DETERMINANTS OF ADOPTION OF SOCIAL MEDIA MARKETING BY HOSPITALS, IN NAIROBI CITY COUNTY, KENYA

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Determinants of Adoption of Social Media Marketing by Hospitals, 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 Supervisors.

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DEDICATION

I dedicate this thesis to my grandmother, Mrs Eunice Ruguru Gakahu.

ACKNOWLEDGEMENT

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

CA   Communications Authority of Kenya

GOK   Government of Kenya

ICT   Information Communication and Technology

KMPDB   Kenya Medical Practitioners and Dentist Board

MDG   Millennium Development Goals

MOH   Ministry of Health

MTP   Medium Term Plan

NCC   Nairobi City County

SMM   Social Media Marketing

SNA   Social Network Analysis

UGC   User Generated Content

UTAUT   The Unified Theory of Acceptance and Use of Technology

DEFINITION OF TERMS

Adoption: The uptake and application of social media platforms (Chikandiwa, Contogiannis, & Jembere, 2013).

Determinants: Factors that contribute, affect or influence decision making (Siamagka, Christodoulides, Michaelidou, & Valvi, 2015).

Hospital: An institution providing medical and surgical treatment and nursing care for sick or injured people (Stevenson, 2010).

Hospital's Business Environment: The environment in which the hospital operates (Chikandiwa, Contogiannis, & Jembere 2013).

Hospital Characteristics: Hospital characteristics include ownership status, profit/not for profit status, public/private, teaching status, bed count (Thackeray, Neiger, Smith, & Van Wagenen, 2012).

Marketing Purpose: Marketing is a set of actions set by the marketing department when promoting its products or services to potential consumers that should be achieved within a given time frame (Kotler, 2012).

Social Media: A group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content (Kaplan & Haenlein, 2010).

Social Media Marketing: The use of social networking sites as tools for marketing communication activities (Mangold & Faulds, 2009).

Social Media Technology Use and Attributes: Qualities of social media platforms that influence the adoption and use of social media (Perrin, 2015).

User Attributes: Qualities of users that are relevant and influential to the adoption of social media (Perrin, 2015).

Utilisation: The worthy use of social media platforms (Griffis, Kilaru, Werner, Asch, Hershey, Hill, & Merchant, 2014).

ABSTRACT

This study was purposed to investigate the determinants of adoption of social media marketing by hospitals in Nairobi City County, Kenya. Effective marketing communication is a critical function within any institution. Hospital marketers are increasingly trying to identify beneficial utilisation of social media and to justify the return on investment on marketing expenditures, showing an apparent relation to organisation's vision and business strategy. Despite these documented challenges, there is a lack of reported marketing data on social media adoption by hospitals in Kenya. The research objectives were to examine the effects of the organisation's marketing purpose; social media technology use and attributes; end user or the marketer attributes; and the hospital's business environment on the adoption of social media marketing by hospitals in Nairobi City County. The research further examined the moderating effect of hospital characteristics on the relationship between the independent variables and dependent variable. Survey and correlation research design was used to conduct the study. Due to the technical nature of the study 66 marketing officers in Nairobi City County as respondents. The respondents were sourced from a hospitals facilities list on the Kenya master health facility list website. Data was collected using a semi-structured questionnaire. Statistical analysis including Cronbachs Alpha, Correlation, Regression and Analysis of Variance was done and results presented in tables, graphs and figures. Hypothesis testing using p-value approach was done to give the strength of the decision to accept or reject the null hypotheses. The findings revealed a statistically significant overall effect of marketing purpose, social media attributes, user attributes, the hospital business environment jointly on adoption of social media marketing. The results further revealed that individually, only hospitals business environment variable that did not have a statistically significant effect on adoption of social media marketing. Hospital characteristics had moderating effect on adoption of social media marketing. The results add to existing knowledge in the area of adoption of social media marketing by hospitals in Nairobi City County, Kenya, showing that there is a significant relationship between marketing purpose social media technology use and attributes, end user or the marketer attributes and hospitals business environment and adoption of social media. As a policy contribution, the findings give meaningful insight to publicity for hospitals and the healthcare industry on the determinants of adoption of social media marketing in strategic healthcare planning. Further, Kenya's government positioning as a regional medical hub for medical tourism can benefit from these findings as social media is an essential tool in cross-border marketing. Thirdly, as a contribution to existing knowledge in marketing communications, word of mouth has been enabled by social media. Information on the web may not always be accurate, but it does tell listening marketers, that if they are to be part of the conversation in a meaningful way, then they should consider these determinants. Finally, in marketing management knowledge, the findings revealed these determinants not just as enablers of efficient utilisation of social media but as creating a clear connection between the organisation's social media marketing strategy towards achieving the business objectives and consequently the vision of the hospitals. The study recommends continued evaluation of the marketing plan in line with existing and emerging social media technology.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The Kenyan health care system can be split into three subsystems, being the Public Sector, Commercial Private Sector, and Faith Based Organisations (FBOs). The Public Sector is the largest in terms of the number of healthcare facilities, followed by the Commercial Private Sector and the FBOs. There is a wide disparity in resource availability among these health facilities, especially in rural areas. In 2013, primary and secondary level public health services we devolved from the national government and the Ministry of Health to the county governments. The private healthcare providers sector has also been vibrant with increased investments in facilities and services offered. These healthcare providers compete for the same basket of customers, and the ability to differentiate the quality of services through patient engagement gives the players a competitive edge. Kenya is also a frontrunner in innovative ICT solutions being only African country with a comprehensive eHealth strategy and the World's largest a multi-billion USD turnover of mobile money (mPesa) increasingly used for paying for healthcare services. According to Internet World Statistics (2017), Kenya has an 85% internet penetration of which Forty percent of internet users have been reported as looking for information on health on the internet.

1.1.1 Social Media Marketing

The term internet, web 2.0 and social media are often interchangeably. An essential distinction between the two concepts must be considered at the onset as fundamental in understanding social media marketing. Web 2.0 from a technological aspect can be considered as serving as an infrastructure with a focus on cooperation and mutual exchange of values (O'Reilly, 2005). This infrastructure enables the social phenomenon of collective media, i.e. the creation, distribution and sharing of content, that itself is going to become social media (Berthon, Pitt, Plangger, & Shapiro, 2012).

Social media comprises internet-based applications that build on web 2.0 and promote online interaction among users to communicate with each other to create, transform and share contents, perspectives, opinions, insights, media, relationships and connections that users themselves have generated (Narayanan *et al*., 2012).

According to Mangold and Faulds (2009), social media can be defined as the aggregate of networked, interactive, computer-mediated communication technologies that include blogs such as WordPress, TypePad; microblogs such as Twitter, tumblelogs examples being Pinterest, Instagram. Other social media technologies include social networking sites such as Facebook, LinkedIn, forums/online communities/bulletin boards and user-generated content/media distribution sites such as YouTube, Flickr, podcasts. These websites have extended the power of consumer-to-consumer conversations, sharing ideas, opinions and even critiques with other users around the world quickly and with little effort (Mangold & Faulds, 2009). In less than a decade, hundreds of millions of people globally have become active users of social media sites which are now the most popular of all internet destinations.

Marketing is the social process by which individuals and groups obtain what they need and want through creating and exchanging products and services or value with others (Phil, Kotler & Keller, 2003). Kotler further defined marketing as the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large. It is an integrated process through which companies build strong customer relationships and create value for their customers and themselves (Kotler, Wong, & och Saunders, 2008). Social Media Marketing (SMM) refers to the use of social networking sites as tools for marketing communication activities (Mangold & Faulds, 2009). Social media marketing represents a new trend for companies who are trying to communicate with their consumers on online or offline media platforms. Businesses are looking for ways how to benefit from this potential, primarily how to utilise the opportunities websites like Facebook, LinkedIn and Twitter are offering for the companies' marketing departments and reputations (Hutchings, 2012).

The changes experienced in social media over the last two decades has been unprecedented. Today, almost every person, business or organisation has a social media account such as Facebook, LinkedIn and Twitter. The world of marketing and how business professionals communicate with and market to consumers has changed with the introduction of new media, specifically social media (Chaffey, Ellis-Chadwick, Mayer, & Johnston, 2009). Social media is a radically different way to communicate because it breaks through three barriers that previously were significant limiting factors: geography, time and cost. With the rise of social media, organisations have the opportunity to communicate with consumers in a timely and direct manner. Most marketing managers who are still primarily nestled in the traditional paradigm of using one-way advertising, view social media merely as additional available channels through which to distribute messages (Waters & Williams, 2011). Considering these new tools through such a traditional paradigm belies the significant new opportunities for both marketing strategy and tactics (Scott Rader *et al*., 2014). Thackeray *et al*. (2012) called on practitioners to 'realise social media's untapped potential by incorporating it as part of the larger social marketing strategy'. Companies' marketing communications efforts in social media should be consequently planned just like any other corporate strategy.

Marketing and advertising are experiencing a well-documented and revolutionary upheaval in both form and function in light of a rapidly changing communications technology landscape, particularly as it relates to the emergence of popular social media such as Facebook, Twitter, LinkedIn and YouTube (Li & Bernoff, 2011). These radical changes are significantly impacting numerous industries, companies, brands, products and consumers, including health care (Hanna, Rohm, & Crittenden, 2011). Hanna *et al*. (2011) further proposed social media not be just an addition to the modern marketer's toolkit but also an endemic and ecological change that impacts a broad cross-section of marketing activities, including research, strategy formulation, advertising, promotions and sales.

One study examining social media use by companies found that 72 percent were using social media in some way. Of the companies that use social media, 90 percent reported having seen the benefit to their business (Bughin, Byers, & Chui, 2011). In 2011, 69

percent of Fortune 500 companies used some form of social media to communicate with customers and other stakeholders (Barnes & Andonian, 2011). Social media marketing has an enormous potential and capability for companies to engage with the customer, thus increasing revenue and efficiency of the company (Baird & Parasnis, 2011). The costs of social media are relatively low, and higher levels of productivity may be achieved compared to the more traditional communication tools. Consequently, social media marketing is not only relevant for large multinationals, but also for small and medium sized organisations, as well as for nonprofit and governmental organisations (Kaplan & Haenlein, 2010). Social media allows almost instant communications globally building and destroying brands in equal measure. For the marketer social media increases brand awareness; influences purchasing behaviour; provides assistance in pre and post-sales communication and evaluation, and expands the audience. Increased engagement with customers helps an organisation in its new product development programmes, customer relationship marketing and maintenance of lifetime value (Mangold & Faulds, 2009). Despite this benefits there seems to be limited understanding by hospital marketers on the appropriate choice of social media to engage in how to use these marketing tools effectively. The possibilities that social media marketing offers for organisations to connect with their customers are enormous, yet there is still laxity in its adoption by healthcare institutions in Sub-Saharan Africa. The failure by healthcare institutions in Sub-Saharan Africa to adopt social media may be due to inadequate implementation policies, standards and frameworks among other factors (Kituyi, Langmia, Moya, Tsuma, & Mbarika), 2013). This research is, therefore, concerned with investigating the determinants of adoption of social media marketing by hospitals in Kenya.

1.2 Statement of the Problem

Globally there has been a dynamic change in marketing communications in the 21st century with possible attribution to the social media phenomenon. According to (Ventola, 2014), there is an increased uptake of social media by individuals. In Kenya, individuals are utilising the internet and social media extensively with 40 percent of internet users reported as having searched the web for health information. A large number of internet users use their mobile smartphones, and are on social

media sites such as Twitter and Instagram. Facebook alone has over seven million subscribers (Communication Authority, Kenya 2014). In the health sector, social media is increasingly being used to educate, inform and interact with the general public. Social media has enhanced communication between individuals and organisations with the potential to augment hospital's communication (Thackeray *et al*., 2012). The modern healthcare consumer has become empowered by the power of information on the internet with the growth of social media has crossing borders both social and demographic. In 2011, looking for healthcare information was the third most common online activity globally (Hamm, Chisholm, Shulhan, Milne, Scott, Given, *et al*., 2013). By September 2012, 72 percent of adult Internet users globally sought support and medical information online.

Various studies have been carried out globally including Africa, on the adoption and utilisation of social media by hospitals. Several studies have suggested a slowness in adoption of social media. Research work by Griffis *et al*. (2014) on the adoption of social media by Hospitals in the USA, found that even though many hospitals have adopted the use of social media, the potential in the utilisation of the platforms to become dominant communication channels for healthcare is far from being acheievd. In Europe, Van De Belt, Engelen, Berben, and Schoonhoven (2010) in their study on the use of social media by hospitals in Western Europe established that there was little interaction with online visitors (patients) and that most hospitals were merely "seeding information" and not maximizing on the vast benefits that social media presents in engaging patients. Africa has over 300 million internet users (10.3 percent) of global internet users exceeding North America which has 10.1 percent of the world's internet users. Over 51million internet users are estimated to be on Facebook. Despite this high penetration, Kituyi *et al*. (2013) found that health institutions in Sub-Saharan Africa with the exception of Ghana and South Africa, were slow to adopt social media technology notwithstanding the opportunities that social media marketing presents. Batta and Iwokwagh (2015) investigated the use of social media by Hospitals in Nigeria and noted that there was laxity in adoption of social media being primarily used in teaching hospitals. Whereas these studies examined the extent and use of social media by hospitals, the studies did not examine

the reasons behind why hospitals were still slow to adopt social media marketing despite the opportunities of benefits offered to their stakeholders including patients.

In Kenya there is limited research on the uptake and utilisation of social media marketing for by hospitals and scanty data on how hospitals use social media to engage with their followers. This research was thus aimed at investigating the factors that influence hospitals to adopt social media marketing in Kenya, specifically in Nairobi City County. Nairobi City County was chosen because, Nairobi City County was chosen because, the then Communications Commission of Kenya (2015), now Communications Authority (CA), reported that the majority of internet users (over 60 percent) in Kenya are based in Nairobi and its environs. Nairobi City County is vast and has many different types/characteristics of hospitals including, government-owned, teaching, private for profit, private not for profit, local and foreign-owned, faith-based, thus leading in healthcare provision in the country. Further, the doctor to patient ratio in Nairobi City County is higher than other regions thus ease of access to health care. In addition, NCC has physicians in all specialties of care unlike other parts of the country where specialists are rare. Of note also is that the highest number of smartphones, laptops and computers are in NCC, thus ease of access to social media platforms, (CCK report, 2015; (W. B. Group, 2013); Muga, 2011). Nairobi City County, Kenya is thus a fair representation of the global nature of social media adoption. This study contributes to the knowledge that will help hospital marketers understand the fundamental factors essential to adopting social media marketing, understand the numerous benefits, potential barriers and the profound impact that social media can play in the engagement of patients and other stakeholders.

1.3 Objective of the Study

A general objective guided this study as well as following specific objectives.

1.3.1 General Objective

This study was purposed to establish the determinants of adoption of social media marketing by hospitals in Nairobi City County, (NCC) in Kenya.

1.3.2 Specific Objectives

This study was guided by the following specific objectives, which are

1. To examine the effect of marketing purpose on adoption of social media marketing by hospitals in Nairobi City County.
2. To determine the effect of social media technology use and attributes on adoption of social media marketing by hospitals in Nairobi City County.
3. To establish the effect of the hospital marketers attributes on the adoption of social media marketing by hospitals in Nairobi City County.
4. To evaluate the effect of the hospitals business environment on the adoption of social media marketing by hospitals in Nairobi City County.
5. To examine the moderating effect of hospital characteristics on the adoption of social media marketing by hospitals in Nairobi City County.

1.4 Research Hypothesis

The study was guided by the following null and alternative hypothesis.

Hypothesis 1

H_0: Marketing purpose does not have a significant influence on the adoption of social media marketing by hospitals in Nairobi City County.

H_1: Marketing purpose has a significant influence on the adoption of social media marketing by hospitals in Nairobi City County.

Hypothesis 2

H_0: Social media technology use and attributes do not have a significant influence on adoption of social media marketing by hospitals in Nairobi City County.

H_1: Social media technology use and attributes have a significant influence on adoption of social media marketing by hospitals in Nairobi City County.

Hypothesis 3

H_0: User attributes do not have a significant influence on the adoption of social media marketing by hospitals in Nairobi City County.

H_1: User attributes have a significant influence on the adoption of social media marketing by hospitals in Nairobi City County.

Hypothesis 4

H_0: The hospital's business environment has no significant influence on adoption of social media marketing by hospitals in Nairobi City County.

H_1: The hospital's business environment has a significant influence on adoption of social media marketing by hospitals in Nairobi City County.

Hypothesis 5

H_0: There is no significant moderating influence of hospital characteristics on the adoption of social media marketing by hospitals in Nairobi City County.

H_1: There is a significant moderating influence of hospital characteristics on the adoption of social media marketing by hospitals in Nairobi City County.

1.5 Significance of the Study

This study was conducted at a time when the Kenya Government is making initiatives towards improving the quality of healthcare of its population as articulated in the Second Medium Term Plan 2013-2017 of the Vision 2030 (Kenya, 2013). The Government of Kenya through the Ministry of Health could benefit from this study by using the findings to improve the quality of customer care and added benefits of marketing communications such as increased revenue and high patient satisfaction

rates. More so, there is stiff competition for patients in the healthcare sector, including with government-owned institutions and with a diminishing return as insurance companies tighten the pilferage that is causing them to make losses. Most importantly, the patient has become a more informed individual with the advent of the internet and digital era. Thus hospitals need to make more effort to engage their patients and lock in their loyalty. The findings in this study may also encourage more research on the effectiveness of social media marketing in hospitals in developing countries.

1.5.1 Patients

This research gives insight into the opportunities that lie with social media marketing for hospitals to engage with their patients. Potential benefits include ease of communication with their providers, access to referral information or word of mouth (WOM), reduced costs of healthcare access, quick turnaround time, booking of appointments, offering counselling and support groups through social media channels and sharing of testimonials.

1.5.2 Researchers

This study contributes to the body of knowledge for researchers who seek to investigate social media marketing in healthcare sector including the impact it may have on improved healthcare outcomes such as improved turnaround time in hospital service rendered and mass dissemination of information.

1.5.3 Hospital Management and Healthcare Policy Makers

This study provides useful information to enable hospital management to develop insights towards the development of strategic marketing plans that are cost-effective, measurable and efficient in their stakeholder's communications. The information also provides useful information for recommendations in strategic healthcare plans in the public and private sector hospitals. The study may also provide relevant insight to healthcare policy makers particularly in digital (eHealth and mHealth) communications.

1.5.4 Physicians, Nurses and Clinical Staff

This study provides valuable information for doctors and nurses as primary caregivers in the healthcare provision. It gives insights on the value of SMM in modern communication and engagement with patients, colleagues, institutions and other stakeholders, participatory healthcare and communication of best practices in healthcare. The information also provides insightful information into the pitfalls of ill thought through social media strategies. Such pitfalls may include risks to patient confidentiality and data security.

1.6 Scope of the Study

This study examined the determinants of adoption of social media by hospitals in Nairobi City County. All institutions that were listed as "hospitals" by eHealth Facilities Kenya website as at 31st of January 2016 were included as shown in Appendix III. Nairobi City County was chosen because, the then Communications Commission of Kenya (2015), now Communications Authority (CA), reported that the majority of internet users (over 60 percent) in Kenya are based in Nairobi and its environs. Nairobi City County is vast and has many different types/characteristics of hospitals including, government-owned, teaching, private for profit, private not for profit, local and foreign-owned, faith-based, thus leading in healthcare provision in the country. Further, the doctor to patient ratio in Nairobi City County is higher than other regions thus ease of access to health care. In addition, NCC has physicians in all specialities of care unlike other parts of the country where specialists are rare. Of note also is that the highest number of smartphones, laptops and computers are in NCC, thus ease of access to social media platforms, (CCK report, 2015; (W. B. Group, 2013); Muga, 2011). Nairobi City County, Kenya is thus a fair representation of the global nature of social media adoption.

