in Table 4.31.

Table 4.31: Coefficients for Competitive aggressiveness

Variable	β coefficient	Std. Error	t	P-value.
(Constant)	0	0.017	-0.008	0.993
Competitive aggressiveness	0.068	0.02	3.467	0.001

4.7.4 Combined effect of Corporate Entrepreneurship on Performance of Healthcare units in Nairobi County

To assess the combined effect of corporate entrepreneurship on Performance of healthcare units in Nairobi County, the study carried out a multiple linear regression analysis. The analysis involved the fitting of an ordinary least squares (OLS) model with the independent variables; innovativeness, risk taking , pro-activeness and competitive aggressiveness as predictors and the variable performance of healthcare units as the predicted dependent variable. The results of the multiple regressions were used to test the hypotheses and draw conclusions on the objectives of the study. OLS model fittings are based on assumptions of normality of the residuals, non-autocorrelation of the residuals, homoscedasticity of the residuals and non-multicollinearity of the predictors. The fitted model was therefore tested to ensure it met the assumptions of OLS estimation.

4.7.5. Normality of the residuals

The OLS model fitted assumes that the residuals follow a normal distribution (Shenoy & Madan 1994). The study thus had to confirm that the assumption applied for the data collected. A histogram of the residuals was plotted as shown in Figure 4.11. The histogram that shows a virtual indication of a normal distribution curve which is not skewed and has a mean of 0.000 and a standard deviation of 0.965:

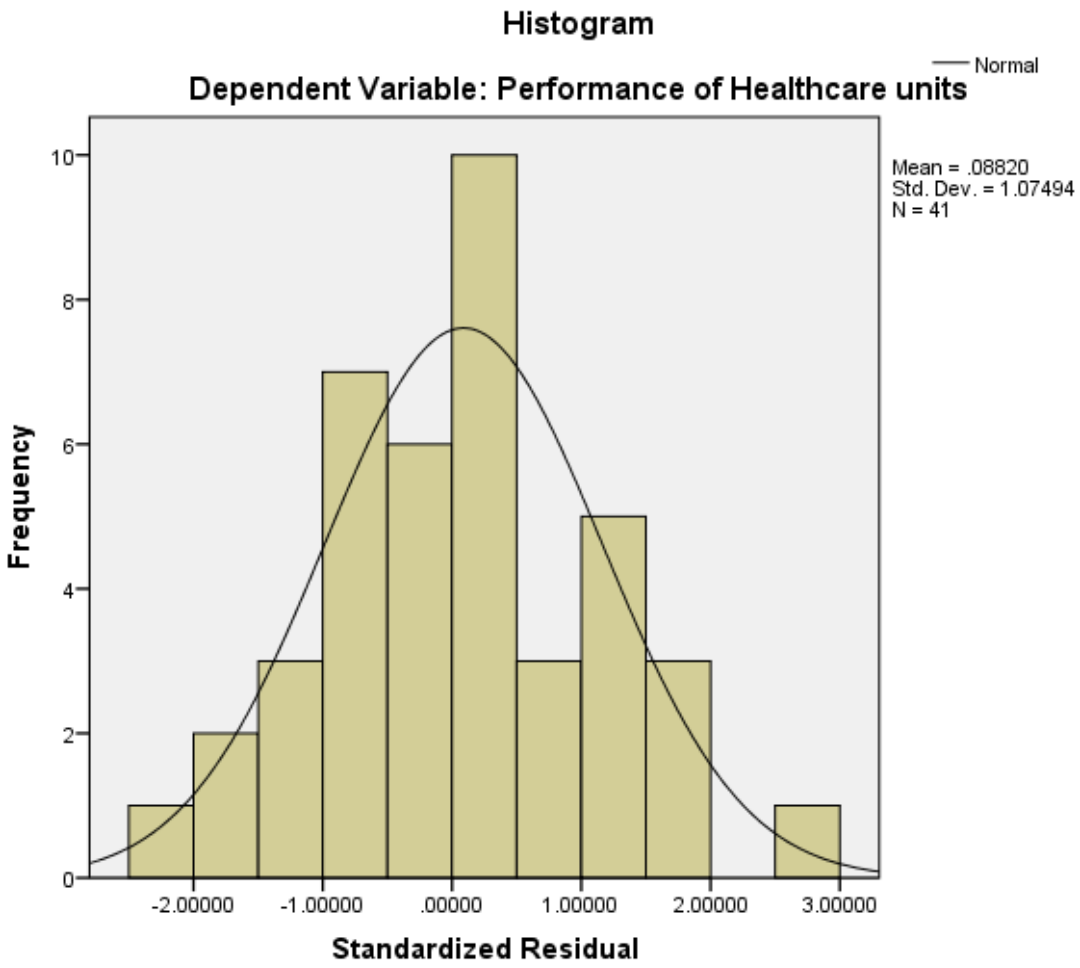

Figure 4.11: Histogram of the residuals

For confirmation of normality of the residuals, a statistical test for normality was conducted by the researcher as shown in Table 4.32. From the Shapiro-Wilk test for normality, the p-value of the Shapiro-Wilk statistics was found to be greater than 0.05 confirming that the residuals for the fitted multiple regression model are normally distributed.

Table 4.32: Normality test

	Shapiro-Wilk Statistic	Df	Sig.
Standardized Residual	.989	41	.958

4.7.6. Auto correlation

The fitted OLS multiple regression model also assumes that the residuals are not auto-correlated. A violation of the assumption of no autocorrelation would imply that even though the predictors may be significant there was an under estimation of the standard errors of the predictors. The computed Durbin Watson value from the model fitted is 1.580, while the upper limit for four predictors excluding the constant is 1.518 and the lower limit is 1.098. Since the computed value is greater than the upper limit so we conclude that the residuals are not auto correlated. (See Table 4.33).

Table 4.33: Autocorrelation of the residuals

Durbin-Watson statistic	Tabulated lower limit	Tabulated Upper limit
1.575	1.098	1.518

4.7.7. Homoscedasticity

Fitting an OLS model also assumes that the residual terms have a constant variance and are referred to as homoscedastic. A variable with non-constant variance is termed heteroscedastic. Adoption of the OLS model requires the residual terms not to be heteroscedastic but to be homoscedastic. A virtual indication of the distribution of the residuals about is shown in the scatterplot of the residuals against the predicted values as shown in Figure 4.12. The indication on the plot does not show a pattern of an increasing or decreasing function, this is a virtual implication that the residuals are homoscedastic.

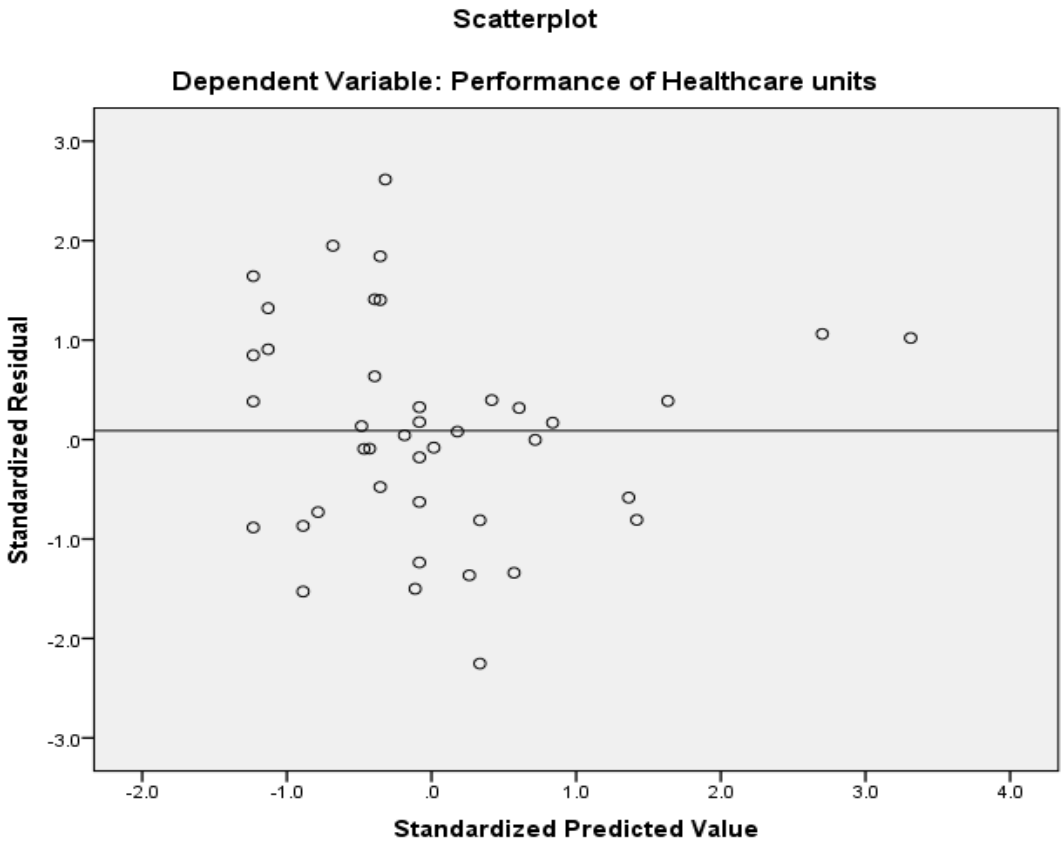

Figure 4.12: Scatterplot of residual terms

A Breuch-pagan test was performed on the residual terms of the overall model to test with statistical significance the existence of either heteroscedasticity or homoscedasticity. It tests the null hypothesis that there is a constant variance of the residual terms from an OLS regression where a small p-value of the Chis-square indicates Heteroscedasticity. Table 4.34 presents the results of the homoscedasticity test on the residuals of the overall regression model. From the results the P-value of the Chi-square statistic is 0.255 thus we fail to reject the null hypothesis and conclude that the error terms exhibit homoscedasticity.