1.7 Limitations of the study

The study examined hospitals in Nairobi City County including teaching, specialised and tertiary care hospitals where the resources including financial, facility, staffing, and technology have vast disparity. Perhaps if the study concentrated on one or the other, the results might have been more comparable having a different impact on the outcomes. This is recommended as an area of further studies. The study considered only hospitals listed on ehealth Kenya facility website (accessed May 2016). Thus the study may have discriminated against hospitals not listed on the website by error or omission, however this being a resource from the ministry of health that regulates healthcare at all levels in Kenya, the source was deemed reliable. Finally, the study was crossectional, conducted over a short period of time, mainly because of the fast-paced nature of social media and ever-changing online technology and platforms. It is possible that if the study was conducted over a longer period, there is a possibility that trends in social media and mobile technology could have given more insight into the determinants of adoption of social media marketing by hospitals in Nairobi City County in Kenya. This was also recommended as a further area of study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the theoretical review and examination of findings of various research works that are closely related to the study. The conceptual framework is also given to show the relationship between the independent, moderating and dependent variables and discussed. The chapter proceeds with a critique of literature, research gaps and summary.

2.2 Theoretical Framework

This study was guided by three theories applicable to marketing communications and technology namely theory of social exchange, social network theory and theory of acceptance and use of technology. Due to the fast changing pace of social media, a framework by marketing industry players was also examined namely social graphics framework and social media loop.

2.2.1 The Communication Theory of Social Exchange

The Communication Theory of Social Exchange is a theory based on the exchange of rewards and costs to quantify the values of outcomes from different situations for an individual. People strive to minimise costs and maximise rewards and then base the likeliness of developing a relationship with someone on the perceived possible outcomes. When these outcomes are perceived to be greater, we disclose more and develop a closer relationship with that person.

Social exchange rests on the assumption that human beings recognise each other's life situations, notice each other's needs, and in some ways are likely to engage in reciprocity, a condition in which a response is correlated to the worth of the original message In other words, humans act with other humans in full recognition that their acts will be noticed and in some way reciprocated (i.e., that they will receive a return on their communicative investment). A marketer can use this theory to understand

social media participation of their consumers. Social media participation is not financially compensated therefore this assumption of the theory may go to explain why people engage in social media. Li and Bernoff (2011) suggested that users of social media can be segmented into four main groups. They are: watchers (79.8 percent of the US social media users), who consume content only to help with their decision making; Sharers (61.2 percent), who upload and forward information to others in order to help others and demonstrate knowledge; Commenters (36.2 percent), who both review and rate products and comment on those who do in an effort to participate and contribute; and Producers (24.2 percent), who create their own content in an attempt to express their identity and recognition. Commenters in the context of this theory can be said to forego the cost of commenting so as to get a reciprocating reward for someone noticing their needs or their life situation. This theory gives the researcher insight into the motivations of engagement on social media for hospital and the patients as well as for hospital marketers use (user attributes) of social media on a personal level.

2.2.2 Social Network Theory

Social network theory is also known as Social Network Analysis (SNA) theory and has been widely used to study the structure of relationships between individuals, groups, or organisations; not so much to explain who these actors are but particularly to describe and map how they interact with each other. Social network analysis has emerged as a set of methods for the analysis of social structures, methods which are specifically geared towards an investigation of the relational aspects of these structures. The use of these methods, therefore, depends on the availability of relational rather than attribute data, (Scott & Carrington, 2011). It characterizes networked structures in terms of nodes such as individual actors; people; or things within the network, and the relationships or interactions that connect them. Examples of social structures commonly visualised through social network analysis include social media networks, friendship and acquaintance networks, kinship, disease transmission, and sexual relationships (Pinheiro, 2011). These networks are often visualized through sociograms in which nodes are represented as points and ties are represented as lines (D'Andrea, Ferri & Grifoni, 2010). By focusing on the social

links between people, social network analysis complements and enriches analysis based on the socio-demographic and economic attributes of individual actors, groups and external structures (Tindall & Wellman, 2001). As another early pioneer of the approach (Bott & Spillius, 2014) argued that an individual's interactions with others are better understood in the context of their social environment rather than their physical one.

Through the years social network theory has been developed and applied across a variety of research domains (Chowdhury, Chen, & Tiong, 2011). These include family and neighbourhood community structure such as group dynamics social mobility, social stratification, policy networks, elites and power, global economy and health. In the context of social media, this theory helps us understand the fundamentals of what Facebook, and LinkedIn are built on. Networks of people who share common attributes which could be relationship based, event based or even location based. Furthermore according to Valente (2010) social network analysis could inform businesses of the methods on promoting themselves through organic word-of-mouth as information spreads through the individual *nodes* to the community. This theory was used to understand the differences with various social media platforms, their use and attributes.

2.2.3 Unified Theory of Acceptance and Use Of Technology

The unified theory of acceptance and use of technology is a technology acceptance model formulated by Morris and Venkatesh (2000) that aims to explain user intentions to use an information system and subsequent usage behaviour. The theory was developed through a review and consolidation of the constructs of eight models. These were what earlier research had employed to explain information systems usage behaviour. These include theory of reasoned action, technology acceptance model, motivational model, theory of planned behaviour, a combined theory of planned behaviour/technology acceptance model, model of personal computer use, diffusion of innovations theory, and social cognitive theory.

The theory holds four key constructs namely: performance expectancy; effort expectancy; social influence and facilitating conditions. Performance expectancy, social influence and effort expectancy direct determinants of usage intention and behaviour while facilitating conditions direct determinant of use behaviour. To moderate the impact of the four key constructs on usage intention and behaviour gender, age, experience, and voluntariness are posited.

Unified theory of acceptance and use of technology is a new but promising theory (Holden & Karsh, 2010). This theory gave insight into the user attributes, social media technology use and attributes, and effect of the hospitals business environment, as determinants of adoption of social media marketing.

Due to the fast changing pace of social media, industry players have also contributed to the development of social media related theories. Li and Owyang from Altimeter Group are the major contributors to the social graphics framework (JOwyang, 2010). They argued that instead of studying the demographic, geographic, or psychographic profiles of customers, businesses also need to develop social strategy termed as socialgraphics. Marketers and managers needs to ask the following questions: Which websites are my customers on? What are my customers' social behaviours online? What social information or people do my customers rely on? What is my customers' social influence? The answers to these questions could separate customers into layers of engagements: from curating, producing, commenting, and sharing, to watching. The businesses then need to separate their customers into these layers and provide tools and platforms to facilitate their social interaction. (Sigala, Christou, & Gretzel, 2012).

Social Feedback Loop, links consumer purchase funnel with social media. Evans (2012) has argued that traditional purchase funnel has three stages: awareness; consideration; and purchases; during which a marketer could influence a consumer's decision making. However, the purchase funnel concept treats customers like living in a vacuum. A customer, after purchase, will use the product, form opinions, and talk about it later in the stage. Some of the experience after purchase will be materialised and posted online, which will loop back to other customers' purchase

decision-making process. This social feedback cycle is driven mostly by word-of-mouth; the word-of-mouth is further driven by actual use, trial, or sampling experience (Backer, 2012). This theory was used to examine marketing purpose as a determinant of social media adoption as one of the primary end goals of marketing is the purchase of their services, brand awareness and reputational management.

2.3 Conceptual Framework

A conceptual framework can be defined as a system of assumptions, expectations, beliefs, theories, and concepts that support and inform research (Maxwell, 2012). This framework as derived from the relevant theories cited illustrates the effects of marketing purpose, user attributes, social media technology use and attributes and the hospitals business environment as the independent variables that affect the adoption of social media marketing by hospitals. The moderating variable was hospital characteristics. Adoption of social media marketing was the dependent variable. The derived conceptual framework is shown in Figure 2.1.

```
┌─────────────────────────────┐
│ Marketing Purpose           │
│ • Brand Visibility          │
│ • Promotion of events       │
│   Reputation                │
│   management                │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Social Media Technology     │
│ Use and Attributes          │
│ • Ease of use               │
│ • Level of engagement       │
│ • Monitoring ability        │
└─────────────────────────────┘

┌─────────────────────────────┐
│ User Attributes             │
│ • Skill and                 │
│   Competence                │
│ • Awareness and             │
│   knowledge                 │
│ • Socio-demographics        │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Hospital's Business         │
│ environment                 │
│ • Policies                  │
│ • Capacity and cost         │
│ • Internet accessibility    │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Hospital                    │
│ Characteristics             │
│ • Ownership status          │
│ • Bed size                  │
│ • Teaching status           │
│ • Profit/ Not for           │
│   Profit                    │
└─────────────────────────────┘

┌─────────────────────────────┐
│ Adoption of Social          │
│ Media Marketing             │
│ • Customer                  │
│   Service                   │
│   Improvement               │
│ • Visibility and            │
│   loyalty                   │
│   enhancement               │
│ • Marketing costs           │
│   reduction                 │
│ • Revenue                   │
│   increase                  │
└─────────────────────────────┘
```

Independent variable   **Moderating variable**   **Dependent variable**

Figure 2.1: Conceptual Framework

2.3.1 Marketing Purpose

In order to achieve marketing goals in terms of metrics like profitability, market share, and revenue or sales volume that reflect seller needs, customer needs must first be met. (Dragger, 2009) suggested that companies should do a situational analysis when developing a social media marketing plan. Only if customers proceed through a buying process that culminates in a purchase can the organisations needs for profitability, market share and sales be met (Sashi, 2012). Marketers use various tools to promote their products, including advertising, direct marketing, Internet or interactive marketing, sales promotion, personal selling, and publicity or public relations (Belch & Belch, 2003).

In healthcare, social media can be used to inform, educate, and empower people about health issues (Vance, Howe, & Dellavalle, 2009); to enhance the speed at which communication is sent and received during public health emergencies or outbreaks (Sutton, 2010); to mobilize community partnerships and action (Thackeray & Hunter, 2010); to facilitate behavior change (Frost & Massagli, 2008); to collect surveillance data (Merchant, Elmer, & Lurie, 2011) and to understand public perceptions of issues (Chew & Eysenbach, 2010).

Social media is changing the way businesses communicate with their customers and in the same way how customers communicate with the businesses. Since social media is a marketing tool that reaches intended recipients instantaneously, it can be used to supplement a company's existing marketing efforts. Social media strategies should, therefore, be developed alongside other marketing and communication efforts in order to maintain consistency across all channels (Mangold & Faulds, 2009).

Dominick (2010), explains that advertisers particularly showcase their products/services on social networks and use networks such as blog ads to target specific blogs whose readers would be likely customers. Some advertisers also have links or hyperlinks below their adverts to connect their customers to their websites, social networking homepages or blogs. Even though many marketers are still experimenting and learning how best to use social media tools, there is an indication

that marketers think social media marketing is here to stay and will play an increasingly important role in their work in acquiring and retaining customers in the future (Neti, 2011). Neti (2011) further noted that significantly different from conventional marketing strategies, social media offers three distinct advantages. One, it provides a window to marketers to not only present products or services to customers but also to listen to customers' grievances and suggestions. Two, it makes it easy for marketers to identify various peer groups or influencers among various groups, who in turn can become a brand evangelist and help in the organic growth of a brand. Three, all this is done at nearly zero cost (as compared to conventional customer outreach programmes) as most of the social networking sites are free.

Using social media, organisations can forge relationships with existing as well as new customers and form communities that interactively collaborate to identify and understand problems and develop solutions for them. These interactions change the traditional roles of both seller and customer in exchange relationships. Indeed customers often add value by generating content and even become ardent advocates for the seller's products and can influence purchase decisions of others in peer-to-peer interactions (Sashi, 2012). Value creation in market transactions entails establishing intimate bonds in enduring relational exchanges between seller and customer, appears to enable customers to continue to rely on buy rather than make transactions as well as co-create value. The roles of the seller and the customer converge, with seller and customer collaborating in creating value (Prahalad & Ramaswamy, 2004). Social media provides the opportunity to connect with customers using richer media with greater reach (Thackeray *et al*., 2008). The interactive nature of these digital media not only allows sellers to share and exchange information with their customers but also allows customers to share and exchange information with one another as well.

Impacting a wide cross-section of marketing activities, including research, strategy formulation, advertising, promotions and sales, it is proposed that social media is not as much an addition to the modern marketer's toolkit as it is an endemic and ecological change (Hanna *et al*., 2011). This is largely due to the shift in control of communications from producers to consumers. These consumers have in

unprecedented fashion, found social media as a platform for creating, distributing, evaluating, categorising and modifying information (i.e. UGC or "user-generated content") largely through the venue of common conversations within the process of a "consumer decision journey" (Edelman, 2010). The subsequent impact on business and marketing strategy is significant.

With regards to advertising as a marketing objective most marketing managers who are still entrenched in the traditional paradigm of using one-way advertising view social media platforms merely as additional available channels through which to distribute messages (Waters & Williams, 2011). Social media marketing helps build brand awareness, visibility, reputation, knowledge sharing, customer acquisition and retention, low-cost promotions, new product development, customer relationship marketing (Kaplan & Haenlein, 2010). To effectively succeed in social media marketing, marketers to be creative, develop disciplined processes and continuously improve their strategies. It also has great potential for generating multi-revenues and market research in the context of ethnography (Sarkkinen, 2009).

Marketers who see social media as a way to talk at, not with, their followers are not fully engaging them. The last thing patients want when following a hospital on social media is marketing (Boyer, 2011). Boyer further notes that a hospital's social media pages should be patient centered. 'Social media tools should not be used to simply broadcast messages about quality awards, surgical robots, and great doctors. Instead, focus on building honest and authentic conversations' (Boyer 2011). Frequent participation in community activities (e.g., posting and reviewing messages) enables consumers to be more knowledgeable about brands (Flavián, Guinalíu, & Gurrea, 2006). For example, patients may discuss their hospital experiences and suggest alternative ways to improve the patient experience. Such discussions increase consumers' confidence that they will be satisfied with a particular brand and thus build trust in that brand. Facebook is the most commonly used social media by hospitals in the US and half of the hospitals that used Facebook focused on information dissemination strategy, giving information about new staff members, hospital awards, patient education as well as staff recognition (Richter, Muhlestein, & Wilks, 2013).

2.3.2 Social Media Technology Use and Attributes

Marketers are using Facebook, Twitter, YouTube and other platforms for their business because social media allows firms to engage in end-consumer contact at lower cost and higher efficiency than with more traditional tools (Kaplan & Haenlein, 2010). According to (Thackeray *et al*., 2012), social media applications are broadly categorised as forums and message boards, review and opinion sites, social networks, blogging and microblogging, bookmarking, and media sharing. Social media can be classified into Collaborative projects; Blogs; Virtual worlds and Social Networking Sites. Collaborative projects enable the joint and simultaneous creation of content by many end-users and are, in this sense, probably the most common manifestation of User Generated Content (UGC). Within collaborative projects, one differentiates between wikis which are websites which allow users to add, remove, and change text-based content and social bookmarking applications, which enable the group-based collection and rating of internet links or media content. (Kaplan & Haenlein, 2010). Blogs are the social media equivalent of personal web pages and can come in a multitude of different variations, including diaries describing the author's life to summaries of all relevant information on one specific content area. Kaplan and Haenlein (2010) explain that blogs are usually managed by one person only but provide the possibility of interaction with others through the addition of comments.

As shown in Figure 2.2 further explain that Virtual worlds are platforms that replicate a three-dimensional environment in which users can appear in the form of personalised avatars and interact with each other as they would in real life. These applications have gained popularity in recent years, as standard game consoles such as Microsoft's X-Box and Sony's Play- Station. Today these games allow simultaneous play among a multitude of users around the globe. Virtual social worlds, allows inhabitants to choose their behaviour more freely and essentially live a virtual life similar to their real life. As in virtual game worlds, virtual social world users appear in the form of avatars and interact in a three-dimensional virtual environment; however, in this realm, no rules are restricting the range of possible interactions, except for basic physical laws such as gravity. This allows for an

unlimited range of self-presentation strategies, and it has been shown that with increasing usage intensity and consumption experience, users of virtual social worlds or ''residents,'' as they prefer to be called to show behavior that more and more closely mirrors the one observed in real life settings (Haenlein & Kaplan, 2009). Advertising in virtual worlds is common such as on play station games where advertisers can brand cars, restaurants, shops or phones.

	Social Presence / Media Richness		
Self-presentation/ Self- disclosure		Low	Medium	High
	High	Blogs	Social Networking Sites	Virtual Social Worlds
	Low	Collaborative projects	Content Communities	Virtual Game Worlds

Source: Haenlein and Kaplan (2009)

Figure 2.2: Classification of Social Media Model

In spite of apparent classification of social media tools, marketers and practitioners had scepticism on the possible opportunities and challenges presented by the new media (Kaplan & Haenlein, 2010). Social media help build brand awareness, visibility, reputation, knowledge sharing, customer acquisition and retention, low cost promotions, new product development, customer relationship marketing. One of the main obstacles they noted that social media further presents challenges like negative comments and their effect on the image, control of brand and content in the hands of the customers, legal and security issues.

Commonly used social media marketing channels in healthcare include Facebook, Twitter, LinkedIn and Instagram. Focusing on a single resource in a social media marketing strategy will not produce the best results (Weinberg, 2009). Griffis *et al*. (2014), conducted a crossectional review of hospital adoption of social media and the hospital related activities on four social media platforms including Facebook, Twitter, Yelp and Foursquare. Out of a total 3,371 US hospitals that were identified, the adoption of social media websites varied across platforms, with 3,351 (99.4 percent) having a Facebook account; 3,351 (99.4) having a Foursquare account; 3,342 (99.1 percent) having a Yelp account and 1,713 (50.82 percent) having a Twitter account. Overall, 1,699 (50.40 percent) hospitals had accounts on all four platforms. Few hospitals (42/3371, 1.25 percent) used just one or two types of social media platform. Large, urban, private nonprofit and teaching hospitals were more likely to have higher utilisation of these accounts, in the US.

In the United Kingdom alone 40 percent of hospitals surveyed had one or more social media accounts (Huang & Dunbar, 2013). Their study reported that social media awareness in Western European hospitals is growing, as well as its use. They found that there were hospitals in all these countries that had adopted social media. This confirmed the increased awareness and potential of social media in hospitals. They also recommended future research into how social media can lead to improved healthcare.

There is little research that has been done on the adoption of social media by hospitals in Africa, Kituyi *et al*. (2013). Most hospitals in Africa are not using social media to reach out and provide services to their clients. They noted that consequently, not many health institutions in Sub-Saharan Africa have embraced social media. Few Hospitals that have been adopted social media marketing come from South Africa, Ghana and Somalia.

2.3.3 User Attributes

The Internet has profoundly changed the human experience. People use the Web to find information, buy and sell products, watch television shows, seek mates, search for entertainment, and participate in political spheres (Correa, Hinsley, & De Zuniga,

2010). Personal characteristics such as educational level, age, gender, educational experience, experience with the computers and attitude can influence the adoption of technology (Schiller, 2003). Age of a marketing executive can be considered as the most important personal characteristic that affects computer adoption and Internet usage behaviours such as messaging, searching, downloading information, and purchasing (Serenko, Turel, & Yol, 2006). Morris and Venkatesh (2000) linked technology adoption with age differences. Younger individuals are more open to using a new technology than older ones since older people tend to be more concerned about the difficulties they may have in learning new systems. On the other hand, Teo (2001); Nunnally and Bernstein (1994) found no significant differences in Internet usage for online shopping across age groups.

Awareness and enthusiasm about emerging technologies, comfort with their use on part of managers, and the existence of related experimentation and innovation positively influence the adoption (Tarafdar & Vaidya, 2006). Marketers who are able to engage their consumers actively have higher followers and wider reach. Active brand engagement is viewed as potentially the strongest substantiation of brand resonance and the final stage of brand development in the consumer-based brand equity pyramid proposed by (Keller, 2009). Interactive marketing communications such as social media have a distinct advantage in their ability to encourage learning, teaching, expression of commitment, and observation of brand loyalty amongst consumers (Keller, 2009). Motivations for using the internet, including information seeking, convenience, entertainment and social interaction has provided the basis for identifying motives for engagement with social media (Ko, Cho, & Roberts, 2005). These motivations include motivation for participation with social media as well as motivation for participation with brands.

Those individuals in charge of social media strategy within a company must take into account the various types and uses of social media when deciding where to direct their marketing efforts. Marketers recognise different purposes or ways in which consumers respond to or use these media (Weinberg & Pehlivan, 2011). While engagement with consumers in social media is not without risks perhaps the greatest risk in this new era of communication is not being engaged at all (Cawley,

2011). The level of engagement describes the user activity unique to each social media platform. These include audience engagement such as comments, number of Facebook likes, Twitter followers, Foursquare check-ins, and Yelp reviews; information dissemination such as posts, videos, adverts and awards; Public Relations tools such that increase visibility, promote services and enhance corporate image (Huang & Dunbar, 2013).

On the basis of a survey of 200 business decision makers in companies across the world, F. C. Group (2008) define customer engagement as creating deep connections with customers that drive purchase decisions, interaction, and participation over time. Their survey indicates that companies are investing more in online programs and believe the internet is essential for building customer engagement. Measures of customer engagement used by these companies include sales volume, customer satisfaction, and frequency of visits to a website. Forrester further recommends identifying the ten most important things that engaged customers and prospects do and creating a dashboard to track the adoption, frequency, and intimacy metrics associated with these activities. When measuring the effects of social media in coordinating all aspects of a firm's marketing activity, it is crucial that a metric measurement system is built into the program from the very beginning. Metrics fall into two primary categories namely on-site and off-site. Onsite metrics measure activity that takes place directly on the site, whereas off-site metrics measure activity that happens on other sites where customers interact (Zarrella & Zarrella, 2010). Benchmarks should be set so that they are comparable to traditional marketing metrics, such as sales, traffic, brand satisfaction, and customer loyalty (Hennig-Thurau *et al*., 2010).

2.3.4 Hospital Business Environment

The ability to successfully reach strategic aims is determined by internal organisational resources and capacities. The organisation's governance structures is essential for ensuring that resources are effectively employed and strategies properly implemented. Under a competitive market, hospitals may be pressured to secure their market share of patients. Some of the factors that have limited the pace of

adoption of social media are related to the business environment of the hospital. These include lack of technological support, concern for legal ramifications regarding protection of private information, concern for how to manage the potential for complaint proliferation, and lack of measurement to assess the success of the channel (Crocco, Villasis-Keever, & Jadad, 2002). A possible barrier to social media adoption lays in the inherent difficulty in determining - investment (ROI) garnered through organisational outlay on social media channels. In one study examining social media ROI, it was found that 32 percent of U.S. companies not using social media did not experience newly acquired business profit, while 43 percent using social media experienced newly acquired business profit (Business, 2011). This implies that some value exists in the use of social media. Part of the ROI measurement challenge may be attributed to the sheer volume of social media data metrics (such as clicks, shares, likes, and posts) and trying to isolate the impact of social media channel contribution to an organization's investment (Regus Business, 2011).

Factors in the business environment that can influence adoption of technology include the organisation's leadership, lack of technology, competition behaviour, government influence and culture (Dahnil, Marzuki, Langgat, & Fabeil, 2014). Top management influence in matters of resource availability ensures that adequate money, time and human talent are available for the initiation and completion of new e-commerce projects (Tarafdar & Vaidya, 2006). These organisational characteristics determine the extent of technology adoption. Small businesses that adopt Information Technology are larger in size. However, competitiveness of environment and information intensity are not significant influencers between adopters and non-adopters of technology. Electronic based marketing adoption process is directly affected by top management where all decisions from daily functions to future investments are made by them (Nguyen *et al.*, 2009).

Management role leads to a higher level of commitment and participation among the member and workers in their firm, and consequently, a stronger involvement in technology adoption (Bruque & Moyano, 2007). Leaders who are well informed about emerging technologies can induce other managers to consider their use.

Leaders who are positively disposed towards e-commerce deployment encourage and support the innovations (Tarafdar & Vaidya, 2006). Small businesses that adopt Information Technology more likely to have Chief executive Officers who possess a positive attitude, innovative and knowledgeable towards the adoption of technology. Empirical evidence suggests that competitive pressure is a powerful driver of Information Communication and Technology adoption and therefore is suggested that the adoption of social media may be influenced by the proportion of surrounding social media marketing adopters (Kazley & Ozcan, 2007).

Kituyi *et al*. (2013) attributed the failure by healthcare institutions in Sub-Saharan Africa to adopt social media to poor implementation policies, standards and frameworks among other factors. One of the primary concerns relates to patient privacy and confidentiality (Hamm *et al*., 2013). Several risks are associated with the use of social media. Social media has such a broad and instantaneous reach that an error in judgment involving an online post can have profound implications in terms of trust and professionalism (Greysen, Kind, & Chretien, 2010). The availability of misinformation is also a risk as health care providers cannot control what is posted or discussed online. In addition, the inappropriate substitution of online information or advice for in-person visits to a health care provider, with potentially harmful results, has been cited as a limitation of the use of both social media and the Internet in health care in general (Crocco *et al*., 2002).

Many hospitals and healthcare organisations operate under finite capital resources and may not have the desire or finances to invest in social media initiatives (Hawn, 2009). A commonly cited problem related to investing money is the lack of metrics to evaluate the benefits of social media investments. This creates a sense of uncertainty about whether the benefits will outweigh the cost. A lack of metrics is not driven by a lack of data, but instead, an inability to agree on what is important to measure. Organisations are typically unable to determine who their most valuable customers are, where to find these consumers talking about the organisation, and how to measure the impact of online content (Regus Business, 2011). Regardless of these challenges, many organisations already have a social media presence as patients/consumers are talking about them on social networking sites whether they

have an official social media presence or not. Time used may also be a barrier to the adoption of social media for marketing communications. In social media, Examiner's 2011 social media Marketing Industry Report, over 3,300 marketers were surveyed about their use of social media, and one major finding of the study is that social media marketing takes a lot of time. Approximately 58 percent of marketers are using social media for 6 hours or more each week while 34 percent invest 11 or more hours weekly.

2.3.5 Hospital Characteristics

Liargovas and Skandalis (2010) state that older firms may also benefit from reputation effects, which allow them to earn a higher margin on sales but these firms may also be out of touch with the changing market conditions as well. Lee (2009) found that firm age captures the differences in competitiveness due to history. He also found a positive relationship between the size and profitability of the firms operating in the USA between the years of 1987-2006. The more the competitive environment, the more likely a firm would adopt IT innovation such as the social media. Huergo and Jaumandreu (2004) found that 'oldest firms tend to show lower innovative adoption probabilities'.

Organisational size is one of the most studied ICT adoption factors since size is associated with more financial capability but also adequate human resources (Kazley & Ozcan 2007). Larger hospitals achieve economies of scale easily and mainly information and resources needed across the organisation. Several studies show a positive relationship between ICT adoption and organisation size (Pan & Jang, 2008). According to Hartono (2012), larger businesses have more potential to use IT than small businesses, simply because of their larger scale of operations. Even amongst small businesses, the larger the business, the abler it is to hire people with specialised skills, such as knowledge of IT. This includes hospitals with marketing communications personnel dedicated to social media presence and engagement, availability of different policies regarding social media use by the hospital, or more resources dedicated to outreach and communication via social media (Griffis *et al*., 2014).

Teaching hospitals provide a large amount of charity care and medical research, as well as provide the training and educations of healthcare workforce. Academic health centres can easily adapt to the use of technology because they "have the expertise". Teaching hospitals often referred to as Centers of excellence in training, personnel, technology and innovation are best placed to adapt and utilise social media (Batta & Iwokwagh, 2015).

Griffis *et al.* (2014) highlight that large, urban, private nonprofit and teaching hospitals in the United States of America tend to have more likes, followers, check-ins, and reviews. The more activity, the more followers are generated leading to greater social media presence. Most hospital postings provided generic observations or employee-related issues and achievements, which defeat the purpose of the platforms as marketing tools researchers found. Whether a hospital was teaching or government-owned did not affect the odds of social media use but found that public hospitals in the United States had a higher odds of using blogs than non-governmental hospitals. Not for profit hospitals tend to use social media more than for-profit hospital perhaps influenced by the need to solicit donation or funds (Richter *et al.*, 2013). Larger, urban, private not for profit and teaching hospitals have generally a larger marketing communications personnel dedicated to media presence and probably resources as well dedicated to outreach (Griffis *et al.*, 2014)

2.3.6 Adoption of Social Media Marketing

Social media has been applauded for revolutionising life for the consumer (Kaplan & Haenlein, 2009; Mangold & Faulds, 2009). Social media has had dramatic influences on every stage of the consumer decision-making process including information acquisition, brand awareness, purchase behaviour, and post-purchase communication and evaluation, as well as influencing general opinions and attitude formation (Mangold & Faulds, 2009). Weinberg (2009) suggests that companies can use social media to drive traffic to their corporate sites, improve search engine rankings, and establish thought leadership. Businesses should explore a number of ways to use social media, including to obtain insight into targeted niche markets, find

new distribution channels, generate leads, find joint venture partners, and provide better customer service (Carleton, 2009).

Mangold and Faulds (2009) argued that social media empower customers to make an informed decision before and during the purchasing process. The conversations exchanged on social media channels provide market intelligence for a company. According to Mangold and Faulds (2009), Social media increases brand awareness; influences purchasing behaviour; assists with pre and post-sales communication and evaluation, and increases audience. Increased engagement with customers helps an organisation in its new product development programmes, customer relationship marketing and maintenance of lifetime value. Consumers are already engaging in conversations online about products, services, and brands regardless of a company's participation in social media. Companies can benefit from participating in these conversations (Zarrella, 2010). Online communities have gained attention from marketers and researchers due to their economic power and their ability to affect power relationships between marketers and consumers. Because an online community is an aggregate of consumers who show high interest in specific products or services, consumers who are members of the community have greater intention to buy the products sold by the company for which the community exists. Community members, therefore, can contribute to increased profits for the company. These communities can also shift the balance of power from company to consumers because consumers are able to collect far more information than ever before and their ideas influence the development and promotion of products (Kang, Tang, & Fiore, 2014)

There are benefits of company-sponsored online communities. Consumers can compare products or services, share experiences with other users of the products, and suggest alternative product choices. Moreover, consumers who participate in company-sponsored online communities are often able to obtain exclusive information and special deals offered by the company. In such communities, companies can enhance their relationships with consumers by providing special benefits that consumers consider important (Antikainen, 2007). Through online member activities, positive attitudes about other members of the community may be

generated, and a sense of belonging can develop. This further encourages consumers to share their experiences about the company's products, especially when they have compliments or complaints (Madupu, 2006). Because of the benefits of participating in online communities, a growing number of consumers join company-sponsored online communities before making purchasing decisions (Muniz & O'guinn, 2001). Another useful application of social media marketing is to increase brand awareness. The importance of brand awareness lies not necessarily in immediate sales but in consumers recalling a company's product or service in the future and returning to make a purchase (Weinberg, 2009).

2.4 Empirical Review

There has been various literature has been published on adoption of social media by hospitals and organisations globally.

2.4.1 Marketing Purpose and Adoption of Social Media Marketing

According to research by Backman *et al*. (2011) healthcare providers are primarily using social media to disseminate information to consumers as a means of marketing, advertising, and fundraising; through social media, healthcare companies promote their products and services, communicate their mission and vision, describe the services they offer, provide health education, and encourage philanthropy. To identify sales derived from the technology is difficult when it comes to return of investment and cost involved (Gilmore, Gallagher, & Henry, 2007).

Many researchers include cost as important variables to determine the factor influencing adoption (El-Gohary, 2012), Gilmore *et al*. (2007). Previous studies show users have become more receptive towards the internet. However there are some expectations and concerns about the credibility of technology when it comes to money invested (Curtis *et al*., 2010). Hospitals are using social media mainly as a marketing tool or as a way to friend, listen to, and interact with their visitors. Through a content analysis of 23,300 posts/tweets on 172 US hospitals' Facebook and Twitter pages in a systematic probability sample, this study found that the flow of information on hospital Facebook pages, and especially Twitter pages, is

dominantly one-way. Yet, hospitals, especially larger hospitals, have made great effort to interact with their Facebook visitors while marketing themselves, though such interaction is minimal. The study also found that it is very important for hospitals to encourage a large visitor base on Facebook because the more visitors a hospital attracts to its Facebook page, the more 'Likes' and posts the hospital will attract, the more people will comment on the hospital posts, and the more the hospital will get recommended. The comparison between the traffic on Facebook and Twitter demonstrates that using social media as a two-way communication channel seems to be much more effective for hospitals to connect to their visitors than using them as a one-way marketing tool.

Tsimonis and Dimitriadis (2014) examined why companies create brand pages in social media, how they use them, what policies and strategies they follow, and what outcomes do they expect; and second – from firms' point of view – how users are benefited from such pages. They found that the main purpose of firm's use of social media marketing was for making prize competitions, announcing new products/services, interacting with fans, providing advice and useful information, and handling customer service issues. The basic motivations are the increasing popularity of social media, competitors' presence, headquarters' strategy, and cost reduction pressure. Interact with customers, create/enhance relationships with customers, brand awareness, customer engagement, promote products/increase of sales, and the more targeted acquisition of new customers, were referred to as the primary expected outcomes for companies.

2.4.2 Social Media Technology Use and Attributes and Adoption of Social Media

Griffis *et al*. (2014) Conducted a cross-sectional review of hospital adoption of social media and the hospital related activities on four social Media platforms including Facebook, Twitter, Yelp and Foursquare in the US. The study revealed that out of a total 3,371 US hospitals that were identified, the adoption of social media varied across platforms, with 99.41 percent having a Facebook account; 99.41 percent having a Foursquare account; 3,342 99.14 percent having a Yelp account and 50.82 percent having a Twitter account. Overall, 50.40 percent of hospitals had

accounts on all four platforms. This study concluded that even though many hospitals have adopted the use of social media in the USA, there is a lot of potential in the utilisation of the platforms to become dominant communication channels for healthcare.

Social media platform attributes may include the ability for content sharing sites, blogs, social networking, and wikis to create, modify, share, and discuss Internet content. (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011), in their research found that many executives ignore social media because they don't understand what it is, the various forms it can take, and how to engage with it. They presented a framework that describes social media by using seven functional building blocks: identity, conversations, sharing, presence, relationships, reputation, and groups. As different social media activities are defined by the extent to which they focus on some or all of these blocks, they explained the implications that each block can have for how firms should engage with social media and recommended that firms should develop strategies for monitoring, understanding, and responding to different social media activities.

They concluded their research noting that social media introduce substantial and pervasive changes to communication between organizations, communities, and individuals that an enormous challenge for firms, as many established management methods are ill-suited to deal with customers who no longer want to be talked at; instead, customers want firms to listen, appropriately engage, and respond. They recommended that firms interested in getting serious about social media should analyse the seven building blocks.

2.4.3 Hospital Business Environment and Adoption of Social Media Marketing

Tarafdar and Vaidya (2006), research on the adoption of E-Commerce technologies in India found that top management influence in matters of resource availability ensures that adequate money, time and human talent are available for the initiation and completion of new e-commerce projects. These characteristics determine the extent of adoption. This is supported by Bruque and Moyano (2007) who found that management will facilitates and rationalises the interchange of information in an

organization. For instance, awareness and enthusiasm about emerging technologies, comfort with their use on part of managers, and the existence of related experimentation and innovation positively influence the adoption.

Nah and Saxton (2012) Examined what drives organisational adoption and use of social media through a model built around four key factors including strategy, capacity, governance and environment. They found that organisational strategy, capacities, governance features and external pressures all play a part in these social media adoption and utilisation outcomes. They found that organisational use of social media appears to depend on preexisting resources and capacities, especially those related to web capabilities (Hackler & Saxton, 2007). How long an organisation had maintained a website was shown to be largely insignificant. However, preexisting website reaches proved to be a powerful predictor of social media utilisation. Ostensibly, the capacities an organisation builds up in order to develop a more influential website pays dividends when it comes to the ability to adapt and effectively utilise new technologies such as Facebook and Twitter. Size in assets did not represent a barrier to the employment of social media, which was similar to what Nah (2010) and Yeon, Choi, and Kiousis (2007) found in their studies of nonprofit website use. Yet this is distinct from what prior research has found regarding other forms of technology, such as access to computers and information technology (Hackler & Saxton, 2007). Their study verified that strategy, capacity, governance and environment play a fundamental role in mobilising newly emerging social media as an alternative and additional communication tools that help nonprofit organisations to maintain and maximise resources strategically.

2.4.4 User Attributes and Adoption of Social Media Marketing

Bruque and Moyano (2007) Described end users as having a major influence in use of technology. Insufficient and lack of technical knowledge, combined with little appreciation of the benefits of e-commerce, remains a major difficulty for SMEs (Stockdale and Standing, 2006). Others such limitations on specific technical requirements does exist but can be overcome by hiring suitable technical person (Gilmore *et al*., 2007). El-Gohary (2012) found out the usefulness and ease of use

has a reasonable positive direct impact on e-Marketing adoption by Egyptian small tourism organizations. The result confirmed the study by Grandon and Pearson (2004) where perceived usefulness was found to be statistically significant as determinants of e-commerce adoption. Pookulangara and Koesler (2011) also tested perceived usefulness in research on social media usage and its impact to online purchase intention. There are also studies on perceived compatibility and relative advantage to adoption process (Al-Qirim (2007).

Research by Correa *et al*. (2010) examined whether gender and age played a role in the engagement of social media. Their results revealed that while extraversion and openness to experiences were positively related to social media use, emotional stability was a negative predictor, controlling for socio-demographics and life satisfaction. These findings differed by gender and age. While extroverted men and women were both likely to be more frequent users of social media tools, only the men with greater degrees of emotional instability were more regular users. The relationship between extraversion and social media use was particularly important among the young adult cohort. Conversely, being open to new experiences emerged as an important personality predictor of social media use for the more mature persons. Young people have been on the front line in creating and sharing content in new media (Center, 2009).

According to a study by Serenko (2008) age of a marketing executive can be considered as the most important personal characteristic that affects computer adoption and Internet usage behaviours. These include messaging, searching, downloading information, and purchasing also linked technology adoption with age differences. Younger individuals are more open to using a new technology than older ones. Older people tend to be more concerned about the difficulties they may have in learning new systems but found no significant differences in Internet usage for online shopping across age groups.

As social media continues to evolve, the pattern of social media use is also changing. According to Pew Research Center (2010), the popularity of blogs among adults over 30 has increased since 2006 while blogging of teens and young adults has dropped. Instead of blogging, the millennial generation and adults under 30 are becoming more active in their use of social networking sites.

2.4.5 Hospital Characteristics and Adoption of Social Media Marketing

Research by Batta and Iwokwagh (2015) found that Teaching hospitals often referred to as centres of excellence in training, personnel, technology and innovation are best placed to adopt and utilise social Media. However, Richter *et al*. (2013) found that whether a hospital was teaching or government owned did not affect the odds of social media use. Public hospitals in the United States, on the other hand, had a higher odds of using blogs than non-governmental hospitals. Not for profit hospitals tend to use social media more than for-profit hospital perhaps influenced by the need to solicit donation or funds to finance their activities.

Griffis *et al*. (2014) highlights that large, urban, private nonprofit, and teaching hospitals in the United States of America tend to have more likes, followers, check-ins, and reviews. They propose that more activity generates more followers leading to greater social media presence. Most hospital postings provided generic observations or employee-related issues and achievements, which defeat the purpose of the platforms, researchers found.   Larger, urban, private not for profit and teaching hospitals have generally a larger marketing communications personnel dedicated to media presence and probably resources as well dedicated to outreach (Griffis *et al*., 2014).

Harris, Mueller and Snider (2013), examined whether characteristics of local health departments and their geographic region were associated with using Facebook and Twitter. They searched for Facebook and Twitter accounts for 2565 of local health departments nationwide and collected adoption date and number of connections for each account. A number of tweets sent indicated their use of social media. Local health departments were classified as innovators, early adopters, or non-adopters. Characteristics of local health departments were compared across adoption

categories, examining geographic characteristics, connections, and use. They found that Twenty-four percent of local health departments had Facebook, 8 percent had Twitter, and 7 percent had both. Those serving larger populations were more likely to be innovators, tweeted more often, and had more social media connections. The frequency of tweeting was not associated with adoption category. There were differences in adoption across geographic regions, with western states more likely to be innovators. Innovation was also higher in states where the state health department adopted social media. They concluded that social media has the potential to aid local health departments in disseminating information across the public health system.