Table 4.34: H_0: The Residuals exhibit homoscedasticity

	Breusch-Pagan statistic	P-value	Conclusion
Residuals	5.334	0.255	Fail to reject H_0

4.7.8. Multicollinearity

The fitted OLS model assumed that there is no multicollinearity among the independent variables. Multicollinearity is exhibited if one or more independent variables can be expressed in terms of the other independent variables. That would imply that the predictors are not truly independent of each other as assumed by fitting the OLS model. According to Mugenda and Mugenda (2012), multicollinearity can occur in multiple regression models in which some of the independent variables are significantly correlated among themselves. The fitted model was tested for multicollinearity as shown in Table 4.35. If a predictor has a tolerance less than 0.2 it implies that the predictor shares more than 80% of its variance with another predictor in the model. To confirm that there was non-multicollinearity in the model, all the independent variables were shown to have tolerances above 0.2 and VIF below 5:

Table 4.35: Multicollinearity

	Tolerance	VIF
Innovativeness	0.826	1.211
Risk taking	0.898	1.113
Pro-activeness	0.944	1.059
Competitive aggressiveness	0.873	1.145

4.8 Multiple regression

In Table 4.36 the study presents the results of the relationship and explanatory power of the bivariate model for the influence of product innovation and performance. The R value of .572 shows a positive linear relationship between product innovation and performance. The R^2 is the coefficient of determination which indicates that explanatory power of the independent variables is 0.327. This means that 32.7% of the variation in performance is explained by the variation of the predictors in the model given by;

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

The remaining 67.30% of the variation in the dependent variable is unexplained by this one predictor model but by other factors not included in the model.

Table 4.36: Model Summary multiple regression

R	R Square	Adjusted R Square	Std. Error of the Estimate
.572a	0.327	0.252	0.1091

a Predictors: (Constant), competitive aggressiveness , Innovativeness, Risk taking, pro-activeness

The ANOVA in the case of multiple regression measured the general significance of the model. The model is significant if at least one of the estimated parameters is not equal to zero from Table 4.37, the results show that the combine effect model is generally significant. The p-value of the F-statistic as shown in the ANOVA table is 0.006 which is less the 0.05 implying general significance of the one parameter model thus implying that of corporate entrepreneurship significantly influences performance of healthcare units. Other studies also support the joints influence of these corporate entrepreneurship factors on performance of firms. Shams Uddin *et al.*, (2012) that revealed that pro-activeness, risk taking innovativeness together with self-renewal have a joint significant impact on financial performance of a company.

Shams Uddin *et al.*, (2012) carried out a research to analyse the effect of corporate entrepreneurship dimensions on the financial performance of entrepreneurship companies of established Malaysian state government- linked corporations. They studied four dimensions of corporate entrepreneurship; 1.proactiveness, 2. Risk-taking, 3. Innovativeness and 4. Self-renewal.

Table 4.37: ANOVA for multiple regression

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.208	4	0.052	4.368	.006b
Residual	0.429	36	0.012		
Total	0.636	40			

a. Dependent Variable: Performance

b. Predictors: (Constant), competitive aggressiveness, innovativeness, risk taking, pro-activeness

Table 4.38 presents the coefficients of the model. The regression results revealed that product innovation has a significant positive influence on performance of healthcare units in Kenya. All the four factors of product innovations have estimated coefficients that have positive influence. The estimated coefficients of innovativeness, risk taking, pro-activeness and competitive aggressiveness were found to be 0.005, 0.022, 0.212 and 0.155 respectively. Since the p-values of the independent variables are less than 0.05, it implies that the variables have significant joint influence on performance of healthcare units inNairobi County. The equation formed from the estimated model is given by;

$$Y = 0.00 + 0.005X_1 + 0.022X_2 + 0.212X_3 + 0.155X_4 + e$$

These results of this study are in agreement with that by Aktan and Bulut (2008) who carried out a case study on financial Performance Impacts of Corporate Entrepreneurship in Turkey and revealed that Corporate Entrepreneurship

dimensions, for example, Risk taking, Competitive Aggressiveness, Innovativeness and Proactiveness all have a positive impact on financial Performance of firms in the Emerging Markets. This research used the same four dimensions of CE in healthcare units and observed that all the dimensions of CE positively influence the Performance of healthcare units in Nairobi County. (See Table 4.38).

Table 4.38: Coefficients of Multiple regression

Variable	β coefficient	Std. Error	t	P-value.
(Constant)	0.004	0.018	0.202	0.841
Innovativeness	0.005	0.002	2.067	0.046
Risk taking	0.022	0.010	2.142	0.039
Pro-activeness	0.212	0.090	2.357	0.024
Competitive aggressiveness	0.155	0.071	2.191	0.035

4.9 Hypothesis testing

The study hypotheses were tested based on the results from the multiple regressions. The rejection criteria for insignificant variables were to reject a null hypothesis if the p-value of the t-statistic of the independent variable was less than 0.05.

H_{01}: Innovativeness does not influence the performance of healthcare units

The p-value of the t-statistic for this variable was found to be 0.046. Since the p-value of 0.046 is less than 0.05 as indicated in Table 4.38, therefore the null hypothesis is rejected. This implies that Innovativeness significantly influences the performance of healthcare units. These results are consistent with many other researches that have revealed that innovativeness significantly influences performance of firms. These results are consistent with many other researches that have revealed that Innovativeness positively influences performance of firms (Mokaya, 2012, Huse *et al.,* 2005, Yang *et al.,* 2007, Rauch *et al.,* 2009, Wiklund,

1999, Lumpkin & Dess, 1996, Lumpkin & Dess, 1991, Antoncic &Hisrich, 2003 and Kaya & Veysel, 2003).

Discussion of Findings on the relationship between Innovativeness and Performance of healthcare units

This research results agree with those of Campbell *et al.,* (2015) whose study revealed that 'repurposing" mobile-phone systems, call centers, and other existing technologies and infrastructure allows innovators to extend health care access, increases the standardization of care, and improve labor productivity and therefore an improved firm performance.

According to Huse *et al.,* (2005) as cited in Linyiru (2015), firms operating in turbulent environments are often characterized by rapid and frequent new product creation and high levels of research and development. Such environments play a crucial role in influencing corporate entrepreneurship in an organization. The same research by Huse *et al.,* (2005) revealed that firms innovate by introducing new technologies, new products, new services and new processes to take advantage of opportunities arising from the dynamic environment.

Yang *et al.,* (2007) in their research on CE and market performance in China revealed that innovativeness was the most important driver of market performance followed by all the other constructs of CE. Another research by Bora and Bulut (2008) in Turkey on financial performance impacts on CE in emerging Markets also agrees with the results of this study. Bora and Bulut (2008) observed that each dimension of EO, innovativeness, risk taking, proactiveness and competitive aggressiveness have positive correlation with financial performance of the firm.

In many of the researches done on corporate entrepreneurship effect on firm performance, innovativeness has always been given as the core of entrepreneurship and that it has the greatest impact on firm performance (Rauch et al., 2009; Wiklund, 1999) as cited in Ambad and Wahab (2013). In this study innovativeness does not

significantly influence performance of the healthcare units but proactiveness and competitive aggressiveness significantly influence the performance.

The results of this study are also supported by those of Mokaya (2012) on the Kenyan firms to find out how corporate Entrepreneurship affects Organizational Performance. Mokaya (2012) revealed that CE is closely related to firm performance with firms experiencing high performance levels being characterized by intrapreneurial intensity including innovative of the firm.

Amony Codman a medical Doctor as cited in Nerenz and Neil (2001), practiced innovativeness by the use of a crusade for public reporting of hospital mortality data in the Boston area for a period of six years. He developed a system of categorizing the way of presenting complaint and type of surgery performed for each of his patients then tracking their course over time to determine outcomes as defined by mortality and morbidity.

H_{02}: Risk taking does not influence the performance of healthcare units

The p-value of the t-statistic for this independent variable was found to be 0.039. Since the p-value 0.039 is below 0.05, the null hypothesis is rejected and the alternative hypothesis was taken to conclude that risk taking significantly influences the performance of healthcare units.

These results are consistent with many other researches that have revealed that risk taking significantly influences performance of firms (Kalokovic *et al*., 2007, Lumpkin & Dess, 1996, Lumpkin & Dess, 1991, Antoncic &Hisrich, 2003 and Kaya & Veysel, 2003).

Discussion of Findings on the relationship between Risk taking and Performance of healthcare units

Consistent with the previous research findings, this study also revealed that Corporate Entrepreneurship practices in healthcare units have significant positive influence on their performance. This research has revealed that risk taking in the

healthcare unit influences performance. A research by Kaya and Veysel (2003) on entrepreneurial orientation and performance of Turkish manufacturing FDI firms confirms that risk taking positively affects firms although not significantly. Kaya and Veysel (2003) argue that managers should scan external environment to identify changes and opportunities and take calculated risks to gain advantage of these opportunities.

In contrast, a research by Shamsuddin *et al.,* (2012) on dimensions of corporate entrepreneurship and the performance of established organization in Malaysia revealed that risk-taking does not have a direct effect on financial performance of the company, but with indirect effect of moderating factors, it showed a significant effect on financial performance.

They revealed that resource availability, supportive organizational structure and rewards moderated the relationship between risk-taking and financial performance but not significantly.

Another research by Karacaoglu *et al.,* (2013) on impact of Corporate Entrepreneurship on Firms' Financial Performance in Turkey confirms that risk taking has a positive relation and interaction with financial performances with firms .The study was carried out on 140 firms that operate in manufacturing industry and publicly traded on the ISE using a random sampling method and the data obtained through a private research company. This study used quantitative performance measurement criteria, such as return on assets, return on equity and net profit margin. The study also used earnings before interest, tax, depreciation and amortization/ sales, earnings before interest tax/ assets and net sales revenue/ assets on a five year period.

Another study by Ambad and Wahab (2013) on corporate entrepreneurship as a determinant of large firm performance in Malaysia disagreed with this research averring that risk taking has no significant relationship with firm performance. This study was carried out in public listed companies listed in main market, Bursa Malaysia and the primary data collected through a mail survey by means of a

structured questionnaire and risk taking was found not to be positively related with firm performance.

A research by Aktan and Bulut (2008) on financial performance Impacts of Corporate Entrepreneurship in Emerging Markets in Turkey also confirms that risk taking has a positive significant effect on financial performance of emerging markets. The research was carried out on 312 firms that are largely active in Turkey as an emerging economy and the study revealed that risk taking has a positive effect on financial performance of the firms.