2.5 Critique of the Existing Literature Relevant to the Study

Among the healthcare marketing professionals, there are roughly two camps of opinions regarding how healthcare systems should take advantage of social media (Sweetland & Thomson, 2009). Several authors believed that healthcare providers are primarily using social media to disseminate information to consumers as a means of marketing, advertising, and fundraising; through social media, healthcare companies promote their products and services, communicate their mission and vision, describe the services they offer, provide health education, and encourage philanthropy (Backman *et al*., 2011).

Recent studies show that there is an increasing adoption of the use social media marketing communications utilisation by hospitals (Griffis *et al*., 2014). Their review of hospital adoption of social media and the hospital related activities on 4 Social media platforms including Facebook, Twitter, Yelp and Foursquare in the USA, revealed that overall, 50.40 percent of hospitals had accounts on all four platforms. This study concluded that even though many hospitals have adopted the use of social media in the USA, there is a lot of potential in the utilisation of the platforms to become dominant communication channels for healthcare. Little attention was paid to the role of the social media marketers attributes in adoption of social media by hospitals.

Van de Belt, Berben, Samsom, Engelen, and Schoonhoven (2012) in their study on the use of social media by hospitals in Western Europe found that there was little interaction with online visitors (patients) and that most hospitals were merely "seeding information". Usage of LinkedIn showed the awareness of the potential of social media for recruitment of personnel. The researcher further observed that out of the 873 hospitals investigated only five percent, and ten percent had a link to their YouTube channel and twitter handle respectively on their website indicating that hospitals were not using the full potential of all types of social media.

The findings were similar to a study conducted in the same country by Huang and Dunbar (2013) who investigated if social media was being used by hospitals as a marketing tool or just as interaction with visitors. There are an opportunity and potential for hospitals to engage patients via social media (Facebook). The study also revealed that the higher the number of posts, likes, comments the more attracted visitors were to their social media pages and the more recommendations hospitals received (Huang & Dunbar, 2013). In the United Kingdom alone 40 percent of the 152 hospitals had one or more social media accounts. This study confirms the increased awareness and potential of social media marketing in hospitals recommending future research into how social media can lead to improved healthcare.

Kituyi *et al*. (2013) in their research noted that most hospitals in Africa are not using social media to reach out and provide services to their clients. A few that have been engaged actually come from South Africa. Only two come from countries in the Sub-Saharan Africa region (Ghana & Somalia). Consequently, not many health institutions in Sub-Saharan Africa have embraced social media. They further attribute the failure by healthcare institutions in Sub-Saharan Africa to adopt social media may be due to poor implementation policies, standards and frameworks among other factors. Few studies have investigated the determinants of adoption f social media by hospitals the African continent.

Kituyi *et al*. (2013) further attribute the failure by healthcare institutions in Sub-Saharan Africa to adopt social media may be due to inadequate implementation policies, standards and frameworks among other factors. But their study did not however investigate use of modern social media platforms such as LinkedIn and Instagram and thus further research is required.

Richter *et al*. (2013) conducted research on how hospitals use social media and opportunities for use. They investigated a sample size of 474 hospitals from 50 states in the United States. They found that Facebook was the most commonly used social media half of the hospitals that used Facebook focused on information dissemination strategy, giving information about new staff members, hospital awards, patient education as well as staff recognition. Most hospitals focused less on patient engagement with less than 30 percent of hospitals responding to patient's comments. Few hospitals queried the users on how to improve their hospital or Facebook experiences. This study used data collected in Kenya. Other studies used data that was collected in other countries particularly Western Europe and North America. The studies did not have particular focus on Kenya.

Sigala Sigala *et al*. (2012) questioned if social theories really matter in social media noting that Facebook was created because a Harvard undergraduate student wanted to connect with his fellow students Mezrich (2010); Twitter came from a brainstorming session with Twitter founder Evan Williams (Johnson, 2009); neither was created due to a thorough understanding of social network theories. Yet theoretical frameworks could help discover new opportunities in the field. For example, the core technology of Google was invented by adopting the old theories of biliometrics in order to solve the problems of finding quality web pages online (Vise & Malseed, 2006). Sigala *et al*. (2012) further say that fast development of technologies could easily overwhelm users, both as business managers and consumers and understanding implications of theories through a global and abstract view could help them deal with the inundation of information technologies. Little attention was paid to theories that support social media in marketing field.

Richter *et al*. (2013) found a major shortcoming that the majority of hospitals do not advertise their social media platforms on their website. This is a clear invitation for patients to interact with them. They found that a failure to attract and retain patients can be attributed to lack of audience engagement on Facebook. The study did not focus on the marketing performance indicators of adoption of social media such as such as how social media affects patient's volume, customer satisfaction and revenues.

Even though Huang and Dunbar (2013) investigated if social media was being used by hospitals as a marketing tool or just as interaction with visitors, their research lacked a framework on how to convert social media engagement to measurable marketing performance indicators but rather concluded that more solid research with regards to social media marketing in healthcare is needed. The study could also not establish the reason why some platforms had more popularity than others. In the research by Griffis *et al*. (2014) where conducted a cross-sectional review of hospital adoption of Social media and the hospital related activities on 4 social media platforms including Facebook, Twitter, Yelp and Foursquare in the US, the authors did not address the purpose for hospitals adoption of social media and the barriers to entry of social media marketing.

2.6 Research Gaps

The reviewed literature illustrates the adoption and utilisation of social media in various parts of the world. Griffins *et al*. (2013) investigated if hospitals in the United States were actually utilising social media. They also investigated if was a difference in the way different types of hospitals were utilising social media. Van de Belt *et al*. (2012) investigated the trends of social media utilisation by hospitals in Western Europe. Kituyi *et al*. (2013) in this study investigated if hospitals in sub-Saharan Africa were utilising social media and found that there was an opportunity for hospitals to adopt social media.

None of the research reviewed investigated the reasons why hospitals were adopting or failing to adopt social media. The literature also reviewed traditional social media such as Facebook and did not investigate modern social media platforms such as

Instagram, which has great potential for hospital marketers. Yet, modern social media platforms can significantly contribute to integrated marketing communication by hospitals in Kenya. This study sought to investigate the determinants of adoption of social media marketing by hospitals in Kenya contributing to the current dearth of knowledge on the latency of social media as a marketing tool in healthcare provision, by focusing on elements that determine social media adoption by hospitals. This also establishes the reasons why hospitals are not utilising social media despite the fact that it's a modern communication tool that the patients are already using.

2.7 Summary

The chapter reviewed literature examining the theories that are relevant to social media marketing strategies. The theories were evaluated and critiqued to show relevance to the study variables. Specifically the reviewed theories included communication theory of social exchange which is based on the exchange of rewards and costs to quantify the values of outcomes from different situations for an individual; Social Network Analysis (SNA) theory that has been widely used to study the structure of relationships between individuals, groups, or organisations and how they interact with each other; the unified theory of acceptance and use of technology that aims to explain user intentions to use an information system and subsequent usage behaviour. The chapter also discussed the independent variables specifically, marketing purpose, user attributes, social media technology use and attributes and the hospitals business environment. The moderating variable was hospital characteristics. Adoption of social media marketing was the dependent variable. The chapter also reviewed and critiqued previous relevant research that has been done. It is from the critique that the research gap was identified.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explores the general research methodology used in this study. It includes the research design, population and sampling design, the research procedures, data collection and data analysis methods.

3.2 Research Philosophy

This study adopted the worldview research philosophy of positivism or scientific method. The research was conducted empirically on the variables and explained logically to come up with a conclusion. The positivist stream of research has institutionalised certain criteria of validity, rigour, and replicability in the conduct of scientific research. As a philosophy positivism adheres to the view that only "factual" knowledge gained through observation including measurement, is trustworthy. In positivism studies the role of the researcher is limited to data collection and interpretation, through the objective approach and the research findings are usually observable and quantifiable (Crowther & Lancaster, 2012).

3.2.1 Research Design

The study adopted a descriptive research design. According to Shield and Raja (2013) descriptive study is used to describe characteristics of a population or phenomenon, addressing what the characteristics are of the population or situation being studied. The goal of the descriptive study is to offer a profile or to describe relevant aspects of the phenomena of interest to the researcher from an individual, organizational, industry-oriented, or other perspective. The descriptive survey research design was therefore preferred to study the determinants of adoption of social media marketing by hospitals in Nairobi City County.

3.4 Target Population

A population is an entire group about which some information is required to be ascertained. The target population included hospitals in Nairobi City County. The list was sourced from the eHealth Kenya healthcare facilities website as at 31st Jan 2016 namely www.kmhfl.health.go.ke. These hospitals included private, specialised referral and teaching hospitals. Facilities were listed as hospitals in Nairobi City County on the website portal as shown in Appendix III. Nairobi City County was chosen because over 60 percent (of the current 26.3 million) internet users in Kenya are based in Nairobi and its environs (CCK report, 2015); Nairobi City County is vast and has many different types or characteristics of hospitals including, specialised hospitals, teaching, private for-profit, private not for profit, local and foreign owned, faith-based, thus leading in healthcare provision/hospitals in the country; the doctor to patient ratio in Nairobi is higher than other regions thus ease of access to health care; Nairobi City County has physicians in all specialties of care unlike other regions where specialists are rare (Odhiambo (2004); The largest number of smartphones, laptops and computers are in Nairobi City County thus ease of access of social media by the patients (W. B. Group, 2013); (Muga, Kizito, Mbayah, & Gakuruh, 2005). Nairobi City County is thus a fair representation of the global nature of social media.

3.5 Sample and Sampling Technique

An optimum sample is one that fulfils the requirements of efficiency, representativeness, reliability and flexibility (Allen *et al*., 2002). The sampling frame and sampling technique that was used in the study is described below.

3.5.1 Sampling Frame

The sampling frame was purposively selected from a list of private, specialised referral and teaching hospitals in Nairobi City County that were listed on the eHealth Kenya healthcare facilities website as at 31st January 2016. Only government institutions of level three and above were considered for this study. Facilities that are run by clinical officers or nurses were also not included in the list. Government facilities that were specialised, referral and teaching hospitals were included in the list as they have

autonomy on the management of their budgets. This information was assembled to create the sampling frame.

3.5.2 Sampling Technique

Due to the small population size, a combination of both probability and non-probability sampling was used. This purposive sampling technique consisted of multiple searches of databases and social media sites using the name listed on the eHealth Kenya website. Specifically, a search was conducted on Google using the hospital name as given on eHealth Kenya facilities website, to identify if the hospital has an official website, email, social media pages or if they are "online". The researcher then contacted the hospitals to establish if the hospitals had a marketing department. Marketing officers were identified as key informants to help the researcher gain information about the research setting. The researcher identified a total of sixty six hospital marketing officers or individuals who assume the marketing role in the hospital in Nairobi City County. These were identified as potential respondents to the questionnaire.

3.6 Data Collection Instruments

This study used primary and secondary data. Primary data was collected through a pre-designed, and pre-tested semi-structured questionnaire that was given to identified respondents who are officers in marketing department in the hospital or hospital officers that assume the role of marketing, drawn from the list of hospitals. The questions in the questionnaire were a mixture of open-ended, forced response types, and 5 Likert-type scales. Adams and Cox (2008), noted that whereas the open-ended types of questions give respondents freedom of response, the forced types facilitate consistency of certain data across respondents for ease of analysis. The questionnaire included open-ended comments in each section to allow respondents include information that was not included in the variable indicators. Secondary data was used to acquire information on hospitals social media pages. The secondary data was collected through online reviews of the hospitals social media platforms.

3.7 Data Collection Procedures

A letter of approval was obtained from the University's School of Business. An approval letter from the National Commission for Science, Technology and Innovation, a state corporation mandated to regulate and for the grant research license. The researcher contacted the individual hospital requesting for permission to collect data. The researcher explained the intention and purpose of the study. To avoid observation bias that may have been driven by a researcher's expectations, two research assistants, other than the researcher were engaged and received training on the data collection and coding procedures.

The respondents were emailed the questionnaire link to the online survey tool and a request to complete and send it back to the researcher. The researcher emailed the respondents through their email address where available or through the hospitals contact email address. The online survey method was preferred because it gave the researcher information as to whether the respondents were: 'online'; able to use a computer and have access to internet based tools (Macdonald & Headlam, 2008). The advantages of online or email survey method included; ease of data collection; low cost; interactivity; high accessibility to the respondent without time and space constraints, and convenience for data entry and checking (Stopher, Collins, & Bullock, 2004). On few occasions, respondents requested the researcher or assistants to send a printed copy as they were unable to access the online survey tool.

3.8 Pilot Testing

According to Connelly (2008), literature suggests that a pilot study sample should be at least ten percent of the sample projected for the larger parent study. The questionnaire was given to marketing officer's persons in seven hospitals in Mombasa, and Kisumu, Kiambu, Nakuru and Eldoret counties to ascertain validity. These counties were chosen because they are, after Nairobi City County, among the top five towns with the highest numbers of the most popular social media channel of Facebook (Communication Authority, Kenya 2014; Muga, 2011). Piloting of the questionnaire was done before the actual data collection on seven marketing officers which is more than ten percent of the sample projected. The questionnaire was then revised to incorporate the feedback.

3.8.1 Validity of the Research Instruments

The questionnaire was given to selected academia including university faculty and industry (hospital marketers) from at four hospitals in Mombasa City and Kisumu City, Nakuru and Eldoret counties to ascertain validity. These counties were chosen because they are among the top five towns with the highest numbers of the most popular social media channel of Facebook (Communication Authority, Kenya 2014). The researcher ensured that the instrument was clear and error free to ensure validity.

3.8.2 Reliability of the Research Instruments.

Reliability of the instruments concerns the degree to which a particular instrument gives similar results over a number of repeated trials (Terwee *et al*., 2007). Pre-testing was done to refine and ascertain the reliability of the research instruments before application in the actual research (Cooper, Schindler, & Sun, 2003). The research instruments were deemed reliable and accepted because the Cronbach's alpha of 0.7 and above was met (Terwee *et al*., 2007). The discovered errors were corrected, ambiguous questions made clearer and relevant and the contents revised. Due to the nature of this study and the limited resources that were available, data that was not filled correctly was subject for follow-up and non-follow up data was omitted further increasing reliability and validity of the report.

3.9 Data Analysis and Presentation

Statistical Package for Social Scientists (SPSS) software was used for data entry, cleaning, managing and analysing the data. All the questionnaires received were referenced, and items in the questionnaire coded to make data entry easy. Descriptive statistics were estimated for the various variables. Frequency tables and graphs were also generated for all the variable indicators.

3.9.1 Data Analysis

Data was analyzed using statistical package for social science (SPSS). All the questionnaires received were referenced. Descriptive statistics were estimated for the various variables. Descriptive statistics involved the use of frequency mode, mean and

percentages. Multiple regression analysis was used to test the relationship between the variables. A multivariate linear regression analysis model was employed in the analysis to establish the effect of the independent variables on adoption of social media marketing. Since there was a moderating factor, regression analysis was carried out at two levels. The first level (reduced) was done without the moderating factor while the second (full) model was carried out taking into account the moderating variable. The aim was to test whether the moderating variable improved the strength of the independent variables on the dependent variables.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \ \dots\dots\dots\dots\dots\dots\dots. \text{ Reduced Model (1)}$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_1 Z + \beta_6 X_2 Z + \beta_7 X_3 Z + \beta_8 X_4 Z + \varepsilon \ \dots \text{Full Model (2)}$$

Y is the value of the dependent variable (Y), what is being predicted or explained (adoption of social marketing strategies)

β_0 is the Constant or intercept

β is the coefficient of Xi for i=1, 2, 3, 4

X_1 = Marketing purpose

X_2 = Social media technology use and attributes

X_3 = User attributes

X_4 = Hospital's business environment

β_{1-8} = Regression coefficients

Z = Hypothesized moderating variable (Hospital characteristics)

$X_1 Z$ is the product term for the moderating variable and independent variables X_i for i=1, 2, 3, 4

ε = Error term assumed to be a constant

The full model incorporated the effect of the moderating variable (hospital characteristics). The moderating effect was deemed to be present only if the coefficient of the product term was significant. Data was also analysed using statistical package for social science (SPSS). Descriptive statistics involved the use of frequency mode, mean and percentages. Correlation analysis was used first to test if there was a relationship between the independent variables and dependent variables. Once the relationship was established, multiple regression analysis was used to verify the relationship between the variables. Where there was insufficient evidence to conclude that there is a significant linear relationship between the independent variable and the dependent variable, multiple regression analysis was not used to model a linear relationship thus failing to reject the null hypothesis.

3.9.2 Data Presentation

Frequency tables and graphs were created for all the variables. The researcher used tables, charts, histograms and diagrams to summarise and represent the data collected.

3.10 Hypothesis Testing

Factor analysis was applied used to reduce the number of indicators which do not explain the determinants of adoption of social media marketing by hospitals before regression analysis. Only factors with loading values of above 0.5 used for further analysis unless considering the subject matter it was essential to keep the items. Tabachnick and Fidell (2007) advocated that factors with a factor loading of above 0.45 was fair to retain for further study. They described the factor loadings as follows: 0.32 (poor), 0.45 (fair), 0.55 (good), 0.63 (very good) or 0.71 (excellent).

Hypothesis testing using p_ value approach was done to give the strength of the decision to reject or accept a null hypothesis. A significance level of 0.05 was used as recommended by Terwee *et al*. (2007). This significance level represents the results as at 95 percent confidence level. The moderating effect of hospital characteristics on the independent variable (adoption of social media marketing) was also analysed.

3.11 Ethical Issues

Ethical issues are essential, paramount matters not only in the primary research in particular but also even in terms of using secondary datasets because there are ethical issues relating to the fair and unbiased selection of sources and analysis (Farrimond, 2012). The researcher contacted the individual hospital requesting permission to collect data. The researcher explained the intention and purpose of the study to ascertain the informed consent of participants. Participants were also informed who the intended respondents were and about who is conducting the research. Maintaining the confidentiality of the results and anonymity of the participants are also crucial along with these issues.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

This chapter describes and presents the analysis of data and its interpretation. The data analysis is in tandem with the specific objectives in investigating, interpreting and making inferences to the data patterns. The study aimed to investigate the determinants of adoption of social media marketing by hospitals in Nairobi City County, Kenya. This study set out to examine the effect of the marketing purpose on adoption of social media marketing; determine the effect of social media technology use and attributes; establish the effect of end user attributes or the marketer's attributes; and evaluate the effect of the hospitals business environment on adoption of social media marketing by hospitals in Nairobi City County. Further to also examine the moderating effect of hospital characteristics on the adoption of social media marketing by hospitals in Nairobi City County, Kenya.

4.2 Test for Validity and Reliability of Research Instruments

A pilot study was conducted where the questionnaire was given to selected four knowledgeable persons to ascertain validity of the content. The experts felt that out of 66 items on the questionnaire only one item was deemed as not necessary/relevant to achieve the objectives of the study i.e. the Name of the Hospital. This suggestion was considered and the item was put as 'optional' in the questionnaire. This is because even though it may not affect the objectives of the study it will help the researcher during data collection if it is included and answered.

Pre-testing of the questionnaire was done in order to refine and ascertain the reliability of the research instruments before they are applied in the actual research in five hospitals who returned 9 questionnaires as some hospitals had more than one marketing officer. This is above the 10 percent needed for pilot study to be valid.

The research instrument was deemed reliable and acceptable if Cronbach's alpha reliability coefficient 0.7. All variables measured returned a Cronbach's alpha reliability coefficient 0.7 and above (see table 4.1). Thus the research instrument was adopted for data collection.

Table 4.1: Cronbach's Alpha Reliability Test Results

	Reliability Statistics		
Variable Measured	**Cronbach's Alpha**	**Cronbach's Alpha Based on Standardized Items**	**No. of Items**
Marketing Purpose	.954	.997	10
Social Media Technology Use and Attributes	.728	.757	19
User Attributes	.800	.692	17
Hospital Business Environment	.773	.738	11
Hospital Characteristics	1.000	1.000	2
Adoption of Social Media Marketing	.892	.941	7

4.3 Tests for Normality, Multicollinearity, and Homoscedasticity

According to (Dasu & Johnson, 2003) screening of the data ensures that the data is clean, complete, reliable and valid for subsequent analysis. In this study, several tests were used to test for reliability and validity, normality, multicollinearity, and homogeneity. Statistical analysis, which uses correlation, regression, t-tests and analysis of variance, amongst others, are based on the assumption that data set is normally distributed, there is no multicollinearity and that the data is homoscedastic. Normality tests allow for inferences about the population, lack of multicollinearity ensures the stability of results, whereas homogeneity ensures that standard errors are not over or under-estimated.

4.3.1 Normality

The study variables were assessed for normality. According to Tabachnick and Fidell (2007), data is normal if the data distribution in each item, including all linear combination of items, is normally distributed. Normal distribution assumes a symmetrical bell-shaped curve with a mean of 0 and variance of 1. Figure 4.1 to Figure 4.6 shows the normal distribution of the variables.
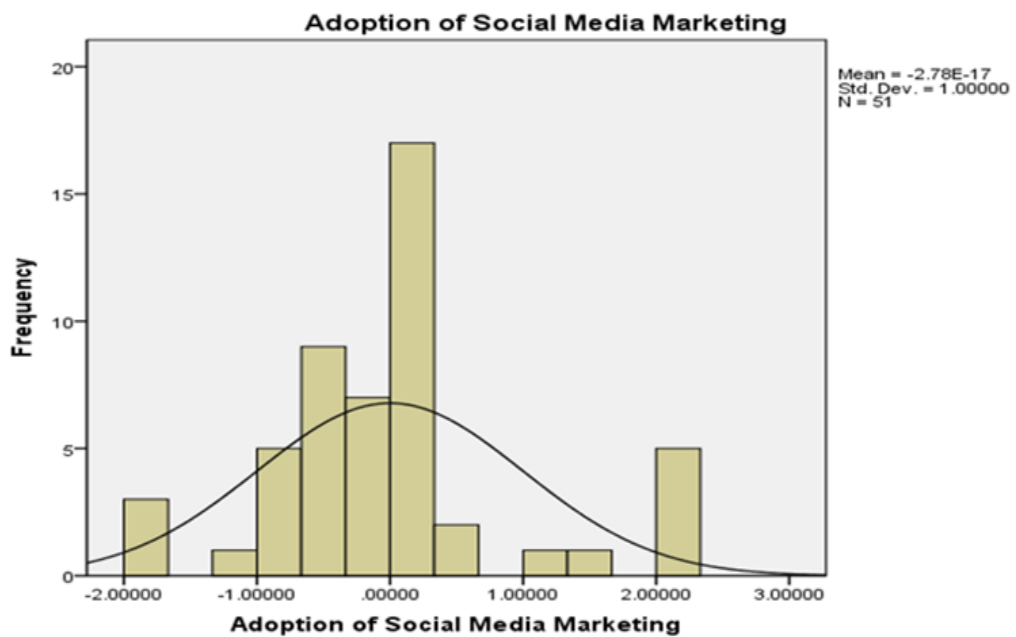
Figure 4.1: Normal Distribution of the Adoption of Social Media Marketing
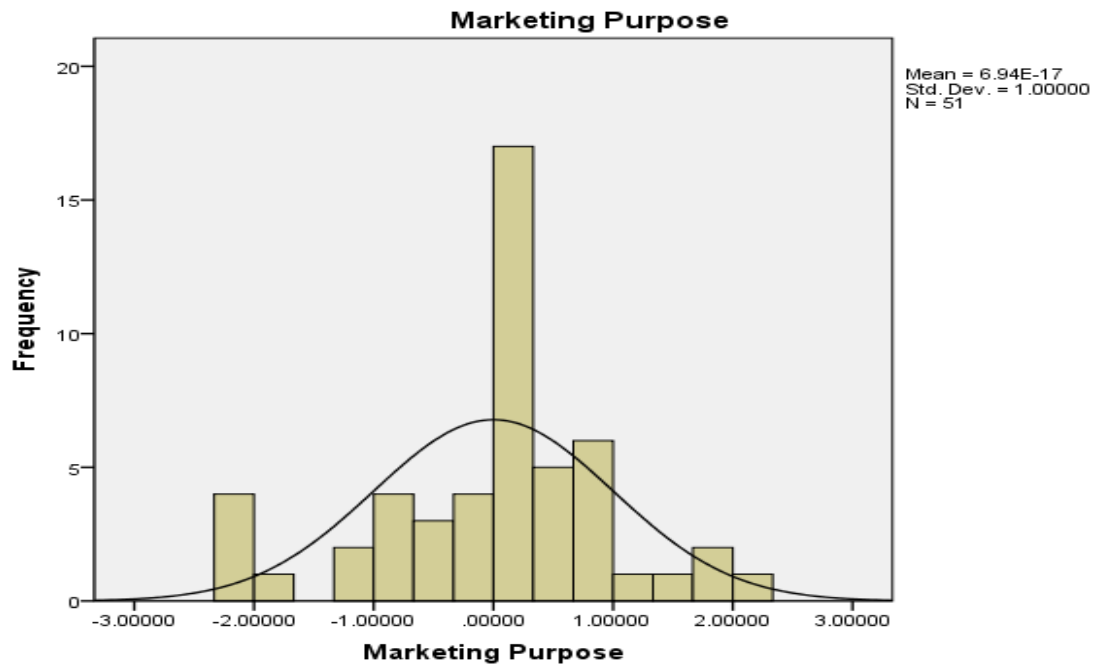
Figure 4.2: Normal Distribution of Marketing Purpose
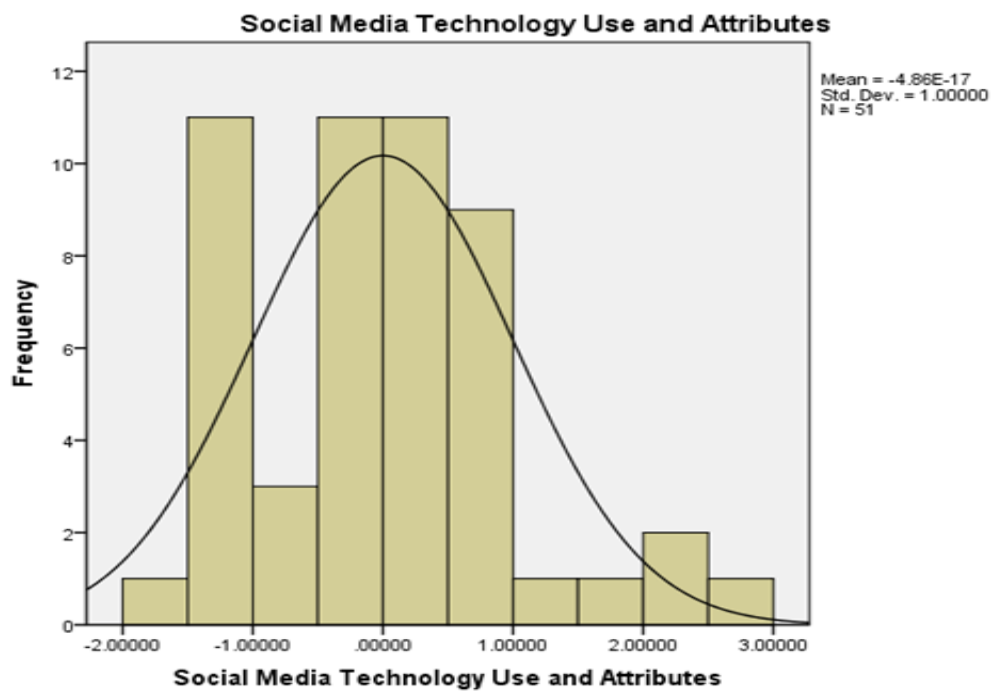
Figure 4.3: Normal Distribution of Social Media Technology use and Attributes
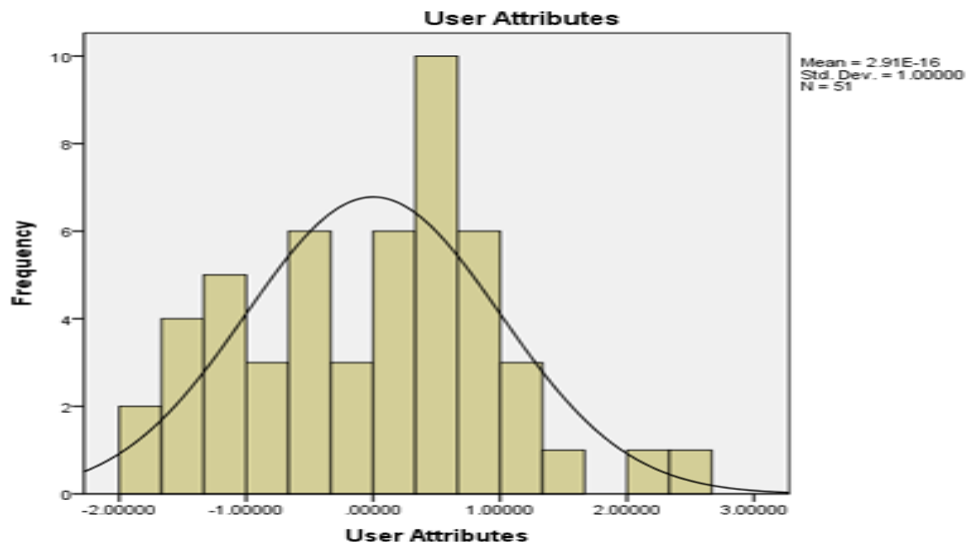
Figure 4.4: Normal Distribution of User Attributes
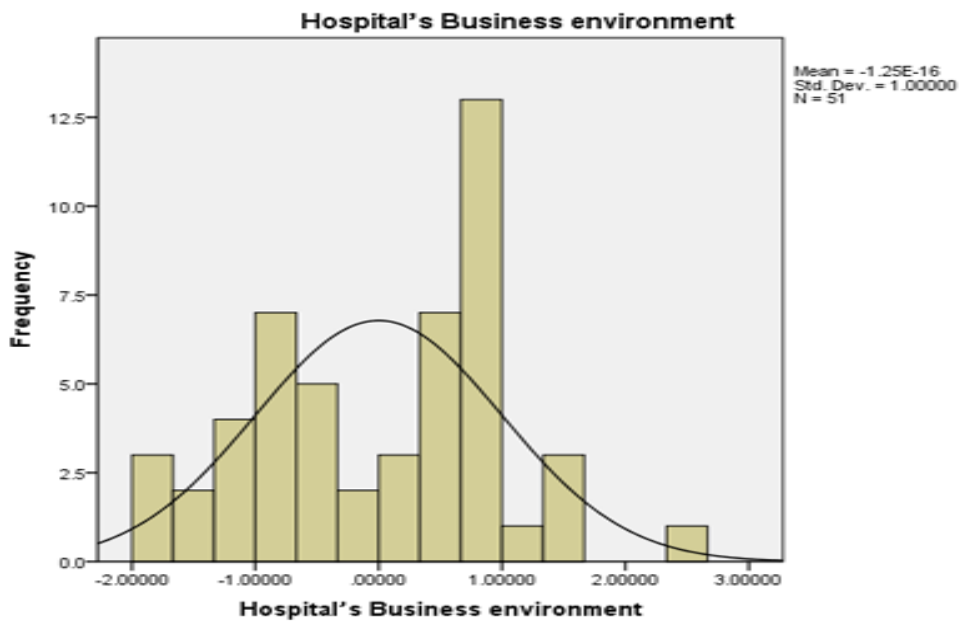
Figure 4.5: Normal Distribution of Hospitals Business Environment
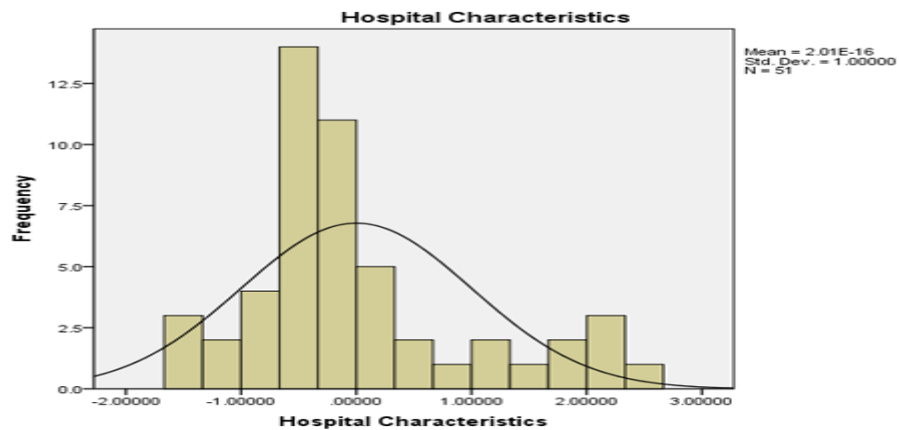
Figure 4.6: Normal Distribution of Hospital Characteristics

Figures 4.1 to 4.6 above shows the symmetry of the distribution which is known as the skewness. A positively skewed distribution will depict scores that clustered to the left, with the tail extending to the right while a negatively skewed distribution will have scores clustered to the right and the tail extending to the left. In this study, all the variables were within the normal range of skewness and kurtosis of $-2 < X < 2$ as proposed by Hair, Black, Babin, Anderson, and Tatham (2006) who suggested that any score above this range should be examined. From the data, the Skewness values ranged from $-0.584 < X < 1.078$ as shown in Table 4.2. The "peakedness" of the distribution is known as the Kurtosis. Positive kurtosis values indicate a peak distribution while negative kurtosis values indicate a flat distribution. The kurtosis ranges were found to be $-0.706 < X < 1.008$ implying that the variables were within the range of $-2 < X < 2$.

Table 4.2: The Skewness and Kurtosis Statistic for Study Variables

	Skewness	Kurtosis
Marketing Purpose	-0.584	0.502
Social Media Technology Use and Attributes	0.625	0.442
User Attributes	0.054	-0.275
Hospital's Business environment	-0.109	-0.706
Hospital Characteristics	1.078	0.464
Adoption of Social Media Marketing	0.652	1.008

Source: Author, 2016

Another way to make it very likely to have normal residuals is to have a dependent variable that is normally distributed (Shenoy & Madan, 1994). Figure 4.7 shows the normal Q-Q plot which indicates that the condition of normality for adoption of social media marketing is satisfied. The quantile-quantile (Q-Q) plot is an excellent way to see whether the data deviate from other distributions but only interested in the normal distribution.
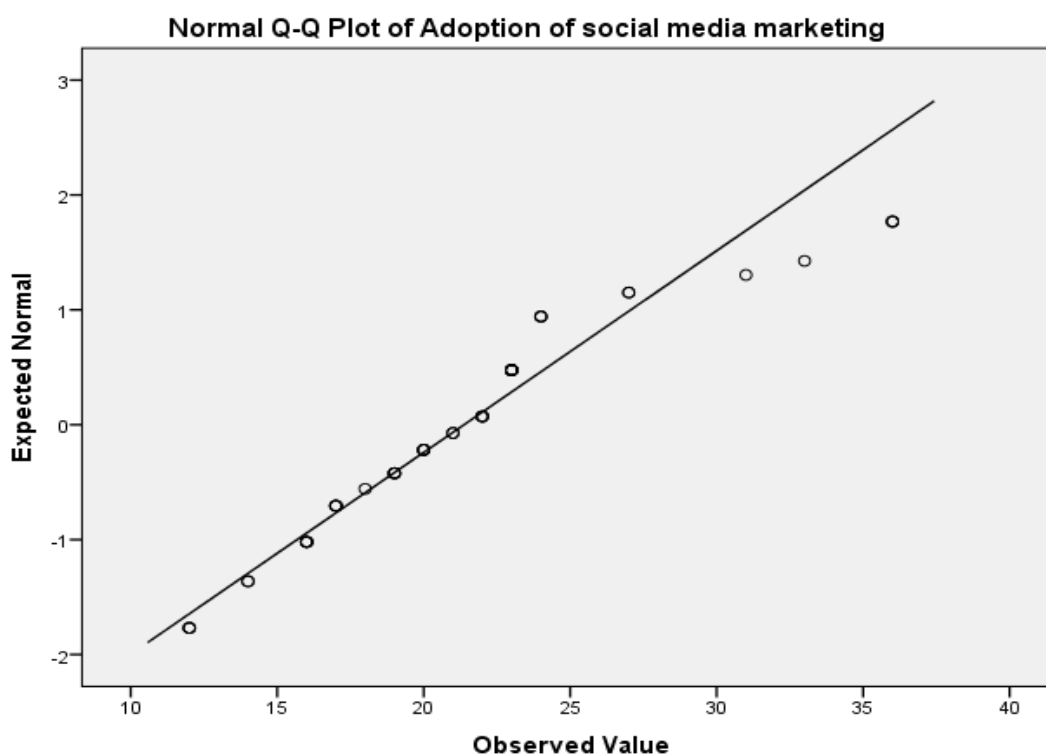
Figure 4.7: Normal Q-Q Plot of Adoption of Social Media Marketing

4.3.2 Multicollinearity

According to Tabachnick and Fidell (2007), multicollinearity poses a real problem because it severely limits the size of the proportion of variance which the regression or extraction (R) can account for. Multicollinearity happens when there is a strong relationship between two independent variables in a regression model. To diagnose multicollinearity, the variance inflation factors (VIF) was assessed. The VIF of a predictor should indicate whether there is a strong linear association between it and all the remaining predictors. By treating each variable as the dependent variable and

regressing against other independent variables in a multivariate regression, then VIF can help to examine whether multicollinearity exists in the data. According to Hair *et al*. (2006) a VIF < 3 indicates no problem, VIF >5 indicate a likely problem while VIF > 10 indicates a significant problem. As shown in Table 4.3 the VIF ranged from 1.169 < X < 1.964 which is an indication that multicollinearity was not a problem.

The tolerance values refer to the degree to which one predictor can, by itself, be predicted by the other predictors in the model (Pallant, 2007). If the tolerance values were greater than one, there is a chance of multicollinearity. Table 4.3 shows that the tolerance values in this study were in the range of 0.509 < X < 0.856 implying there was no multicollinearity between the variables.

Table 4.3: Collinearity Statistics

Variable	Collinearity Statistics	
	Tolerance	**VIF**
Constant		
Marketing purpose	0.642	1.558
Hospital business environment	0.509	1.964
Social media technology use and attributes	0.666	1.502
User attributes	0.856	1.169

Source: Author, 2016

4.3.3 Homoscedasticity

Another assumption of ordinary least squares regression is that the variance of the residuals is homogeneous across levels of the predicted values, also known as homoscedasticity. A commonly used graphical method to test homogeneity is to use the residual versus fitted plot to show the residuals versus fitted or predicted values (De Bruin, 2006). If the model is well-fitted such that the homoscedasticity is met, the residuals form a patternless cloud of dots. If the variance of the residuals is non-constant, then the residual variance is said to be "heteroscedastic." Figure 4.8 illustrate graphical methods for detecting heteroscedasticity. The observations are presented by circular dots which form a cloud of dots with no pattern thus indicating

that the variance of the residuals are homogenous across levels of predicted values and that the model was well fitted.
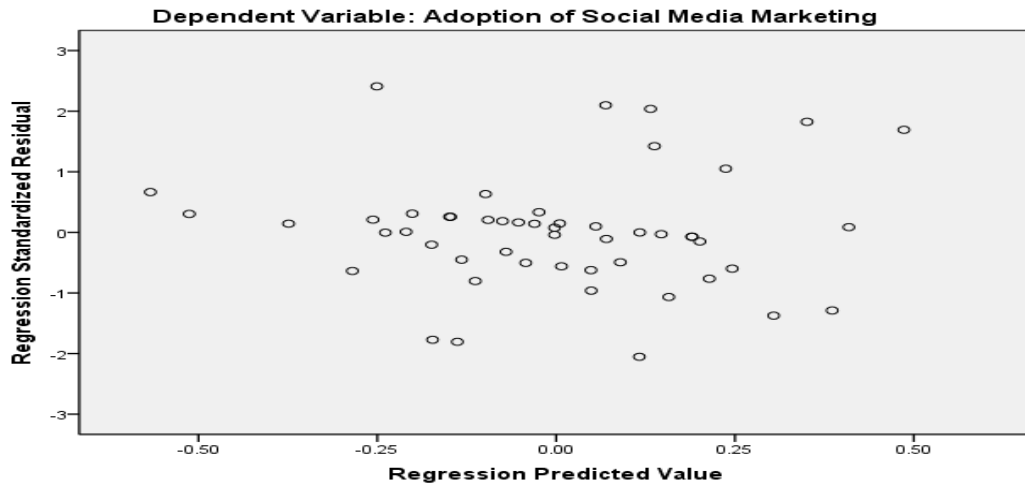
Figure 4.8: Graphical Representation of Test of Homoscedasticity

4.4 Background Characteristics of the Respondents

4.4.1 Response Rate

The total numbers of questionnaires distributed to respondents were sixty six. Out of the sixty six questionnaires administered, thirty eight questionnaires were completed online (fifty seven percent) and thirteen questionnaires returned as on paper (twenty percent). Thus a total of 51 questionnaires were properly filled and returned. According to Mugenda and Mugenda (2003), a response rate of 50% or more is adequate. Thus there was a successful response rate of 77 percent.