H_{03}: Pro-activeness does not influence the performance of healthcare units

The p-value of the t-statistic for this independent variable was found to be 0.024. Since the p-value 0.024 is below 0.05, the null hypothesis is rejected and the alternative hypothesis was taken to conclude that pro-activeness significantly and positively influences the performance of healthcare units. These results are consistent with those of many other researches that have revealed that proactiveness significantly and positively influences performance of firms (Kaya & Veysel, 2007, Lumpkin &Dess, 1996 and Wang, Yen, Hong &Tsai, 2008).

Discussion of Findings on the relationship between Pro-activeness and Performance of healthcare units

This research has revealed that proactiveness in the healthcare unit's influences performance and this is in agreement with many other researches that have been carried out (Kalokovic *et al.*, 2007, Lumpkin & Dess, 1996, Lumpkin & Dess, 1991, Antoncic &Hesrich, 2003, Kaya &Veysel, 2003, Wang, yen, Hong & Tsai, 2008).

Another research supporting these results is that of Shamsuddin *et al.,* (2012) that revealed that proactiveness has a positive and significant influence on financial performance of a company. Shamsuddin *et al.,* (2012) carried out a research to analyse the effect of corporate entrepreneurship dimensions on the financial performance of intrapreneurship companies of established Malaysian state

government- linked corporations. They studied four dimensions of corporate entrepreneurship; 1.proactiveness, 2. Risk- taking, 3. Innovativeness, and 4. Self-renewal and the results of their study revealed that pro-activeness has a positive and significant impact on financial performance of the companies.

reement is also a research by Karacaoglu *et al.*, (2013) who, in their research used five dimensions of corporate entrepreneurship; Innovativeness, Autonomy, Competitive Aggressiveness, Proactiveness and Risk Taking. Their results revealed that pro-activeness is one among the dimensions that has positive effect on firm performance. The research was to determine the impact of corporate Entrepreneurship on Firms' Financial Performance on Stock Exchange Firms in Istanbul, Turkey using 140 industrial manufacturing firms which are publicly trading in Istanbul Stock Exchange (ISM).

The results of this study are also in agreement with that by Aktan and Bulut (2008) who carried out a case study on financial Performance Impacts of Corporate Entrepreneurship in Turkey and revealed that Corporate Entrepreneurship dimensions i.e. Risk taking, Competitive Aggressiveness, Innovativeness and Proactiveness all have a positive impact on financial Performance of firms in the Emerging Markets. This research used the same four dimensions of CE in healthcare units and observed that all the dimensions of CE positively influence the Performance of healthcare units in Kenya.

These results disagree with those of Lwamba, Bwisa, and Sakwa (2014), in their empirical study on manufacturing firms in developing Countries, specifically Kenyan manufacturing Firms. Lwamba, Bwisa, and Sakwa (2014), carried out an empirical study on Kenya's manufacturing firms and revealed that pro-activeness as one of the corporate entrepreneurship dimensions does not affect Financial Performance of these Firms. The results of their study extended the literature further by showing that the healthcare units in Kenya could benefit from performance when pursuing Corporate Entrepreneurship. The results in this study are also in tandem with those

conducted by Kaya and Veysel, 2007, Lumpkin and Dess, 1996, Wang *et al.,* (2008), Kalokovic *et al.,* 2007.

H_{04}: Competitive aggressiveness does not influence the performance of healthcare units

The p-value of the t-statistic for this independent variable was found to be 0.035. Since the p-value 0.035 is below 0.05, the null hypothesis is rejected and the alternative hypothesis was taken to conclude that competitive aggressiveness significantly influences the performance of healthcare units. These results are consistent with many other researches that have revealed that risk taking significantly influences performance of firms (Kaya & Veysel, 2007, Lumpkin &Dess, 1996 and Wang, Yen, Hong &Tsai, 2008).

Discussion of Findings on the relationship between Competitive aggressiveness and Performance of healthcare units

This research has revealed that competitive aggressiveness in the healthcare unit's influences performance and this is in agreement with many other researches that have been done, (Kalokovic *et al.,* 2007, Lumpkin & Dess, 1996, Lumpkin & Dess, 1991, Antoncic &Hesrich, 2003, Kaya &Veysel, 2003, Wang, yen, Hong & Tsai, 2008, Aktan and Bulut, 2008).

Osoro (2012) in his study on effects of Entrepreneurial Orientation on Business Performance of Small and Medium Enterprises revealed that an increase in performance is possible through entrepreneurial orientation. He argues that entrepreneurial orientation plays a significant role as it is associated with increased earnings for SMEs through individual behaviour associated with an entrepreneurial orientation and learning related factors. His results are therefore in tandem with the results of this study since he also used Competitive Aggressiveness as one of the constructs of Corporate Orientation and revealed that it has a positive effect on Business Performance of Small and Medium Enterprises.

These results also agree with those of Lwamba, Bwisa, and Sakwa (2014), in their empirical study to explore the effect of Corporate Entrepreneurship on Financial Performance of Kenyan Manufacturing Firms. Their study revealed that Competitive Aggressiveness as one of the corporate entrepreneurship dimensions has a positive effect on Financial Performance of the Firms. In their research they used a sample of two hundred manufacturing firms and hypothesized that; 1) Innovativeness has positive effect on financial performance; 2) Risk taking has positive effect on financial performance; 3) Proactiveness has positive effect on financial performance; 4) Autonomy has positive effect on financial performance; and 5) Competitive Aggressiveness has positive effect on financial performance. The findings of their survey enabled them to accept hypotheses 5 among others that revealed that Competitive Aggressiveness has a positive effect on financial performance.

The results of this research contrast with those of Karacaoglu *et al.,* (2013) who, in their research used five dimensions of corporate entrepreneurship; Innovativeness, Autonomy, Competitive Aggressiveness, Proactiveness and Risk Taking. Their results revealed that Competitive Aggressiveness has no effect on financial performance of the firms. The research was to determine the impact of corporate Entrepreneurship on Firms' Financial Performance on Stock Exchange Firms in Istanbul, Turkey using 140 industrial manufacturing firms which are publicly trading in Istanbul Stock Exchange (ISM).

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter summarizes the data collected and the statistical analysis discussions done with reference to the objectives and hypotheses of the study. Data was interpreted and the results of the findings were correlated with both empirical and theoretical literature available. The conclusions relate directly to the research hypotheses and the recommendations were derived from conclusions and discussion of the findings.

5.2 Summary

The study sought to establish the influence of corporate entrepreneurship on performance of Healthcare units in Nairobi County.This was done based on constructs of corporate entrepreneurship; proactiveness, risk taking, innovativeness and competitive aggressiveness how the influence performance in terms of reduced maternal mortality, reduced child mortality and increased number of referrals. This study therefore is useful for Healthcare units because they can solve problems that emanate from lack of innovation among the staff, lack of proactiveness, lack of risk taking and lack of competitive aggressiveness as determinants of performance. The influence of corporate entrepreneurship on performance of Healthcare units was established by critically examining the four objectives in this study which included: establishing how proactiveness, risk taking, innovativeness and competitive aggressiveness influence performance of Healthcare units in Nairobi County.

Descripritive statistics, and multiple regression analysis were used to analyse the four objectives.Asample survey of 49 Healthcare units with a response rate of 83.67 percent was carried out among the Healthcare units so as to address the four objectives in stabling the influence corporate entrepreneurship on the performance of Healthcare units in Nairobi County. Astructured questionnaire with variable

measures based on a five point Likert scale was used as data collection instrument. The social statistical package (SPSS) in doing explatory correlation and regression, Proactiveness, risk taking, innovativeness and competitive aggressiveness all positively and signinificantly influenced reduced maternal mortality, reduced child mortality and increased referrals to Healthcare units. The study results conformed to similar studies that were dorn in Turkey and Malaysia. The results of each of the four objectives were summarized as follows as per their specific findings.

5.2.1 To determine how Pro-activeness influences Performance of Healthcare units in Nairobi County..

The study sought to investigate the influence of proactiveness on the performance of Healthcare units in Kenya. It was found that proactiveness has a significant positive relationship with performance of Healthcare units in Nairobi County, Kenya. Healthcare unit performance in this study refers to reduced maternal mortality, reduced child mortality and increased referrals to the Healthcare unit. Proactiveness in this aspect refers to providing barriers and accident prevention by individual Healthcare units, carrying out safety management at the work place, carrying out disease prevention, carrying out hazard analysis and availing tool sets for use while offering service to patients and expectant mothers.

Proactiveness explained 27.9% variance of healthcare unit performance in Kenya and it was number one in importance among the four variables therefore it is a key determinant of performance as far as healthcare units in Kenya are concerned.

Correlation analysis was done, and the results confirmed that proactiveness and healthcare unit performance had a moderate linear correlation with a significant regression. Therefore H_1 which states that pro-activeness has no influence on performance of Healthcare units in Kenya was rejected. This implies that proactiveness has a significant influence on the performance of healthcare units in Kenya.

Healthcare units that do not have barriers and accident prevention have a greater chance of injuries among its expectant mothers, among the new born and among other patient by falling on barriers within the Healthcare unit. This is because Healthcare units that carry out barriers and accident prevention ensure a safe environment for their clients including expectant mothers and the new born.

Healthcare units that have policy on barriers and accident prevention are able to monitor cases of accidents and the environment where their clients operate leading to a completely safe place to be by both Clinicians, expectant mothers, new born and all the other patients. Barriers and accident prevention also help reduce falling of patients and expectant mothers.

Healthcare units that carry out disease prevention ensure there is no spread of infectious diseases as well as other healthcare unit associated infections

This study has confirmed that proactiveness positively influence performance of Healthcare units by reducing maternal mortality, reducing child mortality and increasing referrals to the Healthcare unit.

It was noted that through safety management the healthcare units came up with safety management policy which helped to keep healthcare units safe for both the patients and healthcare workers and this led to improved performance of the healthcare units through reduced maternal mortality, reduced child mortality and also increased referrals. The study also noted that the use of proper tool sets during service to the expectant mothers, new born and other patients led to reduced infection transmissions leading to improved healthcare performance. The reduced infection assurance made many patients to keep coming back to the healthcare unit and also referred their friends and family to the healthcare unit.

Carrying out hazard analysis helped to eliminate any adverse health effects in the healthcare units leading to improved healthcare unit performance. However, it was noted that most healthcare units were not carrying out barriers and accident prevention yet this should be a priority by any healthcare unit considering that they

are handling patients, expectant mothers and new born who are vulnerable. This was attributed to ignorance among the healthcare management staff.