4.4.2 Background Characteristics of the Respondents

Table 4.5 shows the background characteristics of the study. The sample involved 51 respondents designated as marketing officers or respondents who assumed the marketing role in hospitals within Nairobi City County, Kenya. The frequencies and respective percentages of each background characteristic of the interviewees and the hospital are as shown in Table 4.4. Out of the total respondents, 55 percent were

58

female, and 45 percent were male. The majority of the respondents were below the age of forty years with only eight percent being above 40 years. The majority of the respondents had not worked in healthcare marketing for over five years. Twenty-nine percent of the marketing officers had over five years' experience in healthcare marketing. Only two percent of the marketing officers did not have at least a bachelor's degree and above in their level of education. Four percent indicated that they did not have a smartphone with a majority of ninety six percent stating that they owned a smartphone. Seventy-six percent of the respondents worked in private hospitals, and only 12 percent worked in teaching or university hospitals.

Table 4.4: Background Characteristics of Respondents

Characteristic	Category	Count	Percent
Gender of the respondent	Female	28	55
	Male	23	45
Age of the respondent	20-30 years	25	49
	30-40 years	22	43
	40-50 years	4	8
The number of years you have worked in healthcare marketing?	Less than 3 years	18	35
	3 to 5 years	18	35
	5 to 10 years	13	25
	11 to 15 years	2	4
What is your level of education?	Certificate	1	2
	Diploma	17	33
	Bachelor's Degree	22	43
	Master's Degree	11	22
Which of the following best describes your hospital	Public/Government	6	12
	Private (for profit, not-for-profit and faith-based)	39	76
	University/Teaching Hospital	6	12
Do you have a smartphone for your personal use?	Yes	49	96
	No	2	4

4.5 Adoption of Social Media Marketing

4.5.1 Adoption of Social Media Marketing Factor Analysis

Adoption of social media marketing was evaluated using six items. These items aimed at understanding the magnitude of the outcome brought about by adopting social media marketing. Data reduction using Principal Component Analysis (PCA) and varimax rotation was done and only those items which had factor scores greater than recommended lowest threshold of 0.5 were retained. All items had a factor loading greater than five thus they were all retained as shown in Table 4.5.

Table 4.5: Adoption of Social Media Marketing Factor Analysis

Items used to measure adoption of social media in marketing	Factor Loading
Revenue Increase	0.853
Customer Service Improvement	0.884
Marketing Costs Reduction	0.764
Visibility and Brand Enhancement	0.875
Staff Recruitment	0.853
Increased Patient Recruitment	0.865

4.5.2 Adoption of Social Media Marketing Descriptive Statistics

Table 4.6 show the responses on the adoption of social media marketing by the respondents. Over 50 percent of the respondents expressed a large improvement is all the adoption of social marketing indicators. Ninety percent indicated an improvement in revenues. Visibility and brand enhancement and increased patient recruitment ranked the highest with 93 percent of respondents stating that they saw an improvement in this area. Customer service improvement and marketing costs reduction were reported by 91 percent of the respondents as having improved. Although fifty three percent of the interviewees indicated that they saw a large improvement in staff recruitment, fourteen percent stated that there was no improvement at all. These findings are similar to study by Baird and Parasnis (2011) who found that social media has an enormous potential and capability for companies

to engage with the customer, thus increasing revenue and efficiency of the organisation. (Gummesson, 2002), indicated that many healthcare organizations are investing in modern marketing techniques but are conscious of the marketing expenditure and its return on investments thus marketers are increasingly tasked with delivering performance at reduced costs. According to Kaplan and Haenlein (2010) social media marketing helps build brand awareness, visibility, reputation, knowledge sharing, customer acquisition and retention, low-cost promotions, new product development, customer relationship marketing. It also has great potential for generating multi-revenues and market research in the content of ethnography (Sarkkinen, 2009).

Table 4.6: Adoption of Social Media Marketing

Indicator	Percentage	Don't know	Worsened	No Improvement	Small Improvement	Large Improvement
Revenue Increase	100	0	0	10	40	50
Customer Service Improvement	100	0	0	9	23	68
Marketing Costs Reduction	100	0	0	9	39	52
Visibility and Brand Enhancement	100	0	0	7	31	62
Staff Recruitment	100	0	0	14	33	53
Increased Patient Recruitment	100	0	0	7	36	57

4.6 Marketing Purpose

4.6.1 Marketing Purpose Factor Analysis

Prior to performing analysis, data reduction (factor analysis) was performed for the items measuring marketing purpose. The "marketing purpose" was evaluated using nine items which were rated on a five point Likert scale using 1 to mean "No Extent at all" and 5 to mean "Greatest extent". This variable aimed at evaluating the marketing purpose for which the hospital uses social media. The factor loadings for

each item are shown in Table 4.7. Items with factor loadings greater than 0.5 were retained for further analysis. All the items met the threshold of 0.5 and therefore none of the items were dropped.

Table 4.7: Marketing Purpose Factor Loading

Indicator		Factor Loading
Marketing of products and services		0.912
Patients Relations		0.734
Brand Management		0.841
Product Research and Development		0.733
Reputation Management		0.868
Promotion of health events and activities		0.907
Public Health Information		0.872
Announcements of awards and achievements		0.673
Staff Recruitment		0.529

4.6.2 Marketing Purpose Descriptive Statistics

The first objective of this study was to examine the effect of marketing purpose on adoption of social media by hospitals in Nairobi City County. The response on each indicator for marketing purpose is shown in Table 4.8. A total of 85 percent of the respondents indicated that they use social media to some extent for marketing of their products and services. Only thirteen percent of the respondents indicated that they use social media marketing to a great extent for brand management. The majority of those surveyed (eighty-nine) percent indicated that they use social media for public health information purpose with only eleven percent stating that they did not use social media for public health information at all. Seventy-five percent of the respondents indicated that they use social media for the announcement of awards and achievements, with 25 percent stating that they did not use social media for this marketing purpose at all. With regards to the use of social media marketing for staff recruitment, 41 percent indicated they only use this purpose in a small to no extent at all, the result was the same for product research and development. The response was

(thirty six percent) for the use of social media marketing for the purpose of patient relations and 26 percent for reputation management at no extent to small extent.

These results were aligned with past evidence suggesting awareness is the most prominent reason for adopting social networking sites (eMarketer 2010). Tsimonis and Dimitriadis (2014) in their study found that the main purpose of firm's use of social media marketing was for making prize competitions, announcing new products/services, interacting with fans, providing advice and useful information, and handling customer service issues. Research by Michaelidou *et al*. (2011) found that attracting new customers and cultivating customer relationships are considered to be the most important goals for using social networking sites. Sharma (2002) also found that that the internet and technology could be used as tools to build relationships.

Table 4.8: Marketing Purpose

Indicator	Total Percentage	No Extent at All	Small Extent	Moderate Extent	Great Extent	Greatest Extent
Marketing of products and services	100	15	11	57	6	11
Patients relations	100	16	20	42	11	11
Brand management	100	17	21	36	13	13
Product Research and Development	100	16	25	47	8	4
Reputation management	100	15	11	53	13	8
Promotion of health events and activities	100	13	16	38	20	13
Public health information	100	11	20	36	20	13
Announcements of awards and achievements	100	25	25	41	7	2
Staff recruitment	100	16	25	49	6	4

4.7 Social Media Use and Attributes Descriptive Statistics

4.7.1 Social Media Use and Attributes Factor Analysis

The social media technology use and attributes was measured using 24 items as indicated in Table 4.9. To reduce the number of variables to a meaningful set of factors, factor analysis was done. To create one factor, data reduction was done using PCA and varimax rotation. The researcher considered the knowledge in the subject matter and decided that it was essential to keep all the items.

Table 4.9: Component Matrix for Social Media Technology Use and Attributes

Items	Factor Loading
To what extent does your hospital use the following social media tools	
Facebook	0.630
Twitter	0.826
LinkedIn	0.637
Instagram	0.803
Blogs	0.590
How would you rate the ease of use of the following social media platforms	
Facebook	0.386
Twitter	0.561
LinkedIn	0.371
Instagram	0.597
Blogs	0.463
To what extent does your hospital engage its social media followers on the activities indicated?	
Posting content on patient education	0.624
Re-tweets by followers	0.813
Solicitation of donor funding	0.621
Booking a doctor's appointment	0.567
Medical Research	0.712
Posting content on hospital news and events	0.701
Answering customer queries/complaints	0.800
Staff and Institutional awards	0.821
Conversations on national healthcare issues	0.656
How often do you monitor your social media accounts?	
Facebook	0.635
Twitter	0.690
LinkedIn	0.586
Instagram	0.685
Blogs	0.591

4.7.2 Social Media Use and Attributes Descriptive Statistics

The second objective of this study was to examine the effect of the social media use and attributes on adoption of social media marketing by hospitals in Nairobi City County. To evaluate the extent to which their hospitals use social media marketing platforms on Facebook, Twitter, LinkedIn, Instagram, and Blogs, five items which were rated on a five point Likert scale using 1 to mean "No Extent at all" and 5 to mean "Greatest extent". The respondents as presented in Table 4.10 were asked to state which social media platforms they use. Seventy percent of the respondents indicated that their hospitals use of blogs as "no extent" at all to a "small extent." Similarly, 53 and 55 percent of respondents reported that their hospitals also use LinkedIn and Instagram to no extent at all respectively with 14 and 16 percent indicating they use the two platforms to a small extent. Thirty one percent of the respondents reported that their hospitals do not use Twitter at all. Seventy nine percent of respondents indicated that their hospitals used the Facebook platform, 69 percent of respondents used Twitter, and 47 percent used LinkedIn. Only six percent of respondents stated that they used Instagram to the greatest extent.

Table 4.10: Use of Social Media

Indicator	Total percentage	No Extent at all	Small Extent	Moderate Extent	Great Extent	Greatest Extent
Facebook	100	21	16	41	14	8
Twitter	100	31	26	31	8	4
LinkedIn	100	53	16	25	6	0
Instagram	100	55	14	25	0	6
Blogs	100	41	29	26	0	4

The respondents were asked to rate the ease of use of the indicated social media platforms. Five items were rated on a five point Likert scale using 1 to mean "Don't know how to use" and 5 to mean "Expert" use. The results are shown in Table 4.11. Only six percent of the respondents did not know how to use Facebook. The majority of respondents (ninety percent) indicated that they had moderate to expert use of Facebook. Facebook also had the largest number of respondents who indicated that

they had expert use of the platform. Twenty two percent of respondents did not know how to use or had little ease in using Twitter. Only eight percent indicated that they were able to use Twitter at expert level. The respondents indicated that only six percent were able to use LinkedIn and Instagram at expert level with only two percent indicating that they were able to use blogs at expert level. Forty one percent of respondents indicated that they had moderate ease in using LinkedIn and Blogs while 22 percent indicated they had little ease in using Instagram and Blogs.

Table 4.11: Ease of Use of Social Media

Indicator	Total percentage	Don't Know how to Use	Little Ease	Moderate Ease	Great Ease	Expert
Facebook	100	6	4	39	35	16
Twitter	100	14	8	39	31	8
LinkedIn	100	20	14	41	19	6
Instagram	100	16	22	37	19	6
Blogs	100	18	22	41	17	2

The respondents were asked to further indicate the extent to which their hospitals engage followers in social media activities. Nine items were rated on a five point Likert scale using 1 to mean "No Extent at all" and 5 to mean "Greatest Extent". Table 4.12 shows the responses. Eighty-two percent of the respondents indicated that they use social media for posting content on hospital news and for answering customer queries and complaints. Seventy eight percent indicated that they use social media to post content on patient education. Forty seven percent of the respondents indicated that they do not use social media at all to solicit for donor funding. Only four percent of the respondents indicated that they use social media to the greatest extent for conversations on national healthcare issues. To book for doctor's appointment was cited as a social media activity used by 71 percent of the respondents. Thirty-three percent of the interviewees indicated that they do not use social media retweets by their followers. The majority of hospitals respondents (82 percent) indicated the main purpose of the use of social media was for posting

content on hospital news and events and answering customer queries and complaints
(82 percent) followed by posting content on patient education (78 percent).

Table 4.12: Engagement of Social Media Followers

	Total	No Extent at all (percent)	Small Extent (percent)	Moderate Extent (percent)	Great Extent (percent)	Greatest Extent (percent)
Posting content on patient education	100	22	20	42	12	4
Re-tweets by followers	100	33	33	26	4	4
Solicitation of donor funding	100	47	25	20	6	2
Booking a doctor's appointment	100	29	24	33	8	6
Medical research	100	33	16	37	8	6
Posting content on hospital news and events	100	18	12	37	25	8
Answering customer queries/complaints	100	18	18	42	12	10
Staff and Institutional awards	100	35	25	34	4	2
Conversations on national healthcare issues	100	22	20	36	18	4

To evaluate how often hospitals monitor their hospital's social media accounts, a five
point Likert scale was used with 1 to mean "No Extent at all" and 5 to mean
"Greatest extent" as indicated in Table 4.13. Fifty one percent of respondents who
use Instagram indicated that they do not monitor their accounts at all. Twenty-nine
percent recorded they do not monitor their Twitter accounts. Only 12 percent and ten

percent of Facebook users and Twitter users stated that they always monitor their accounts respectively. Forty nine percent of LinkedIn users indicated that they did not monitor their account. None of the LinkedIn users indicated that they monitor their account always. Facebook was rated as the highest monitored platform with eight six percent of its users saying that the monitor their account.

Table 4.13: Monitoring of Social Media

	Total Percentage	Not at all	Not often	Moderately Often	Very Often	Always
Facebook	100	14	9	42	23	12
Twitter	100	29	22	25	14	10
Blogs	100	45	20	16	12	7
LinkedIn	100	49	17	20	14	0
Instagram	100	51	18	21	4	6

These findings for indicators of social media use and attributes are similar to research conducted by Michigan Health and Hospital Association (MHA, 2013) where Facebook ranked as the top used social media platform by hospitals in the United States. Griffis *et al*. (2014) review of hospital adoption of social media and the hospital related activities on four social media platforms including Facebook, Twitter, Yelp, and Foursquare. Out of a total 3,371 US hospitals identified, the adoption of social media websites varied across platforms, with 99.41 percent having a Facebook account and 50.82 percent having a Twitter account. However, studies by Kituyi *et al*. (2013) indicated that most hospitals in Africa are not using social media to reach out and provide services to their clients. They concluded that not many health institutions in Sub-Saharan Africa had embraced social media.

With regards to retweets from followers, Kwak, Haewoon, Changhyun, Hosung, and Moon (2010) compared the freshness of topics in Google Trend and Twitter trending topics. They found that on average 95% of topics each day are new in Google while only 72% of topics are new in Twitter. Interactions among users such as retweet, reply, and mention, are prevalent in Twitter unlike Google search, and such interactions might be a factor to keep trending topics persist. Regarding the use of

social media these findings are consistent with Van de Belt *et al*. (2012) who in their study on the use of social media by hospitals in Western Europe found that most hospitals were merely "seeding information" rather than engaging their patients on health care related issues. Tsimonis and Dimitriadis (2014) found that firm's use of social media marketing was for making prize competitions, announcing new products/services, interacting with fans, providing advice and useful information, and handling customer service issues. Richter *et al*. (2013) in their study found that lack of audience engagement on social media led to a failure to attract and retain patients. If hospitals are not monitoring their social media accounts, then there have low engagement with their customers.

4.8 User Attributes

4.8.1 User Attributes Factor Analysis

Data reduction (factor analysis) was performed prior to performing extra analysis for the items measuring user attributes. The factor loadings for each item are shown in Table 4.14. Items with factor loadings greater than 0.5 were retained for further analysis. All the items met the threshold of 0.5 and therefore none of the items were dropped.

Table 4.14: User Attributes Component Matrix

Items	Factor Loading	
Extent of use of social platforms on a personal level		
Facebook	0.529	
Twitter	0.727	
LinkedIn	0.577	
Instagram	0.764	
Blogs	0.587	
Motivation of use of personal social media platforms.		
Facebook	0.546	
Twitter	0.525	
LinkedIn	0.614	
Instagram	0.752	
Blogs	0.596	
Last time you visited the following social media platforms.		
Facebook	0.587	
Twitter	0.694	
LinkedIn	0.572	
Instagram	0.765	
Blogs	0.680	
Extent of familiarity with social media analytics tools.		
Facebook Insights	0.588	
Twitter analytics	0.716	
LinkedIn Analytics	0.710	
Instafollow	0.806	
Google analytics	0.688	

4.8.2 User Attributes Descriptive Statistics

The third objective of the study was to establish the effect of the marketers attributes (user) on adoption of social media marketing by hospitals in NCC. Five items were rated on a five point Likert scale using 1 to mean "No Extent at all" and 5 to mean "Greatest Extent". The respondents were first asked the extent to which they use social media for their personal use. Table 4.15 shows the response. The result was that only two percent of the respondents do not personally use Facebook at all. Blogs were the least used social media with 47 percent of the respondents stating that they

do not use blogs personally at all. Ninety-eight percent of the respondents indicated that they use Facebook, 81 percent use Twitter, and 71 percent have LinkedIn personal accounts. Sixty five percent indicated that they use Instagram to a certain extent.

Table 4.15: Extent of Personal Use of Social Media

	Total	No Extent at all (percent)	Small Extent (percent)	Moderate Extent (percent)	Great Extent (percent)	Greatest Extent (percent)
Facebook	100	2	12	29	47	10
Twitter	100	19	12	37	24	8
LinkedIn	100	29	24	27	20	0
Instagram	100	36	16	22	16	10
Blogs	100	47	24	16	12	1

With regards to the level of education as shown in Table 4.16 hospital marketers with a master's degree were more likely to use LinkedIn than certificate, diploma or degree holders. On average bachelor degree holders used social media more for personal use than a certificate, diploma or master's degree holder. The typical hospital marketer who uses social media has a University degree, uses Facebook at least daily, has a LinkedIn profile but is not familiar with analytics tools.

Table 4.16: Level of Education and Personal Use of Social Media

Level of Education and Personal Use of Social Media					
	Facebook	Twitter	LinkedIn	Instagram	Blogs
Level of Education	(Percent)	(Percent)	(Percent)	(Percent)	(Percent)
Certificate	40	20	20	20	20
Diploma	73	58	44	53	33
Bachelor's Degree	72	60	50	54	48
Master's Degree	65	56	51	44	35

The motivation for personal use of social media is presented in Table 4.17. Fifty seven percent were driven by social interaction in their personal use of Facebook. Thirty one percent of the respondents were motivated by information gathering in their use of Twitter. The motivation for the use of LinkedIn was highest at fifty one percent for professional engagement as LinkedIn is primarily used for human resource recruitment and career advancement information. Only two and four percent indicated that they use Facebook and Instagram respectively for professional engagement. Only six percent use blogs and Twitter for professional engagement.