The study revealed that the healthcare units carry out vaccinations which are given to expectant mothers as well as the new born to protect them from infectious diseases. It was therefore noted that disease prevention enhanced performance of the healthcare units. The results of the study further revealed that in healthcare units where disease prevention was carried out, maternal and child mortality had tremendously reduced between the years 2010 and 2014. Carrying out safety management was also of great importance to all the healthcare units where the research was carried out. This study agrees with the study carried out by Barrow (2012) who recommended training of healthcare workers on patient safety and broad based research including all categories of healthcare organizations in order to improve patient safety culture. Patient safety will include the safety of the expectant mothers, and the new born thus reduce maternal mortality, reduce child mortality and have increased referrals as people will talk positively about the healthcare unit to others who will then visit the facility.

Use of tool sets during service delivery to clients is also of great importance to all the healthcare units. Hazard analysis came second to the above three; disease prevention, safety management and use of tool sets during service to clients and it was of great importance to the performance of healthcare units.

5.2.2 To determine how Risk taking influences Performance of Healthcare units in Nairobi County.

In this study risk taking was the least important element of the determinants of Healthcare unit performance among the other three variables in the Nairobi County. Risk taking explained 10.7% of the variance of the performance of healthcare units in Nairobi County. Risk taking referred to the actions taken by Healthcare workers to help the patients, expectant mothers, and new born that endangers their own health. The study established that risk taking determined Healthcare unit performance through taking bold actions to save both the mother and the new born, withstanding

threats from the patients and other employees, contracting infectious diseases from the patients, getting injured while lifting or lowering equipment or patients, getting injuries caused by needle stick while injecting patients and through getting blood and body fluid spills from patients. Unless risk analysis is carried out and risk prevention taken, then these risks will always be there even after the employees leave the organization.

Correlation analysis gave consistent results that indicated a weak positive correlation between risk taking and Healthcare unit performance in Nairobi County.. The results of this study indicated a weak positive correlation between risk taking and performance of Healthcare units. The regression analysis was significant therefore the null hypothesis was rejected and the alternative was accepted. The implication was, therefore, that risk taking has a significant positive ability to influence the performance of healthcare units in Nairobi County. These results conform to other studies that performance of a healthcare unit requires the healthcare unit to carry out calculated risky activities like attending to patients who could turn out to be violent, taking bold steps of delivering mothers in the absence of a gynaecology so as to save the mother and the new born.

A further test on beta coefficients showed that when corporate entrepreneurial risk taking is held constant then there will be a negative performance in Healthcare unit. This implies that every one unit increase in corporate entrepreneurial risk taking, performance in Healthcare units in Kenya is predicted to increase.

5.2.3 To find out how Innovativeness influences Performance of Healthcare units in Nairobi County.

Innovativeness in this study explained 11.6% of variance of performance of healthcare units in Kenya being the second last in importance among the four independent variables. Rather it was not a key determinant of performance as far as healthcare units in Nairobi County are concerned. The study established that allowing patients and guardians contact the doctor on phone to book appointments, keeping skill and training requirements tightly linked to the tasks, following

standardized operating procedures, using existing institutions, infrastructure and networking, opening up revenue streams to extend activities into other sectors and use of low cost franchise to take care- givers close to the patients determined reduction in child mortality, reduction in maternal mortality and increased referrals to the Healthcare unit.

Correlation analysis results in this study indicated that entrepreneurial innovativeness and performance of healthcare units had a weak positive linear correlation. The regression analysis was significant therefore the null hypothesis was rejected and the alternative was accepted. The implication was, therefore, that corporate entrepreneurial innovativeness has a positive but weak influence on the performance of healthcare units in Nairobi County. These results conform to other studies done confirming that performance of a healthcare unit requires the healthcare unit to practice corporate entrepreneurial innovativeness activities like allowing patients to contact doctors on phones to book appointments, tightly linking skills and training to the task, having standardised operating procedures in all clinical protocol, opening up revenue streams to extend activities into other sectors like shops, churches and restaurants, using low cost franchise model to take care-givers close to patients.

The results on allowing patients to contact doctors on phone or through email indicated that allowing patients to call doctors encouraged many patients to go to the healthcare unit since they spend less time queuing and they only visit the healthcare unit when they know the doctor is available to attend to them. This made many expectant mothers to make referrals to the healthcare units and the patients do not wait on line endlessly endangering the life of the mothers and new born.

Standardized operating procedures are of great importance to all the healthcare units.

5.2.4 To find out how Competitive aggressiveness influences Performance of Healthcare units in Nairobi County.

Competitive aggressiveness in this study explained 23.6% variance of performance of healthcare units in Nairobi County being the second in importance among the four

independent variables. Thus it was one of the key determinants of performance as far as healthcare units in Nairobi County are concerned. This could be attributed to the fact that medical training given to healthcare clinicians is one where the medical practitioners are trained to be very alert on issues of infectious diseases and to be quick in making decisions on the action plan. The study established that healthcare units that acknowledged being aggressive always introduced new products, services and administrative and operating techniques earlier than their competitors.

Correlation analysis results in this study revealed that competitive aggressiveness and performance of healthcare units indicated a moderate positive linear correlation. The regression analysis was significant therefore the null hypothesis was rejected and the alternative was accepted. The implication was, therefore, that competitive aggressiveness has a significant positive ability to influence the performance of healthcare units inNairobi County. These results conform to other studies that performance of a healthcare unit requires the healthcare unit to carry out competitive aggressiveness like introducing new products before the competitor gets the same product, introduces a new service before the competitor starts offering the same service andqa1 being the first to offer the latest administrative and operating procedures.

A positive change in performance in Healthcare units in Nairobi County was explained by a unit change in corporate entrepreneurial competitive aggressiveness. The competitive aggressiveness capability for Healthcare units was rated high. While change of performance in Healthcare units in Nairobi County was explained by a unit change of corporate entrepreneurial competitive aggressiveness and although it is one of the key corporate variables that bring differentiation in many organizations, results show that only some of the Healthcare units have embraced competitive aggressiveness as a strategy. When the independent variable of corporate entrepreneurial competitive aggressiveness was held constant there was a negative performance in Healthcare unit in Nairobi County. Healthcare units have fairly embraced the concept of investing in competitive aggressiveness.

A change of performance in Healthcare units in Nairobi County can be explained by a unit change of corporate entrepreneurial competitive aggressiveness. Whereas competitive aggressiveness strategies can only succeed within organizations through competitive aggressive capabilities, high percentage of results show that only some of the Healthcare units have embraced competitive aggressiveness as a strategy Healthcare units have fairly embraced the concept of investing in the same, yet it is a key corporate variable that brings differentiation in organizations.

A further test on beta coefficients showed that corporate entrepreneurial competitive aggressiveness is held constant then there will be a negative performance in Healthcare units. Innovativeness is based on the activities functions of the Healthcare unit's internal scope which are linked to developing an environment conducive for both the patients and the Healthcare unit worker, leading to reduced maternal mortality, reduced child mortality and increased referrals to the Healthcare unit.

5.3 Conclusion

The objectives of the study were tested on all the four independent variables that are: proactiveness, risk taking, innovativeness and competitive aggressiveness. The results indicated that they all had a positive influence on the performance of Healthcare units in Nairobi County.

5.3.1 To determine how proactiveness influences the performance of healthcare units in Nairobi County

The objectives of the study were achieved as indicated by the results. The study had proactiveness as the first independent variable which had barriers and accident prevention, hazard analysis, disease prevention, safety management and use of tool sets as sub- variables. The results indicated that performance of healthcare units improved due to carrying out disease prevention, safety management and due to the use of tool sets. The results indicated that the Healthcare units experienced greater performance due to all the other indicators of innovativess except that of patients and guardians being allowed to contact the doctor on phone to book appointments and

that on opening up revenue streams extend the services to the people. It was therefore concluded that irrespective of the improved performance due to innovation, there is need for Healthcare units to encourage doctors to allow calls from their patients to lessen time wasted queuing to meet the doctor. It is also advised that the Healthcare units should also open revenue streams to move services close to the people so that they can reach as many patients as possible.

5.3.2 Risk taking has no influence on performance of healthcare units in Nairobi County

The second variable was risk taking which had five sub-variables which included; taking bold actions to achieve the healthcare's objectives, getting threats from patients other healthcare workers, injuries due lifting and lowering equipment or patients, injuries due to needle stick while injecting patients and getting blood and other body fluid spills from patients. The study indicated that some of the healthcare workers get needle stick, get blood and fluid spills or contract infectious diseases from patients. The study indicated that most of the Healthcare workers get threats from both patients and fellow workers. The study, therefore, concludes that Healthcare workers need to be equipped with adequate skills and equipment as they carry out their daily duties. These will enhance results since risk taking was ranked second last in important determinant of performance of Healthcare units.

5.3.3 Innovativeness has no influence on the performance of healthcare units in Nairobi County

The third variable was innovativeness which had five sub- variables which included moving services close to patients, hiring highly skilled workforce, opening up new revenue, standardizing operating procedure and borrowing assets. The results on standardizing operating procedure indicated that Healthcare units use standardized procedures which help avoid errors in the services to patients. The results on skills and training requirement indicated that Healthcare units always linked skills and training requirement to the task. The study concludes that Healthcare units have skilled manpower which enabled quick and precise decision-making and problem

solving which consequently resulted in good Healthcare performance. The culture of having standardized operating procedures was highly practiced by the Healthcare units which determined the level of performance to a great extent.

The programs in the Healthcare units on revenue streams were not very established as the majority did not have these arrangements.

The majority of the Healthcare units only sometimes open these revenue streams to extent activities into the sectors. The demand for good health care among the society today demands that Healthcare units become innovative enough to quickly come out and reach the patients through opening up revenue streams to save the expectant mothers and the new born.

The results on Healthcare units allowing patients or guardians to call the doctor to book appointments or consult in the evenings and weekends was not emphasized by most of the Healthcare units therefore did not have much influence on the performance of the Healthcare units. Therefore this sub-variable has not been exploited as the case should be to help reduce queuing time at the Healthcare units.

5.3.4 Competitive aggressiveness has no influence on the performance of healthcare units in Nairobi County

The fourth variable was competitive aggressiveness which had two sub-variables which were: initiating actions rather than responding to competitors and being the first to introduce new products, services, new administrative and operating techniques. Competitive aggressiveness emerged as the number two variable among the other three in determining the level of performance of the Healthcare units. The results for initiating actions rather than responding to competitors indicated that a few Healthcare units were the first to come up with an ambulance to transport patients to the Healthcare unit and also to refer them to more specialized facilities. Also the fast movers were also the first to buy the oxygen mask before their competitors and therefore became a referral when oxygen mask was needed by the neighboring Healthcare units. One such equipment is the scanning machine which is only found in some healthcare units and not others and because of the scan, a lot of

referrals are given to the Healthcare units. Therefore healthcare units that initiate actions perform better due to many referrals. The results for being first to introduce new products, services and administrative and operating techniques indicated that some healthcare units introduce new products and services before the competitors.

5.3.5 Dependent variable: Performance

The results for the dependent variable which was performance of Healthcare units indicated that all the independent variables determined the level of performance. The four independent variables gave partial mediation. Performance had three sub-variables which included reduced child mortality, reduced maternal mortality and increased referrals. Results for reduced child mortality indicated that there was a reduction in child mortality in the first three years: 2011, 2012 and 2013 but there was an increase in child mortality in the year 2014. The reduced child mortality is associated to activities associated to innovativeness; expectant mothers were able to contact the doctors and book appointments on time and any time they felt unusual patterns in their pregnancy. This could also be associated to safe environments at the healthcare units since they carry out disease prevention through vaccination and this helped save situations that could have been otherwise fatal.

The use of existing institutions, infrastructure and networking helped reach out to many expectant mothers who went in for clinics and nursing mothers also took the new born for vaccination avoiding infectious diseases. This helped to reduce child mortality, maternal mortality and also led to increased referrals to the healthcare unit. All the four variables significantly and positively influenced the level of performance of the Healthcare units in Kenya. The study concludes that corporate entrepreneurship which includes: proactiveness, risk taking, innovativeness and competitive aggressiveness are emphasized as determinants of Healthcare unit performance in Nairobi County, although at varying degrees.

5.4 Recommendations of the study

The results showed that Healthcare units need to embrace corporate entrepreneurship constructs such as proactiveness, risk taking, innovativenesss and competitive aggressiveness as an as an intervention for the promotion of performance . This will ultimately reduce maternal mortality, reduced child mortality and increase referrals to Healthcare units. As a consequence agenda 4 on Health to all will be achieved. The results and findings of the study indicated that performance in Healthcare units can be improved by the four components of corporate entrepreneurship because they all had a positive relationship with performance of Healthcare units.

5.4.1 To determine how proactiveness influences the performance Healthcare units in Nairobi County

The results revealed that some Healthcare units only sometimes carried out disease prevention and not always. This study, therefore, recommended that there is need for a sound policy on which disease prevention will be anchored. The sound policy will guide the implementation of disease prevention.. The results on safety management indicated that some Healthcare units never carry out safety management as expected by the Health of Ministry. The Healthcare units that do not carry out safety management are likely to endanger the lives of expectant mothers and new born leading to increased maternal and child mortality. This study, therefore recommended that a sound policy to be put in place on which safety management will be anchored. This policy will guide the implementation of safety management by every Healthcare unit. The results of the study showed that a number of Healthcare units do not carry out hazard analysis and even those who have attempted to carry out the analysis do not do it frequently. The study, therefore, recommends that all Healthcare units to come up with a clear policy on which hazard and accident prevention analysis will be anchored. This policy will guide the implementations of hazard analysis.

5.4.2 To determine how risk taking influences the performance Healthcare units in Nairobi County

The study results also indicated that sometimes Clinicians get threats from patients and other employees. This study, therefore, recommends a policy to protect the Healthcare employees against any threats either from patients or other employees. The results of the study also indicated that that sometimes Clinicians get injuries while lifting and lowering equipment or patients. This study, therefore, recommends that the Healthcare units should come up with a policy to monitor and compensate any employee that gets injured in the course of their duty.

The other risk encountered was that of employees sometimes contracting infectious diseases from patients while offering service to them. This study, therefore, recommends that a policy be put in place to monitor and compensate all those health workers that may contract diseases while on duty.

The results for whether employees suffer from injuries caused by needle stick while injecting patients indicated the need for risk management policy. The results indicated sometimes Healthcare workers get injuries caused by needle stick. This research recommended a sound policy that will help monitor and compensate those that get injuries while on duty. The results for whether employees get blood and other body fluid spills from patients indicated that sometimes they get these spills while on duty. This study, therefore, recommends that Healthcare workers be encouraged to dress appropriately to avoid blood and body fluids coming in contact with their bodies and formulate a policy that will help protect and compensate the Healthcare unit workers who get these body spills.

5.4.3 To determine how innovativenesss influences the performance Healthcare units in Nairobi County

The study established that not all Healthcare units allow guardians and patients to contact doctors on phone to book appointments, and even the ones that allow, it is only sometimes and not always. This study, therefore recommends that the Healthcare units should allow patients and guardians to contact doctors on phone to

reduce the time wasted on queuing. There is need to tightly link skills and training requirement to the task at hand. Highly qualified and trained human resource is able to innovate and improve the Healthcare's performance. Training gives employees' autonomy which entails providing them with the freedom to make decisions about their own job responsibilities. This type of freedom helps employees to function autonomously and solve work-related problems in unconventional ways. This study recommends that employs should be trained in job areas to help them to be creative and innovative in This study, therefore, recommends that more Healthcare units should open up revenue streams. Opening up revenue streams will help extend the Healthcare unit's activities so as to reach the expectant mothers and new born. This study recommended that more Healthcare units should open up revenue streams. Opening up revenue streams will help extend the Healthcare unit's activities so as to reach the expectant mothers and new born. This study also recommended that Healthcare units should embrace the idea of using existing institutions, infrastructures and networking to reduce capital investment and operating costs.

5.4.4 To determine how competitive aggressiveness influences the performance

The results of this study showed that only some of the Healthcare units have embraced competitive aggressiveness as a strategy. The study established that healthcare units that acknowledged being competitive aggressive always introduced new products, services, administrative and operating techniques earlier than their competitors. The results for initiating actions rather than responding to competitors indicated that a few Healthcare units were the first to come up with an ambulance to transport patients to and from the Healthcare unit. The first movers are those bought the oxygen mask before their competitors making them get many referral cases. This study therefore recommended that medical administrators should practice competitive aggressiveness so as to beat their competitors

5.5 Areas recommended for further studies

Healthcare units in Nairobi County were the focus of this study. The same research could be carried out in another County to see whether the findings are similar to these findings. Future studies could apply different research instruments like focus group discussions and interview guide so that the respondents get involved in the discussions. This will generate detailed information which would help in bringing out better strategies for Corporate Entrepreneurship and its influence on the performance of Healthcare units in Kenya. Future studies could repeat the same study in the same County but then use other measures of performance other than reduced maternal mortality, reduced child mortality and increased referrals.

Future researches need to account for the moderating impact of environmental characteristics when searching for the determinants of the performance of Healthcare units. The findings of this study can be generalized to some extent, despite the limitation of the sample size.

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APPENDICES

Appendix I: Letter of Introduction

Rosemary Nanyama Mumaraki,

School of HRD, Jomo Kenyatta University of Agriculture and Technology

P. O Box 62000,

NAIROBI.

TO WHOM IT MAY CONCERN

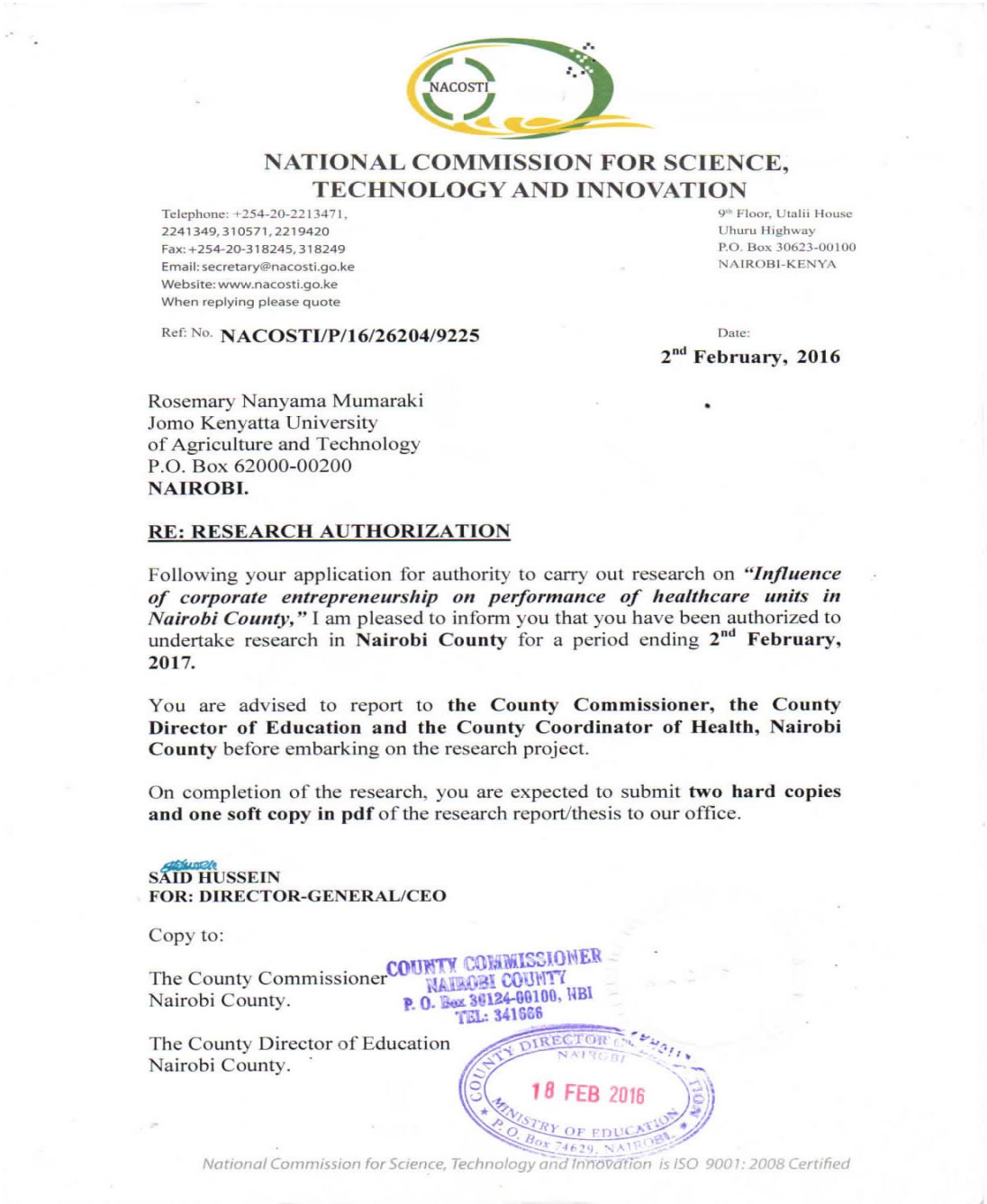
I am a student at Jomo Kenyatta University of Agriculture and Technology pursuing a Doctorate Degree in Entrepreneurship. I am currently undertaking research titled "Influence of Corporate Entrepreneurship on the performance of Healthcare Units in Kenya" which aims at determining how Corporate Entrepreneurship influences performance of the Healthcare Units in Kenya.