Table 4.17: Motivation for Use of Personal Social Media Platforms

	Total	Not applicable (percent)	Information Seeking (percent)	Entertainment (percent)	Social Interaction (percent)	Professional Engagement (percent)
Facebook	100	2	10	29	57	2
Twitter	100	16	31	10	37	6
LinkedIn	100	29	14	2	4	51
Instagram	100	36	4	31	25	4
Blogs	100	47	29	14	4	6

Table 4.18 indicates when the respondents last visited their personal social media accounts. Five items were rated on a five point Likert scale using 1 to mean "Not at all" and five for "Today" Six percent of respondents who use Twitter indicated that they had visited their account in the last two weeks. Facebook scored highest as the social media platform where 61% of the respondents had visited on that day "today" and at least 90% within the week. Thirty three percent indicated they had visited LinkedIn in within the last week while 35 percent and 45 percent indicated that they did not visit any Instagram and blogs respectively.

Table 4.18: Last Time to Visit Personal Social Media

	Total (percent)	Not at all/ not applicable (percent)	More than a month (percent)	Last two weeks (percent)	This week Weekly (percent)	Today (percent)
Facebook	100	2	4	4	29	61
Twitter	100	14	10	6	27	43
LinkedIn	100	27	6	18	33	16
Instagram	100	35	4	10	22	29
Blogs	100	45	10	10	27	8

Finally, on user attributes, the respondents were asked to indicate their familiarity with social media analytical tools. Five items were rated on a five point Likert scale using 1 to mean "No Extent at all" and 5 to mean "Greatest Extent". Familiarity with social media analytics tools is shown in Table 4.19. Ninety percent of respondents had familiarity with Facebook Insights. Instagram analytics (Instafollow) rated the lowest with 39 percent stating that they had no familiarity with it at all. With regards to LinkedIn analytics, 35 percent of respondents had no familiarity with it at all. On average of 27 percent indicated that they had no familiarity at all with any social media analytics tools.

Table 4.19: Familiarity with Social Media Analytics Tools

Item	Total	No Extent at all (percent)	Small Extent (percent)	Moderate Extent (percent)	Great Extent (percent)	Greatest Extent (percent)
Facebook Insights	100	10	12	47	20	11
Twitter analytics	100	22	20	31	16	11
LinkedIn Analytics	100	35	22	27	10	6
Instafollow	100	39	10	33	10	8
Google analytics	100	29	16	31	8	16

The indicators for user attributes findings are similar to global statistics report that reported that the most used social network in Kenya is Facebook with the usage of about 92.44 percent. Facebook is the biggest social media platform of all in Kenya with approximately 5 million active users, followed by Twitter with 1.7 million users, and LinkedIn with 1.3 million users (Dotsavvy, 2015). According to Kieti (2015) over 60 percent of Kenyans (2.5 – 3 million) accessing Facebook at least once a month are based in Nairobi City County.

With regards to level of education, these findings are similar to Morris and Venkatesh (2000) who found a direct effect of age on usefulness perceptions for both short-term and long-term usage of technology. Venkatesh *et al*., (2003) found that older workers show weaker willingness to adopt new Information Technology products. Hargittai (2008) looked at the predictors of social networking sites usage among a diverse group of young adults. His study showed that a person's gender, race and ethnicity, and parental educational background were all associated with use. However Teo (2001) found no significant differences in Internet usage for online shopping across age groups. In the findings for motivation of social media use Sweetser, Kay and Kelleher (2011) in their research found that public relations practitioners tend to be "everyday users" of Twitter, and not thought leaders or trendsetters across the entire social network.

4.9 Hospital's Business Environment

4.9.1 Hospital's Business Environment Factor Analysis

Table 4.20 shows the factor loading after the hospital internal environment was evaluated using 12 items measured using a Likert type scale with 1 being 'No Extent at All' and 5 being the 'Greatest Extent'. Only two items whose factor loadings were below the recommended 0.5 but were included in analysis as they were deemed to be essential to the marketing research.

Table 4.20: Hospital's Business Environment Component Matrix

Indicator	Factor Loading
Lack of time/dedicated social media staff	0.490
Lack of social media marketing strategy	0.629
Lack of access to internet	0.472
Lack of social media expertise	0.752
Lack of social media policy	0.681
Lack of senior management support	0.606
Lack of website policy	0.596
Inability to measure return on Investment	0.693
Fear of liability or malpractice concerns	0.622
Concern that patients will post negative comments about your hospital.	0.814
Problems associated with data privacy security and patient confidentiality	0.672
Lack of financial resources	0.665

4.9.2 Hospital's Business Environment Descriptive Statistics

The fourth objective of this study was to examine the effect of hospitals business environment on adoption of social media marketing by hospitals in Nairobi City County. Table 4.21 shows the responses of the items used to measure the hospital's internal business environment affects their adoption of social media marketing. Eighty two percent of the respondents felt that lack of social media marketing strategy affected to some extent the hospital's adoption of social media marketing. Twenty five percent of the respondents indicated that both lack of internet access and fear of liability or malpractice concerns affected the hospital's adoption to social media marketing to a moderate extent. Ten percent of the respondent's indicated that the factors that affected the adoption of social media marketing of hospitals to the greatest extent included lack of social media policy, inability to measure return on investment, concerns that patients will post negative comments about their hospital and problems associated with data privacy, security and patient confidentiality. Seventy-three percent of the respondents indicated that lack of social media expertise in their hospital affected the adoption of social media marketing to some extent while 41 percent felt that lack of website policy had no effect on the hospital's adoption of social media marketing. Sixty five percent of the respondents indicated that lack of

senior management support was an impediment to their hospital's adoption of social media marketing to some extent.

Table 4.21: Measurement of Hospital's Business Environment on adoption of Social media marketing

Indicator	Total Percentage	No Extent at all	Small Extent	Moderate Extent	Great Extent	Greatest Extent
Lack of time/dedicated social media staff	100	16	27	33	18	6
Lack of social media marketing strategy	100	18	25	33	18	6
Lack of access to internet	100	45	22	25	4	4
Lack of social media expertise	100	27	26	37	6	4
Lack of social media policy	100	24	22	39	6	9
Lack of senior management support	100	35	18	35	6	6
Lack of website policy	100	41	22	29	4	4
Inability to measure return on Investment	100	22	39	27	2	10
Fear of liability or malpractice concerns	100	24	31	25	12	8
Concern that patients will post negative comments about your hospital	100	25	20	29	16	10
Problems associated with data privacy security and patient confidentiality	100	25	20	35	10	10
Lack of financial resources	100	49	14	29	8	0

The findings provide further support to the importance of cost (in this case in terms of time, staff, expertise) as a barrier to social media usage (Michaelidou, Siamagka, & Christodoulides, 2011). These findings are further similar to Bruque and Moyano (2007) that electronic based marketing adoption process is directly affected by top management of as they make all decisions from daily functions to future investments. Kituyi *et al*. (2013) attributed the failure by healthcare institutions in Sub-Saharan Africa to adopt social media to inadequate implementation policies, standards, and frameworks among other factors.

Crocco *et al*. (2002) also found that lack of technological support, concern for legal ramifications regarding protection of private information, concern for how to manage the potential for complaint proliferation, and lack of measurement to assess the success of the channel were factors that affected adoption of social media by organisations. Inability to measure ROI was named by marketers as one of the most significant barriers to the adoption of social media tactics by their organization in research conducted by Marketing Sherpa, (2009). Michaelidou *et al*. (2011) noted that marketing managers are not able to provide quantified data that illustrate the importance of social networking sites which might explain the reason why professionals remain sceptical about social networking sites as an effective marketing tool.

4.10 Hospital Characteristics

4.10.1 Hospital's Characteristics Descriptive Statistics

Table 4.22 shows the results on hospital characteristics of where the respondents work. On the hospital ownership, six of the respondents (12 percent) were from public/government and the same number (six) were university/teaching hospitals. Fifty six percent of the respondents were from private for profit hospitals while twenty percent were from private not for profit and faith based hospitals. Thirty-three percent of respondents were from hospitals which had no more than 50 beds, 22 percent had 51 to 100 beds, 8 percent had 101 to 200 beds, and 22 percent had 201 to 300 beds while the rest of the respondents (16 percent) were from hospitals with over 300 beds. On the length that the hospitals have been using social media 36 percent have been using social media for the last two years, while half (51 percent) have been using it over two to three years, and the rest (14 percent) did not have social media accounts.

Table 4.22: Hospital Characteristics

Characteristics	Count	Proportion (percent)
Which of the following best describes your hospital		
Public/Government	6	12
Private (for profit)	29	56
Private (not-for-profit and faith-based)	10	20
University/Teaching Hospital	6	12
Number of Beds of the hospital you work in		
1-50	17	33
51-100	11	22
101-200	4	8
201- 300	11	22
0ver 300 beds	8	16

Griffis *et al*. (2014) highlights that large, urban, private nonprofit, and teaching hospitals in the United States of America tend to have more likes, followers, check-ins, and reviews. The more activity, the more followers it generated leading to greater social media presence. Research by Batta and Iwokwagh (2015) found that Teaching hospitals often referred to as centres of excellence in training, personnel, technology and innovation are best placed to adopt and utilise social media.

Similarly, Richter *et al*. (2013) found that whether a hospital was teaching or government owned did not affect the odds of social media use. Public hospitals in the United States, on the other hand, had a higher odds of using blogs than non-governmental hospitals. Not for profit hospitals tend to use social media more than for-profit hospital perhaps influenced by the need to solicit donation or funds.

4.11 Marketing Purpose Inferential Statistics

The first objective of this study was to examine the effect of the hospital's marketing purpose on adoption of social media marketing by hospitals in Nairobi City County. In evaluating the relationship between, marketing purpose and adoption of social media marketing inferential statistics were done. Figure 4.9 shows the scattered plot for marketing purpose and adoption of social media marketing by hospitals in

Nairobi City County. The figure reveals that there was a positive linear relationship between the two variables. Therefore, an increase in independent variable (marketing purpose) leads to an increase in the dependent variable (adoption of social media marketing)
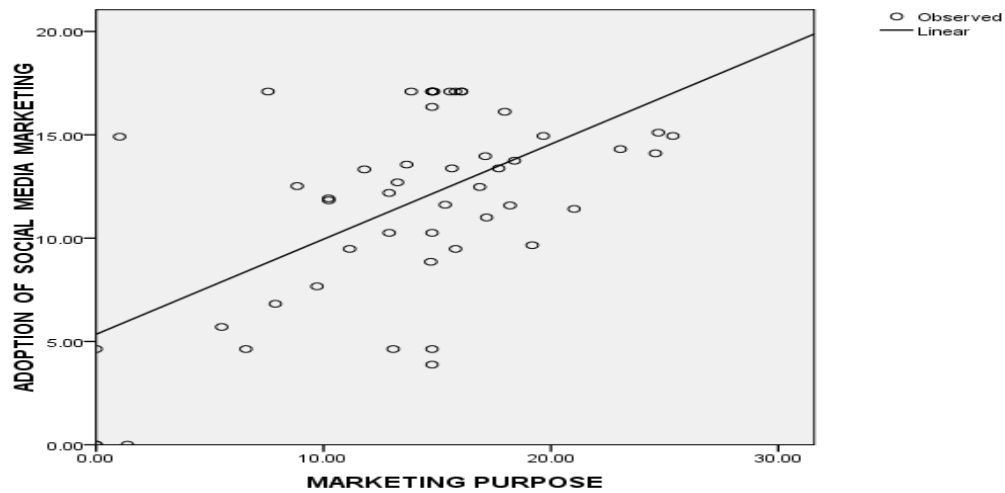
Figure 4.9: Scattered Plot for Marketing Purpose and Adoption of Social Media

Table 4.23 shows the results of Pearson's Correlation analysis between the dependent variable (adoption of social media marketing) and the independent variable (marketing purpose). The results indicate that marketing purpose was positively and significantly correlated with adoption of social media marketing (r = 0.579). This implies that a hospital's marketing purpose enhances the adoption of social media marketing. A P-value of 0.000 indicates that the relationship between marketing purpose and adoption of social media marketing by hospitals is significant and positive at 95 percent confidence level.

Table 4.23: Correlation between Marketing Purpose and Adoption of Social Media Marketing

Variable	Adoption of Social Media Marketing	Marketing Purpose
Adoption of Social Media Marketing	1.000	
Sig. (2-tailed)		
Marketing Purpose	0.579	1.000
Sig. (2-tailed)	0.000	

A regression analysis was conducted between the predictor (marketing purpose) and the outcome (adoption of social media marketing), to empirically evaluate the relationship between marketing purpose and adoption of social media marketing. Regression results in Table 4.23 show that there was a positive relationship between marketing purpose and adoption of social media marketing by hospitals in Nairobi City County where the correlation coefficient, R = 0.579. An R-squared of 0.335 indicates that the model explains 33.5 percent of the variance in the adoption of social media marketing predicted by marketing purpose.

Table 4.24: Model Summary for Marketing Purpose

Indicator	Coefficient
R	0.579
R Square	0.335
Std. Error of the Estimate	4.01236

The ANOVA for marketing purpose was performed and showed that there was a significant effect of marketing purpose on adoption of social media marketing ($F = 24.648_{(1,49)}$, Sig = 0.000). Table 4.25 shows the result of the F-test. The linear regression's F-test has the null hypothesis that there is no linear relationship between the variables ($R^2 = 0$). The F-test is highly significant (0.000), thus we can assume that there is a linear relationship between the marketing purpose and adoption of social media marketing in this model. Table 4.24 also shows that a P-value of 0.000 at five percent significance level which indicates that the model was significant.

Table 4.25: ANOVA for Marketing Purpose

	Sum of Squares	df	Mean Square	F	Sig.
Regression	396.802	1	396.802	24.648	.000
Residual	788.854	49	16.099		
Total	1185.656	50			

Table 4.26 displays the multiple linear regression estimates including the intercept and the significance levels of the independent variable (marketing purpose) and dependent variable depicted by linear regression model $Y=B_0+B_1X_1$ where, B_0 is the y-intercept, X_1 is the marketing purpose and Y is the adoption of social media marketing.

The results reveal that an increase in marketing purpose leads to greater adoption of social media marketing as show linearly by the linear model $Y=5.347+0.46X_1$ where X_1 is the marketing purpose, and Y is the adoption of social media marketing. This means that marketing purpose ($P< 0.05$) positively influences the adoption of social media by hospitals in Nairobi City County.

Since the p-value is less than alpha (0.05) the null hypothesis is rejected and conclude that marketing purpose has a significant and positive effect on the adoption of social media marketing by hospitals in Nairobi City County.

Table 4.26: Regression Coefficients of Marketing Purpose

	Unstandardized coefficients		Standardized coefficients		
Model	B	Std. Error	Beta	t	Sig.
Constant	5.347	1.384		3.864	.000
Marketing purpose	0.460	.093	0.579	4.965	.000

These findings are similar to research by Thackeray *et al*. (2012) on the adoption of social media in public health agencies. In their finding, they established that public health agencies should identify the goals and objectives that are most appropriate and

which social media applications fit best with the identified goals and objectives if they are to succeed in the effective use of social media. Social media is a channel and not an end in itself thus the establishment of marketing purpose or goals is paramount to the success of the larger marketing strategy. Kietzmann *et al*. (2011) in their research presented a guideline termed the 4 Cs: cognize, congruity, curate, and chase, stressing that firms must develop strategies that are congruent with, or suited to, different social media functionalities and the goals of the firm to succeed in social media utilization.

Romero, Galuba, Asur, and Huberman (2011) noted that businesses with clear strategic objectives, oriented to efficiency, profitability, customer service and productivity increase are likely to identify the need for engaging social media as marketing tools and implement this as well.

4.12 Social Media Technology Use and Attributes Inferential Statistics

The second objective was to examine the effect of the social media technology use and attributes on adoption of social media marketing by hospitals in Nairobi City County. Figure 4.10 shows the scattered plot for social media use and attributes on adoption of social media marketing. The figure reveals that there was a positive relationship between the two variables. Therefore, an increase in independent variable (social media technology use and attributes) leads to an increase in the dependent variable (adoption of social media marketing).
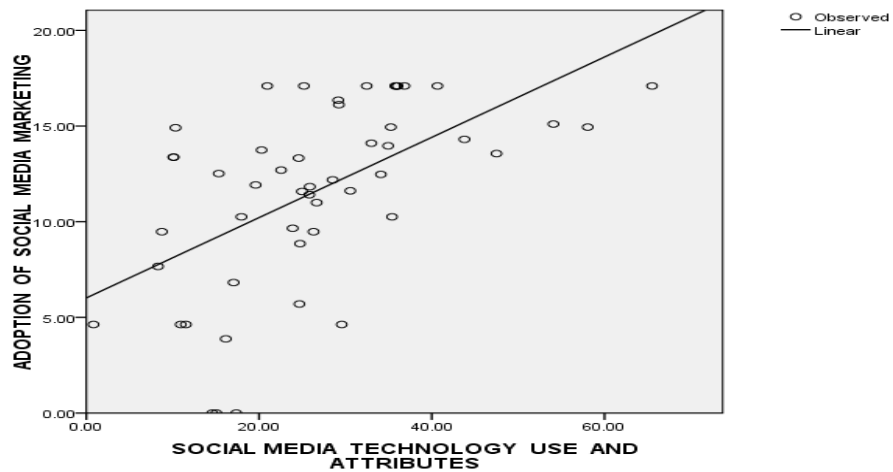
Figure 4.10: Scattered Plot for Social Media Technology Use and attributes and Adoption of Social Media

Correlation analysis on the relationship between the variables was done using Pearson correlation coefficient (r) to determine the relationship between social media technology use and attributes and adoption social media in marketing. Table 4.27 shows the correlation between the two variables were $(r = 0.564, p < 0.05)$. Thus there is sufficient evidence to conclude that there is a significant linear relationship between social media technology use and attributes and adoption of social media marketing. A significance value of (0.000) is less than alpha (0.05) level of significance. The implication is to reject the null hypothesis and conclude that social media technology use and attributes has a significant and positive effect on the adoption of social media marketing for hospitals in Nairobi City County.

Table 4.27: Correlation between Social Media Technology Use and Attributes and Adoption of Social Media Marketing

Variable	Adoption of Social Media Marketing	Social Media Technology Use And Attributes
Adoption of Social Media Marketing	1.000	
Sig. (2-tailed)		
Social Media Technology Use And Attributes	0.564	1.000
Sig. (2-tailed)	0.000	

A regression analysis was conducted between the predictor (social media technology use and attributes) and the outcome (adoption of social media marketing), to empirically evaluate the relationship between the two variables. Regression results in Table 4.28 show that there was a significant positive relationship between social media technology use and attributes and adoption of social media marketing by hospitals in Nairobi City County where R = 0.564. An R-squared of 0.318 indicates that the model explains 31.8 percent of the variance in the adoption of social media marketing predicted by social media technology use and attributes.

Table 4.28: Model Summary for Social Media Technology Use and Attributes

Indicator	Coefficient
R	.564
R Square	0.318
Std. Error of the Estimate	4.06282

The ANOVA for social media technology and use variable was performed. This showed that there was a significant effect of social media technology use and attributes on adoption of social media marketing (F= $22.83_{(1, 49)}$, Sig = 0.000). Table 4.29 also shows that a P-value of 0.000 at five percent significance level which indicates that the model was significant.

Table 4.29: ANOVA for Social Media Technology Use and Attributes

	Sum of Squares	df	Mean Square	F	Sig.
Regression	376.838	1	376.838	22.830	.000
Residual	808.817	49	16.506		
Total	1185.656	50			

Table 4.30 displays the regression coefficients of the independent variable (social media technology use and attributes) depicted by linear regression model $Y=B_0+B_2X_2$ where, X_2 is the social media technology use and attributes and Y is the adoption of social media marketing. The results reveal that an increase in social

media technology use and attributes leads to greater adoption of social media marketing as show linearly by the linear model $Y=6.020+0.210X_2$ where X_2 is the social media technology use and attributes and Y is the adoption of social media marketing. This means that social media technology use and attributes was significant ($P<0.05$) in positively influencing the adoption of social media by hospitals in Nairobi City County. This means that a unit increase in social media technology use and attributes leads to a greater adoption of social media marketing at a rate of (0.210).