The attached Questionnaire is designed as an instrument of data collection. The information provided will solely be used for academic purposes and will be treated with utmost confidentiality and serve to enrich knowledge on how Corporate Entrepreneurship influences Healthcare Units' performance. Therefore, your participation in the provision of information and data will be highly appreciated, and the final research will be sent to you on request.

Yours faithfully,

Student	**Supervisors**
Rosemary Nanyama Mumaraki	Pro. Elegwa Mukulu
PhD Entrepreneurship Student	Dr. James Kahiri

Appendix II: Nacosti Research authorization



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471, 2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@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/16/26204/9225**

Date: **2nd February, 2016**

Rosemary Nanyama Mumaraki
Jomo Kenyatta University
of Agriculture and Technology
P.O. Box 62000-00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Influence of corporate entrepreneurship on performance of healthcare units in Nairobi County,"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for a period ending **2nd February, 2017.**

You are advised to report to **the County Commissioner, the County Director of Education and the County Coordinator of Health, Nairobi 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.

SAID HUSSEIN
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, NBI
TEL: 341666

The County Director of Education
Nairobi County.

COUNTY DIRECTOR
NAIROBI
18 FEB 2016
MINISTRY OF EDUCATION
P.O. Box 74629, NAIROBI

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

Appendix III: Nairobi Research authorization certificates

NAIROBI CITY COUNTY

Telephone 020 344194

web: www.nairobi.go.ke

City Hall,
P. O. Box 30075-00100,
Nairobi,
KENYA.

COUNTY HEALTH SERVICES

REF: CHS/1/13/ (2) - 016

TO: ROSEMARY NANYAMA MUMARAKI
JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
P O BOX 62000 - 00200
NAIROBI

DATE: 10TH FEBRUARY, 2016

RE: RESEARCH

Reference is made to a letter from the Director Human Resource Management

Ref.HRD/3/4/9434/2016 dated 8th February, 2016.

Authority is hereby granted to you to carry out research on **"Influence of corporate entrepreneurship on performance of healthcare units in Nairobi County"**.

Please note that your research runs for Three (3) months w.e.f from 9th February, 2016 to 9th May, 2016.

During the course of your research you are expected to adhere to the rules and regulations governing the Nairobi City County.

You will also be expected to submit a copy of your research project to the office of the undersigned.

You will be expected to pay a research fee of Kshs. 5,000/-.

By a copy of this letter, the Medical Superintendents of all Hospitals and the SCMOH off all Sub – Counties are requested to accord you the necessary assistance.

EUNICE MUSAU
CHIEF ADMINISTRATIVE OFFICER – (CHS)

Cc:- All Medical Superintendents
All Sub – County MOH'S
All Sub – County HAO'S

Code - 8243

NAIROBI CITY COUNTY

Telephone: +254 20 2221349
Web: www.nairobi.go.ke

City Hall
P .o. box 30075-00100
Nairobi
Kenya

DEPARTMENT OF HUMAN RESOURCES DEVELOPMENT

Ref: HRD/3/4/9434/2016

Date; 8TH FEBRUARY 2016

ROSEMARY NANYAMA MUMARAKI
JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
P.O BOX 62000-00200
NAIROBI

RE: RESEARCH AUTHORIZATION

Reference is hereby made to your appiication letter dated 3rd February 2016 on the above subject;
The Nairobi City County has approved your request subject to the following;

1. The period of research will be three (3) months with effect from 9th February to 9th May 2016
2. You will be attached to **Health services.**
3. You are expected to adhere to the rules and regulations pertaining to your research.
4. That during your research there will be no costs devolving on the County.
5. That you undertake to indemnify the County against any claim that may arise from your research study.
6. You are required to submit a copy of the final research document within to the Human Resource Development Department one week after completion.
7. Research will be on **"influence of corporate entrepreneurship on performance of healthcare units in Nairobi County.**
8. You are expected to pay research fee of five thousand shillings ksh. (5000/=).

Please report to the **Chief Administrative Officer**; **Health services** for assignment of duties.

HENRY OMIDO
FOR: DIRECTOR HUMAN RESOURCE DEVELOPMENT

Appendix IV: Questionnaire

Dear respondent,

Please read each question carefully and follow the instructions that follow. Answer all questions by circling or ticking the number in the box that best describes your answer. **All individual answers will be kept confidential.**

Demographics and Information about the Health center.

1.1 Who is the sponsor of this Healthcare Unit? (Please tick only one from options below)

Central Government [ ] Private sponsorship [ ]
County Government [ ] Mission [ ]
Church sponsorship [ ]

1.2 How many years has this Healthcare Unit been in the operation?

Less than 10 years [ ] Between 21 and 25 years [ ]
Between 10 and 14 years [ ] Between 26 and 30 years [ ]
Between 15 and 20 years [ ] Above 30 years [ ]

1.3 How many years of experience do you have in this Healthcare Unit? (Tick the most appropriate number below).

Less than 1 year [ ] Between 6 and 9 years [ ]
Between 1 and 3 years [ ] Over 10 years [ ]
Between 4 and 6 years [ ]

1.4 How many trainings and or in-service courses have you undertaken since you joined this Healthcare Unit? (Please tick in the appropriate box).

Number of Training/ in-service of respondent.

Number of Training/ In- service Courses	Please Tick the appropriate box
None	
1	
2	
3	
4	
More than 4	

1.5 Including those engaged in day-to- day activities, how many persons are employed in this Healthcare Unit?

50 persons and below [ ]

Between 51 and 100 persons [ ]

Between 101 and 150 persons [ ]

Between 151 and 200 persons [ ]

Between 201 and 250 [ ]

Between 251 and 300 [ ]

Over 300 employees [ ]

1.6 Which one of the status below best describes your Healthcare unit in the last three (3) years? (Please tick in the appropriate box).

Status of Healthcare Unit

Status	**Please tick one**
Growing	1
Stagnating	2
Declining	3

I. Corporate entrepreneurship

From the statements below, please indicate which one most clearly matches the right style of management of your Healthcare Unit by circling the closest number that best represents your views. Selecting "one" indicates a complete disagreement with the statement, selecting a five indicates complete agreement.

Where: 1= Never 2=Rarely 3=sometimes 4=Usually 5=Always

(Circle the appropriate box)

Corporate Entrepreneurship

Proactiveness					
Q 2.1 In my Healthcare Unit we carry out barriers and accident prevention.	1	2	3	4	5
Q 2.2 In my Healthcare Unit we carry out Hazard analysis.	1	2	3	4	5
Q 2.3 In my Healthcare Unit we carry out diseases prevention.	1	2	3	4	5
Q 2.4 In my Healthcare Unit we carry out safety management.	1	2	3	4	5

Q 2.5 In my Healthcare Unit we have tool sets which we use during our service to our clients.	1	2	3	4	5
Risk Taking					
Q 2.6 In my Healthcare Unit my team carries out their duties using Handling aids.	1	2	3	4	5
Q 2.7 In my Healthcare Unit my team believes in taking bold, wide –ranging actions necessary to achieve the Health care Unit's objectives.	1	2	3	4	5
Q 2.8 In my Healthcare Unit we get threats from patients and other employees	1	2	3	4	5
Q 2.9 In my Healthcare Unit injuries occur while lifting and lowering equipment or patients	1	2	3	4	5
Q 2.10 In my Healthcare Unit employees contract infectious diseases from patients.	1	2	3	4	5
2.11 In my Healthcare Unit employees suffer from injuries caused by Needle stick while injecting patients.	1	2	3	4	5
Q 2.12 In my Healthcare Unit employees get blood and body fluid spills from patients.	1	2	3	4	5
Innovativeness					

Q 2.13 In my Healthcare Unit, patients and guardians are allowed to contact the doctor on phone to book an appointment or to consult during evenings and weekends.	1	2	3	4	5
Q 2.14 In my Healthcare Unit we tightly link skills and training requirements to the tasks at hand.	1	2	3	4	5
Q 2.15 In my Healthcare Unit we have standardized operating procedure in all clinical protocols.	1	2	3	4	5
Q 2.16 In my Healthcare Unit we use existing institutions, infrastructure, and networks of people to reduce capital investments and operating costs	1	2	3	4	5
Q 2.17 In my Healthcare Unit we open up revenue streams to extend our activities into other sectors like shops, restaurants, churches etc.	1	2	3	4	5
Q 2.18 In my Healthcare Unit we take care-givers close to patients through a low cost franchise model.	1	2	3	4	5

Innovativeness

Do you provide counselling services during pregnancy?

Yes….No…….

Do you provide counselling services during delivery?

Yes….No…..

Competitive aggressiveness					
Q 2.19 In dealing with competitors, my Healthcare Unit initiates actions rather than responding to its major competitors.	1	2	3	4	5
Q 2.20 In dealing with competitors, my Healthcare Unit is very often the first Healthcare to introduce new products or services, administrative techniques and operating technologies.	1	2	3	4	5

II. Performance of healthcare units

Please fill in the following in the spaces provided to the extent in which you agree with the statements provided.

Where: 1= Strongly disagree 2= Disagree 3= Not sure 4=Agree
5=Strongly agree

Performance of healthcare units	**1**	**2**	**3**	**4**	**5**
In my opinion innovativeness has led to the improvement of child mortality of my health care unit					
Risk taking measures by the staff has led to the improvement of maternal mortality					
Proactiveness by the staff of my health care unit has definitely improved maternal care of our patients					
Competitive aggressiveness of my healthcare unit has resulted to increased levels of referrals/customers					
I would definitely refer expectant patients to my healthcare unit because of its competitive aggressiveness					

3.1 Child mortality

Q 3.1 Fill in the table below with number of life births, number hospitalized, and number of deaths that occurred in your Healthcare Unit in the years: 2010, 2011, 2012, 2013, and 2014.

Child mortality

	2010	2011	2012	2013	2014
Number of life births					
Number hospitalized					
Number that died					

3.2 Maternal Mortality

Q 3.2.1 Fill in the table below with number of antenatal clinics, number of life births, number of maternal deaths that occurred in your Healthcare Unit in the 2010, 2011, 2012, 2013, and 2014.

Maternal mortality

	2010	2011	2012	2013	2014
Number of antenatal clinics					
Number of births					
Maternal deaths					

Q 3.3.2 Fill in the table below with the number of deaths that occurred during pregnancy for the five years.

Number of death during pregnancy

	2010	2011	2012	2013	2014
Number of antenatal clinics					
Number of maternal deaths					

3.3 Level of Referrals and facilities

Q 3.3.1 Does your Health centre have an ambulance or any other means of transport? Tick the correct response from the alternatives below:

Yes….No….

If your response is **No** for Q 3.3.1, then how do you transport your referrals? Briefly explain.

……

Q 3.3.2 Do you have oxygen facilities?

Yes….No…

If your answer in 3.3.2 is **No**, then how do you help referral cases that require oxygen?

……

Q 3.3.3 Fill in the table below with the number of Referrals that occurred in the five years.

Number of Referrals

	2010	2011	2012	2013	2014
Number of antenatal clinics					
Number of Referrals					

3.4 Bold steps

3.4.1 What complications have you supervised during delivery at your health care unit and what steps did you take?

i)Complication: ……

……

Steps taken:……

ii) Complication:……

Steps taken:……

3.4.2 What are the most common new born complications and how do you manage them?

i) Complication:……

Management: ……

ii) Complication……..…….

Management: ……

Appendix V: Factor Loadings matrix

Variable	Component				
	1	2	3	4	5
Patients and guardians are allowed to contact the doctor on phone to book an appointment or to consult in the evenings and weekends	-0.005				
Skills and raining requirements are tightly linked to the tasks at hand	0.772				
The unit have standardised operating procedures in all clinical protocols	0.732				
Existing institutions, infrastructure and networking is used to reduce capital investments and operating costs	0.297				
Revenue streams are opened up to extend activities into other sectors like shops, restaurants, churches,	0.635				
Low cost franchise model is used to take care -givers close to patients	0.694				
The team carries out duties using handling aids		-0.149			
The team believes in taking bold actions necessary to achieve the health care unit's objectives		-0.421			
the team gets threats from patients and other employees		0.624			
Injuries occur while lifting and lowering equipment or patients		0.334			
Employees contract infectious diseases from patients		0.861			
Employees suffer from injuries caused by needle sick while injecting patients		0.760			
Employees get blood and body fluid spills from patients		0.826			
Barriers and accident preventions are carried out			0.398		
Hazard analysis is carried out			0.813		
Disease prevention is carried out			0.723		
Safety management is carried out			0.871		
There are tool sets used during service to clients			0.766		
Actions are initiated rather than response to competitors				0.804	
The unit is the first to introduce new products, services administrative and				0.804	

operating techniques	
Innovativeness has led to reduced child mortality	-0.588
risk taking has led to reduced maternal mortality	0.167
Pro-activeness has improved maternal care of patients	-0.338
competitive aggressiveness has resulted to increased levels of referrals	0.147
Possibility to refer	-0.561
Infant mortality ratio	0.784
Maternal mortality ratio at birth	0.826
Maternal mortality ratio during pregnancy	0.905
referral ratio	0.624

Appendix VI: Durbin Watson Tables

Models with an intercept (from Savin and White)

Durbin-Watson Statistic: 1 Per Cent Significance Points of dL and dU

*k' is the number of regressors excluding the intercept

	k'=1		k'=2		k'=3		k'=4		k'=5		k'=6		k'=7		k'=8		k'=9	
n	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU
6	0.3	1.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	9	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	0.4	1.0	0.2	1.6	----	----	----	----	----	----	----	----	----	----	----	----	----	----
	35	36	94	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	0.4	1.0	0.3	1.4	0.2	2.1	----	----	----	----	----	----	----	----	----	----	----	----
	97	03	45	89	29	02	-	-	-	-	-	-	-	-	-	-	-	-
9	0.5	0.9	0.4	1.3	0.2	1.8	0.1	2.4	----	----	----	----	----	----	----	----	----	----
	54	98	08	89	79	75	83	33	-	-	-	-	-	-	-	-	-	-
10	0.6	1.0	0.4	1.3	0.3	1.7	0.2	2.1	0.1	2.6	----	----	----	----	----	----	----	----
	04	01	66	33	4	33	3	93	5	9	-	-	-	-	-	-	-	-
11	0.6	1.0	0.5	1.2	0.3	1.6	0.2	2.0	0.1	2.4	0.1	2.8	----	----	----	----	----	----
	53	1	19	97	96	4	86	3	93	53	24	92	-	-	-	-	-	-
12	0.6	1.0	0.5	1.2	0.4	1.5	0.3	1.9	0.2	2.2	0.1	2.6	0.1	3.0	----	----	----	----
	97	23	69	74	49	75	39	13	44	8	64	65	05	53	-	-	-	-
13	0.7	1.0	0.6	1.2	0.4	1.5	0.3	1.8	0.2	2.1	0.2	2.4	0.1	2.8	0.0	3.1	----	----
	38	38	16	61	99	26	91	26	94	5	11	9	4	38	9	82	-	-
14	0.7	1.0	0.6	1.2	0.5	1.4	0.4	1.7	0.3	2.0	0.2	2.3	0.1	2.6	0.1	2.9	0.0	3.2
	76	54	6	54	47	9	41	57	43	49	57	54	83	67	22	81	78	87
15	0.8	1.0	0.7	1.2	0.5	1.4	0.4	1.7	0.3	1.9	0.3	2.2	0.2	2.5	0.1	2.8	0.1	3.1
	11	7		52	91	65	87	05	9	67	03	44	26	3	61	17	07	01
16	0.8	1.0	0.7	1.2	0.6	1.4	0.5	1.6	0.4	1.9	0.3	2.1	0.2	2.4	0.2	2.6	0.1	2.9
	44	86	38	53	33	47	32	64	37	01	49	53	69	16		81	42	44
17	0.8	1.1	0.7	1.2	0.6	1.4	0.5	1.6	0.4	1.8	0.3	2.0	0.3	2.3	0.2	2.5	0.1	2.8
	73	02	73	55	72	32	74	31	81	47	93	78	13	19	41	66	79	11
18	0.9	1.1	0.8	1.2	0.7	1.4	0.6	1.6	0.5	1.8	0.4	2.0	0.3	2.2	0.2	2.4	0.2	2.6
	02	18	05	59	08	22	14	04	22	03	35	15	55	38	82	67	16	97
19	0.9	1.1	0.8	1.2	0.7	1.4	0.6	1.5	0.5	1.7	0.4	1.9	0.3	2.1	0.3	2.3	0.2	2.5
	28	33	35	64	42	16	5	83	61	67	76	63	96	69	22	81	55	97
20	0.9	1.1	0.8	1.2	0.7	1.4	0.6	1.5	0.5	1.7	0.5	1.9	0.4	2.1	0.3	2.3	0.2	2.5
	52	47	62	7	74	1	84	67	98	36	15	18	36	1	62	08	94	1
21	0.9	1.1	0.8	1.2	0.8	1.4	0.7	1.5	0.6	1.7	0.5	1.8	0.4	2.0	0.4	2.2	0.3	2.4
	75	61	89	76	03	08	18	54	34	12	52	81	74	59		44	31	34
22	0.9	1.1	0.9	1.2	0.8	1.4	0.7	1.5	0.6	1.6	0.5	1.8	0.5	2.0	0.4	2.1	0.3	2.3
	97	74	15	84	32	07	48	43	66	91	87	49	1	15	37	88	68	67
23	1.0	1.1	0.9	1.2	0.8	1.4	0.7	1.5	0.6	1.6	0.6	1.8	0.5	1.9	0.4	2.1	0.4	2.3

	17	86	38	9	58	07	77	35	99	74	2	21	45	77	73	4	04	08
24	1.0	1.1	0.9	1.2	0.8	1.4	0.8	1.5	0.7	1.6	0.6	1.7	0.5	1.9	0.5	2.0	0.4	2.2
	37	99	59	98	81	07	05	27	28	59	52	97	78	44	07	97	39	55
25	1.0	1.2	0.9	1.3	0.9	1.4	0.8	1.5	0.7	1.6	0.6	1.7	0.6	1.9	0.5	2.0	0.4	2.2
	55	1	81	05	06	08	32	21	56	45	82	76	1	15	4	59	73	09
26	1.0	1.2	1	1.3	0.9	1.4	0.8	1.5	0.7	1.6	0.7	1.7	0.6	1.8	0.5	2.0	0.5	2.1
	72	22		11	28	1	55	17	82	35	11	59	4	89	72	26	05	68
27	1.0	1.2	1.0	1.3	0.9	1.4	0.8	1.5	0.8	1.6	0.7	1.7	0.6	1.8	0.6	1.9	0.5	2.1
	88	32	19	18	48	13	78	14	08	25	38	43	69	67	02	97	36	31
28	1.1	1.2	1.0	1.3	0.9	1.4	0.9	1.5	0.8	1.6	0.7	1.7	0.6	1.8	0.6	1.9	0.5	2.0
	04	44	36	25	69	14	01	12	32	18	64	29	96	47	3	7	66	98
29	1.1	1.2	1.0	1.3	0.9	1.4	0.9	1.5	0.8	1.6	0.7	1.7	0.7	1.8	0.6	1.9	0.5	2.0
	19	54	53	32	88	18	21	11	55	11	88	18	23	3	58	47	95	68
30	1.1	1.2	1.0	1.3	1.0	1.4	0.9	1.5	0.8	1.6	0.8	1.7	0.7	1.8	0.6	1.9	0.6	2.0
	34	64	7	39	06	21	41	1	77	06	12	07	48	14	84	25	22	41
31	1.1	1.2	1.0	1.3	1.0	1.4	0.9	1.5	0.8	1.6	0.8	1.6	0.7	1.8	0.7	1.9	0.6	2.0
	47	74	85	45	22	25	6	09	97	01	34	98	72		1	06	49	17
32	1.1	1.2	1.1	1.3	1.0	1.4	0.9	1.5	0.9	1.5	0.8	1.6	0.7	1.7	0.7	1.8	0.6	1.9
	6	83		51	39	28	78	09	17	97	56	9	94	88	34	89	74	95
33	1.1	1.2	1.1	1.3	1.0	1.4	0.9	1.5	0.9	1.5	0.8	1.6	0.8	1.7	0.7	1.8	0.6	1.9
	71	91	14	58	55	32	95	1	35	94	76	83	16	76	57	74	98	75
34	1.1	1.2	1.1	1.3	1.0	1.4	1.0	1.5	0.9	1.5	0.8	1.6	0.8	1.7	0.7	1.8	0.7	1.9
	84	98	28	64	7	36	12	11	54	91	96	77	37	66	79	6	22	57
35	1.1	1.3	1.1	1.3	1.0	1.4	1.0	1.5	0.9	1.5	0.9	1.6	0.8	1.7	0.8	1.8	0.7	1.9
	95	07	41	7	85	39	28	12	71	89	14	71	57	57		47	44	4
36	1.2	1.3	1.1	1.3	1.0	1.4	1.0	1.5	0.9	1.5	0.9	1.6	0.8	1.7	0.8	1.8	0.7	1.9
	05	15	53	76	98	42	43	13	87	87	32	66	77	49	21	36	66	25
37	1.2	1.3	1.1	1.3	1.1	1.4	1.0	1.5	1.0	1.5	0.9	1.6	0.8	1.7	0.8	1.8	0.7	1.9
	17	22	64	83	12	46	58	14	04	85	5	62	95	42	41	25	87	11
38	1.2	1.3	1.1	1.3	1.1	1.4	1.0	1.5	1.0	1.5	0.9	1.6	0.9	1.7	0.8	1.8	0.8	1.8
	27	3	76	88	24	49	72	15	19	84	66	58	13	35	6	16	07	99
39	1.2	1.3	1.1	1.3	1.1	1.4	1.0	1.5	1.0	1.5	0.9	1.6	0.9	1.7	0.8	1.8	0.8	1.8
	37	37	87	92	37	52	85	17	33	83	82	55	3	29	78	07	26	87
40	1.2	1.3	1.1	1.3	1.1	1.4	1.0	1.5	1.0	1.5	0.9	1.6	0.9	1.7	0.8	1.7	0.8	1.8
	46	44	97	98	49	56	98	18	47	83	97	52	46	24	95	99	44	76
45	1.2	1.3	1.2	1.4	1.2	1.4	1.1	1.5	1.1	1.5	1.0	1.6	1.0	1.7	0.9	1.7	0.9	1.8
	88	76	45	24	01	74	56	28	11	83	65	43	19	04	74	68	27	34
50	1.3	1.4	1.2	1.4	1.2	1.4	1.2	1.5	1.1	1.5	1.1	1.6	1.0	1.6	1.0	1.7	0.9	1.8
	24	03	85	45	45	91	06	37	64	87	23	39	81	92	39	48	97	05
55	1.3	1.4	1.3	1.4	1.2	1.5	1.2	1.5	1.2	1.5	1.1	1.6	1.1	1.6	1.0	1.7	1.0	1.7
	56	28	2	66	84	05	46	48	09	92	72	38	34	85	95	34	57	85
60	1.3	1.4	1.3	1.4	1.3	1.5	1.2	1.5	1.2	1.5	1.2	1.6	1.1	1.6	1.1	1.7	1.1	1.7
	82	49	51	84	17	2	83	59	48	98	14	39	79	82	44	26	08	71
65	1.4	1.4	1.3	1.5	1.3	1.5	1.3	1.5	1.2	1.6	1.2	1.6	1.2	1.6	1.1	1.7	1.1	1.7
	07	67	77		46	34	14	68	83	04	51	42	18	8	86	2	53	61
70	1.4	1.4	1.4	1.5	1.3	1.5	1.3	1.5	1.3	1.6	1.2	1.6	1.2	1.6	1.2	1.7	1.1	1.7
	29	85		14	72	46	43	77	13	11	83	45	53	8	23	16	92	54

75	1.4	1.5	1.4	1.5	1.3	1.5	1.3	1.5	1.3	1.6	1.3	1.6	1.2	1.6	1.2	1.7	1.2	1.7
	48	01	22	29	95	57	68	86	4	17	13	49	84	82	56	14	27	48
80	1.4	1.5	1.4	1.5	1.4	1.5	1.3	1.5	1.3	1.6	1.3	1.6	1.3	1.6	1.2	1.7	1.2	1.7
	65	14	4	41	16	68	9	95	64	24	38	53	12	83	85	14	59	45
85	1.4	1.5	1.4	1.5	1.4	1.5	1.4	1.6	1.3	1.6	1.3	1.6	1.3	1.6	1.3	1.7	1.2	1.7
	81	29	58	53	34	77	11	03	86	3	62	57	37	85	12	14	87	43
90	1.4	1.5	1.4	1.5	1.4	1.5	1.4	1.6	1.4	1.6	1.3	1.6	1.3	1.6	1.3	1.7	1.3	1.7
	96	41	74	63	52	87	29	11	06	36	83	61	6	87	36	14	12	41
95	1.5	1.5	1.4	1.5	1.4	1.5	1.4	1.6	1.4	1.6	1.4	1.6	1.3	1.6	1.3	1.7	1.3	1.7
	1	52	89	73	68	96	46	18	25	41	03	66	81	9	58	15	36	41
10	1.5	1.5	1.5	1.5	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.4	1.6	1.3	1.7	1.3	1.7
0	22	62	02	82	82	04	61	25	41	47	21	7		93	78	17	57	41
15	1.6	1.6	1.5	1.6	1.5	1.6	1.5	1.6	1.5	1.6	1.5	1.7	1.5	1.7	1.5	1.7	1.5	1.7
0	11	37	98	51	84	65	71	79	57	93	43	08	3	22	15	37	01	52
20	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.7	1.6	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5	1.7
0	64	84	53	93	43	04	33	15	23	25	13	35	03	46	92	57	82	68

Appendix VII: List of Health centres in Nairobi (sampling frame)

	Name of Health Facility	**Type of Health Facility**
	District Hospitals	
1.	**Mbagathi District Hospital**	**County Hospital**
2.	The Aga Khan Hospital	Private Hospital
3	Guru NanaK Hospital	Private Hospital
4	Gertrudes Garden Children's Hospital	Private Hospital
5	**Karen Hospital**	**Private Hospital**
6	**Mariakani Cottage Hospital**	**Private Hospital**
7	**Mater Hospital**	**Private Hospital**
8	Metropolitan Hospital	Private Hospital
9	**Coptic Church Nursing Hospital**	**Private Hospital**
10	**Nairobi West Hospital**	**Private Hospital**
11	**Nairobi Equator Hospital**	**Private Hospital**
12	**St. Mary's Hospital**	**Mission Hospital**
13	**Bristol Park Hospital**	**Private Hospital**
14	The Nairobi Women's- Hurlingham	Private Hospital
15	Nazereth Mission Hospital, Kiambu	Private Hospital
16	**The Nairobi Women's Hospital- Adams**	**Private Hospital**
17	**MP Shah Hospital**	**Private Hospital**
18	**Mama Lucy District Hospital**	**County Hospital**
	Health centers	
19	**Ngara**	**H/C**
20	**Eastleigh**	**H/C**
21	**Bahati**	**H/C**
22	**Kahawa**	**H/C**
23	**Mathare North**	**H/C**
24	**Kariobangi**	**H/C**
25	**Kasarani**	**H/C**
26	**Baba Dogo**	**H/C**
27	**Ruaraka**	**H/C**
28	**Karura**	**H/C**
29	**Kangemi**	**H/C**
30	**Westlands**	**H/C**
31	**Waithaka**	**H/C**
32	**Riruta**	**H/C**
33	**Langata**	**H/C**
34	**Karen**	**H/C**
35	**Kayole 1**	**H/C**
36	**Dandora 1**	**H/C**
37	**Umoja**	**H/C**
38	**Embakasi**	**H/C**
39	**Njiru**	**H/C**
40	**Makadara**	**H/C**
41	**Jericho**	**H/C**
42	**Kaloleni**	**H/C**
43	**Lungalunga**	**H/C**

	Health Clinics/ Dispensaries	
44	**Ngaira**	**Dispensary**
45	**Pumwani**	**Dispensary**
46	**Mji Wa Huruma**	**Dispensary**
47	**Lower Kabete**	**Dispensary**
48	**Ruai**	**Dispensary**
49	**Lagos Clinic**	**Clinic**
50	**Kariokor**	**Clinic**
51	**Pangani**	**Clinic**
52	**Mathare Lion Huruma**	**Clinic**
53	**Pumwani Clinic**	**Clinic**
54	**Muthurwa**	**Clinic**
55	**Shaurimoyo**	**Clinic**
56	**Jerusalem**	**Clinic**
57	**Eastleigh Lions (BIAFRA)**	**Clinic**
58	**State House**	**Clinic**
59	**Ngong Road Clinic**	**Clinic**
60	**Woodley**	**Clinic**
61	**Jinnah**	**Clinic**
62	**Kayole 2**	**Clinic**
63	**Dandora 2**	**Clinic**
64	**Hono Crescent**	**Clinic**
65	**Ofafa 1**	**Clinic**
66	**Maringo**	**Clinic**
67	**Mbotela**	**Clinic**
68	**P&T Clinic**	**Clinic**
69	**Nairobi South B**	**Clinic**
70	**Sandford**	**Clinic**
71	**Makongeni**	**Clinic**

Source: Nairobi city county Health Facilities-Location and Services Provided (February 2015)