Table 4.30: Regression Coefficients for Social Media Technology Use and Attributes

	Unstandardized coefficients		Standardized coefficients		
Model	B	Std. Error	Beta	t	Sig.
Constant	6.020	1.304		4.617	.000
Social media technology use and attributes	0.210	0.044	0.564	4.778	.000

Since the p-value is less than alpha (0.05) the null hypothesis is rejected at 95 percent confidence level thus concluding that social media technology use and attributes has a significant and positive effect on the adoption of social media marketing by hospitals in Nairobi City County.

Griffis *et al*. (2014) found that it is unknown which platform may best connect hospitals with patients and for what purpose, it is probable that users will continue to interact with hospitals through social media, even with the continual introduction of new social media portals, such as Instagram, Pinterest, and Snapchat. Thus adoption of social media depends on the different attributes of social media platforms. For instance, Facebook can be used for patient support groups. The Mayo Clinic and other educational healthcare institutions have also used blogs to foster peer-to-peer learning and to implement new protocols.

4.13 User Attributes Inferential Statistics

The third objective was to examine the effect of user attributes on adoption of social media marketing by hospitals in Nairobi City County. Figure 4.11 shows the scattered plot for of user attributes on adoption of social media marketing. The figure reveals that there was a positive relationship between the two variables. Therefore, an increase in independent variable (of user attributes) leads to an increase in the dependent variable (adoption of social media marketing).
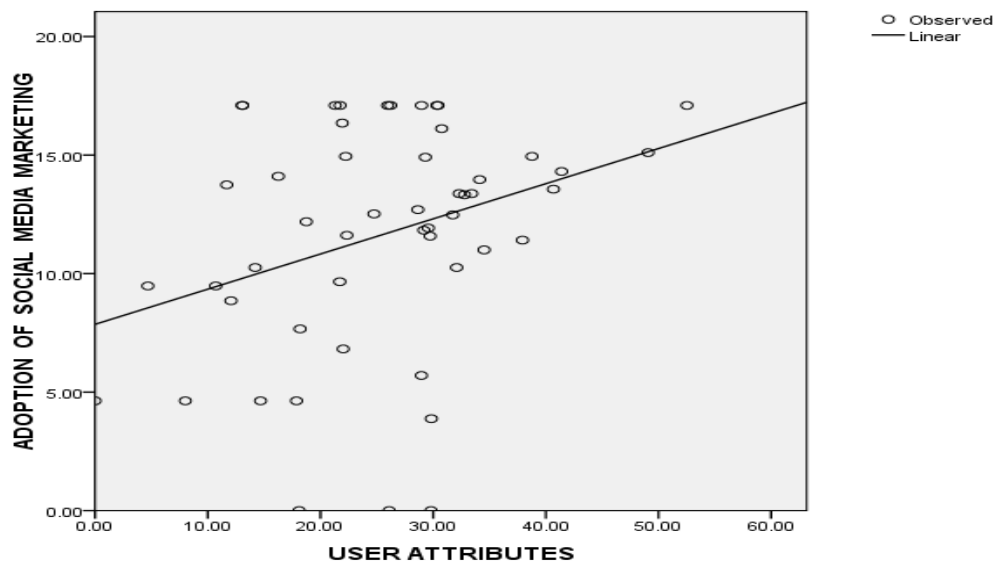

Figure 4.11: Scattered Plot for User attributes and Adoption of Social Media

In evaluating the relationship between user attributes and adoption of social media in marketing, Pearson correlation was done. Results on Table 4.31 shows that the correlation between the two variables was positive and significantly correlated with adoption of social media marketing ($r = 0.323$, $p < 0.05$). A significance value of (0.021) is less than alpha (0.05) level of significance indicating that user attributes and adoption of social media marketing by hospitals in Nairobi City County was significant and positive at 95 percent confidence level.

Table 4.31: Correlation between User Attributes and Adoption of Social Media Marketing

Variable	User Attributes	Adoption of Social Media Marketing
Adoption of Social Media Marketing	1.000	
Sig. (2-tailed)		
User Attributes	0.323	1.000
Sig. (2-tailed)	0.021	

A regression analysis was conducted between the predictor (user attributes) and the outcome (adoption of social media marketing), to empirically evaluate the relationship between the two variables. Regression results in Table 4.32 show that there was a significant positive relationship between user attributes and adoption of social media marketing by hospitals in Nairobi City County where R = 0.323. An R-squared of 0.104 indicates that the model explains only 10.4 percent of the variance in the adoption of social media marketing predicted by user attributes.

Table 4.32: Model Summary for User Attributes

Indicator	Coefficient
R	0.323
R Square	0.104
Std. Error of the Estimate	4.65497

The ANOVA performed as shown in Table 4.33 revealed that there was a significant effect of user attributes on adoption of social media marketing (F= 5.717 $_{(1,49)}$, Sig = 0.021). Table 4.34 also shows that a P-value of 0.021 at five percent significance level which indicates that the model was significant.

Table 4.33: ANOVA for User Attributes

	Sum of Squares	df	Mean Square	F	Sig.
Regression	123.887	1	123.887	5.717	0.021
Residual	1061.768	49	21.669		
Total	1185.656	50			

Table 4.34 displays the regression coefficients of the independent variable (user attributes) depicted by linear regression model $Y=B_0+B_3X_3$ where, X_3 is the user attributes and Y is the adoption of social media marketing. The results reveal that an increase in user attributes leads to greater adoption of social media marketing as show linearly by the linear model $Y=7.861+0.148X_3$; Where X_3 is user attributes and Y is the adoption of social media marketing. This means that user attributes was significant ($P<0.05$) in positively influencing the adoption of social media by hospitals in Nairobi City County.

Table 4.34: Regression Coefficients for User Attributes

	Unstandardized coefficients		Standardized coefficients		
Model	B	Std. Error	Beta	t	Sig.
Constant	7.861	1.704		4.614	.000
User attributes	0.148	0.062	0.323	2.391	.021

Since the p-value is less than alpha (0.05) the null hypothesis is rejected and conclude that user attributes has a significant and positive effect on the adoption of social media marketing by hospitals in Nairobi City County.

This is consistent with the findings by Schiller (2003) where he noted that personal characteristics such as educational level, age, gender, educational experience, experience with the computers and attitude can influence the adoption of a technology. Yang and Fang (2004) found that motivations, skills, experience and education are all factors that influence the development and maintenance of attitudes.

Therefore, maintenance and change of attitude should be considered as a complementary tool to techniques that can be used to improve user acceptance of new technologies. People use often use the Internet to socialize with people they do know and expand their circle of friends (Correa et al., 2010). He noted further that more than one-third of all Internet users engage in social media and instant messaging platforms.

4.14 Hospitals Business Environment Inferential Statistics

The fourth objective was to examine the effect of the hospitals business environment on adoption of social media marketing by hospitals in Nairobi City County. Figure 4.12 shows the scattered plot for hospital's business environment on adoption of social media marketing. The figure reveals that there was a positive relationship between the two variables. Therefore, an increase in independent variable (hospital's business environment) leads to an increase in the dependent variable (adoption of social media marketing).
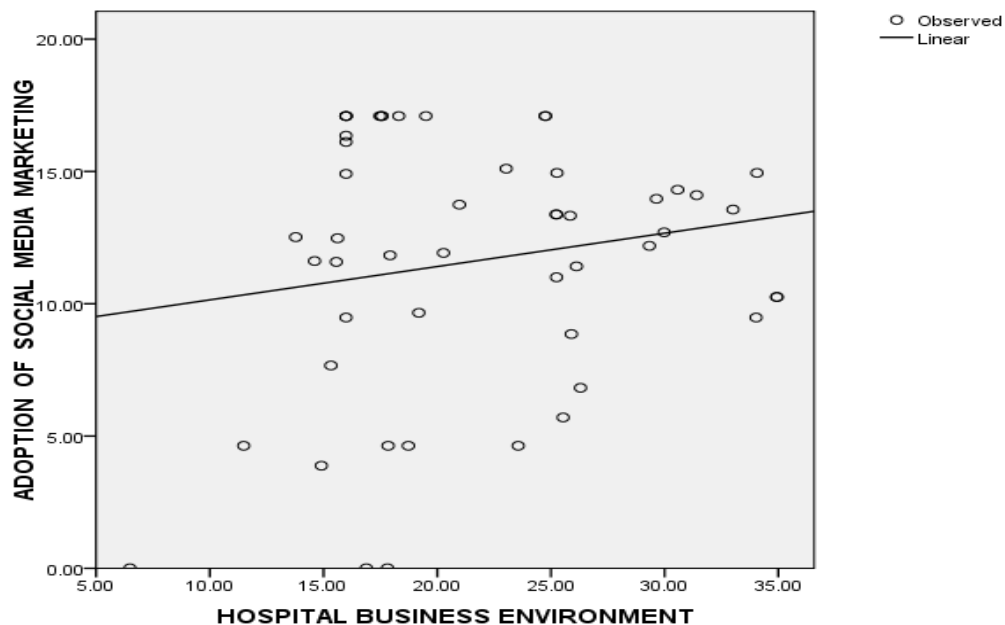
Figure 4.12: Scattered Plot for Hospital's Business Environment and Adoption of Social Media

Correlation analysis on the relationship between the variables was done using Pearson correlation coefficient (r) to determine the relationship between hospitals business environment and adoption of social media marketing. The correlation coefficient between hospital environment and adoption of social media marketing indicates a non-significant positive relationship. Table 4.35 shows the correlation between the two variables were (r = 0.176, p > 0.05). A significance value of (0.218) is greater than alpha (0.05) level of significance.

Table 4.35: Correlation between Hospital's Business Environment and Adoption of Social Media Marketing

Variable	Adoption of Social Media Marketing	Hospital's Business Environment
Adoption of Social Media Marketing	1.000	
Sig. (2-tailed)		
Hospital's Business Environment	0.176	1.000
Sig. (2-tailed)	0.218	

Therefore there is insufficient evidence to conclude that there is a significant linear relationship between hospital's business environment and adoption of social media marketing. The regression line cannot be used to model a linear relationship between hospitals business environment and adoption of social media marketing (Illowsky & Dean, 2008). The implication is to fail to reject the null hypothesis and conclude that hospitals business environment does not have a significant effect on the adoption of social media marketing for hospitals in Nairobi City County.

These findings differ from Shin (2010) who found in his research that social media marketing requires having a conducive environment where such as explicit policies and data protection mechanisms are in place and provide the same of customer protection and privacy as in the offline environment.

4.15 Overall Model for Adoption of Social Media Marketing Without the Moderating Variable

A multiple regression analysis was conducted to investigate the joint causal relationship between all the independent and dependent variables. The coefficient of determination (R^2) and correlation coefficient (R) shows the degree of association between marketing purpose, user attributes, social media technology use and attributes, hospitals business environment, and adoption of social media marketing. From the linear regression model, it is shown that R-squared =0.907 and R= 0.952. An R-squared of 0.907 indicates that the joint effect of marketing purpose, user attributes, social media technology use and attributes explains 90.7 percent of the variances in adoption of social media marketing by hospitals in Nairobi City County. This meant that the linear model was a good fit in explaining the relationship between the dependent and independent variables. This is shown in Table 4.36. The implications of the study shows that marketing purpose, user attributes, social media technology use and attributes market access has a strong influence on adoption of social media marketing by hospitals in Nairobi City County. It is thus important for marketing departments to invest in development of marketing strategic plans that articulate the marketing purpose, in marketers who are social media savvy and in adopting modern social media platforms that will facilitate the adoption of social media marketing in their hospitals.

Table 4.36: Overall Model Summary for Adoption of Social Media Marketing

Indicator	Coefficient
R	0.952
R Square	0.907
Std. Error of the Estimate	3.99368

ANOVA results are presented in Table 4.37. The results showed that the overall model was significant, that is, marketing purpose, user attributes, social media technology use and attributes and hospitals business environment were joint explanatory determinants of adoption of social media marketing. An F statistic

(F=8.55$_{(4, 49)}$, P-value = 0.000). The P value is 0.000 which is smaller than P<0.05 thus implying that the overall model was statistically significant in explaining the joint effect of the independent variables on the dependent variable. Therefore it is possible to conclude that the marketing purpose, social media technology use and attributes and user attributes and hospital's business environment jointly have a significant positive effect on adoption of social media marketing. Hospitals must therefore be able to manipulate the independent variables so as to successfully achieve the dependent variable (adoption of social media marketing).

Table 4.37: ANOVA for Adoption of Social Media Marketing

Indicator	Sum of Squares	Df	Mean Square	F	Sig.
Regression	505.683	4	126.421	8.552	0.000
Residual	679.972	46	14.782		
Total	1185.656	50			

The Pearson Correlations matrix is presented in Table 4.38 and shows how items correlate on a scale of +1 and -1. The correlation coefficient between the adoption of social media marketing and marketing purpose, social media technology use and attributes, user attributes, hospitals business environment are 0.579, 0.564, 0.323, and 0.176, respectively.

Table 4.38: Overall Pearson Correlation Coefficients

Variable		Adoption of social media marketing	Marketing purpose	Social media technology use and attributes	User attributes	Hospital business environment
Adoption of social media marketing	Pearson Correlation	1				
	Sig. (2-tailed)					
Marketing purpose	Pearson Correlation	.579	1			
	Sig. (2-tailed)	.000				
Social media technology use and attributes	Pearson Correlation	.564	.546	1		
	Sig. (2-tailed)	.000	.000			
User attributes	Pearson Correlation	.323	.289	.577**	1	
	Sig. (2-tailed)	.021	.040	.000		
Hospital business environment	Pearson Correlation	.176	.375	.256	.150	1
	Sig. (2-tailed)	.218	.007	.070	.292	

After analysis, the model arrived at was as follows as shown by beta values in Table 4.39. $Y = 4.630 + 0.326X_1 + 0.130X_2 + 0.363X_3 + 0.128X_4$, where y is the adoption of social media marketing, X_1 is the marketing purpose variable, X_2 is the social media technology use and attributes, X_3 is the user attributes, and X_4 is hospitals business environment. The coefficients show positive associations of the respective independent variables and the dependent variable and their respective significance. The Y- intercept is 4.630 which is the predicted value for the adoption of social media marketing when all the other variables are Zero. Beta expresses the relative importance of each independent variables in standardized terms. Table 4.39 shows that user attributes has the greatest impact (0.431) followed by marketing purpose (0.409), social media technology use and attributes (0.351) respectively with hospitals business environment (0.301) having the least impact.

The relationship between marketing purpose and adoption of social media marketing was positive and significant (B=0.326, p-value, 0.005). Thus an increase in marketing purpose leads to an increase in adoption of social media marketing by 32.6 percent.

Table 4.39 also shows the relationship between social media technology use and attributes and adoption of social media marketing was positive and significant (B =0.130, p-value, 0.03) as the p-value is less than 0.05 and the variable only explains 13 percent of adoption of social media marketing by Hospitals in NCC, Kenya.

As presented in Table 4.39 the relationship between user attributes and adoption social media marketing shows that was a positive and significant (B =0.363 p value= 0.003) as the p-value is less than 0.05. A unit increase in user attributes leads to a 36 percent increase in the adoption of social media marketing by hospitals in NCC.

The relationship between the hospitals business environment and adoption of social media marketing also shown in Table 4.39 was also positive and significant (p value=0.040, B= 0.128) as the p-value is less than 0.05 which indicates that the hospitals business environment explains only 12.8 percent of the variances in adoption of social media marketing.

Table 4.39: Overall Regression Coefficient

Variable	Unstandardized		Standardized estimates		
	B	Std. Error	Beta	t	Sig.
Constant	4.630	2.133		2.171	0.035
Marketing purpose	0.326	0.111	0.409	2.938	0.005
Social media technology and attributes	0.130	0.058	0.351	2.240	0.030
User attributes	0.363	0.1140	0.431	3.191	0.003
Hospital business environment	0.128	0.060	0.301	2.113	0.040

4.16 Moderating Effect of Hospital Characteristics on Adoption of Social Media Marketing

The fifth objective of the study was to evaluate the moderating effect of hospital characteristics on the independent variables contribution to the adoption of social media marketing by hospitals in Nairobi City County. First, an overall model was evaluated as above without the moderating variable followed by an evaluation of the effect of the moderating variable (hospital characteristics) on each of the independent variables and on the overall model.

4.16.1 Hospital Characteristics Moderating the Relationship between Marketing Purpose and Adoption of Social Media Marketing

A regression analysis was conducted to empirically evaluate the moderating effect of hospital characteristics on the relationship between marketing purpose and adoption of social media marketing. Regression results in Table 4.40 show that there was a significant positive relationship between marketing purpose and adoption of social media marketing by hospitals in Nairobi City County where R = 0.762. An R-squared of 0.580 indicates that the model explains 58 percent of the variance in the relationship between adoption of social media marketing and marketing purpose when moderated by hospital characteristics. Table 4.40 shows the model summary on

the regression between the predictor variable, marketing purpose on the outcome (adoption of social media marketing).

Table 4.40: Model Summary for Marketing Purpose as Moderated by Hospital Characteristics

Indicator	Coefficient
R	0.762
R Square	0.580
Std. Error of the Estimate	3.25388

The ANOVA was also performed and showed that there was a significant moderating effect of hospital characteristics on the relationship between marketing purpose and adoption of social media marketing (F= $21.661_{(3,47)}$, Sig = 0.000). Table 4.41 also shows that a P-value of 0.000 at five percent significance level which indicates that the model was significant.

Table 4.41: ANOVA for Marketing Purpose

	Sum of Squares	df	Mean Square	F	Sig.
Regression	688.032	3	229.344	21.661	.000
Residual	497.624	47	10.588		
Total	1185.656	50			

Table 4.42 displays the regression coefficients of the independent variable (marketing purpose) depicted by linear regression model $Y = B_0 + \beta_5 X_1 Z$, where, β_5 is the regression coefficient for marketing purpose X_1 is the regression coefficient of marketing purpose, Z = Hypothesized moderating variable (hospital characteristics), and Y is the dependent variable (adoption of social media marketing).

The results reveal that hospital characteristics enhance the relationship between marketing purpose and adoption of social media marketing as show linearly by the

linear model $Y=17.587+0.125X_1Z$. Where X_1 is the Marketing Purpose, Z is the product term between marketing purpose and hospital characteristics and Y is the adoption of social media marketing.

Table 4.42 show that the p-value of the interaction term is positive and significant implying that hospital characteristics have a positive and significant moderating effect in the relationship between marketing purpose and adoption of social media marketing by hospitals in Nairobi City County. Thus hospital characteristics enhances the relationship between marketing purpose and adoption of social media marketing.

Since the p-value (0.023) is less than alpha (0.05) the null hypothesis is rejected and conclude that hospital characteristics has a significant and positive moderating effect on the relationship between marketing purpose and adoption of social media marketing by hospitals in Nairobi City County.

Table 4.42: Regression Coefficients for Marketing Purpose

Variable	Beta	Std. Error	t	Sig
Constant	17.587	2.751	6.392	0.000
Marketing purpose	0.105	0.175	0.601	0.551
Marketing purpose*Hospital characteristics	0.125	0.053	2.351	0.023

4.16.2 Hospital Characteristics Moderating the Relationship between Social Media Technology Use and Attributes and Adoption of Social Media Marketing.

A regression analysis was conducted to empirically evaluate the moderating effect of hospital characteristics on the relationship between social media technology use and attributes and adoption of social media marketing. Regression results in Table 4.43 show that there was a significant positive relationship between social media technology use and attributes and adoption of social media marketing by hospitals in Nairobi City County where R = 0.802. An R-squared of 0.644 indicates that the model explains 64.4 percent of the variance in the relationship between adoption of

social media marketing and social media technology use and attributes when moderated by hospital characteristics.

Table 4.43: Model Summary for Social Media Technology use and Attributes

Indicator	Coefficient
R	0.802
R Square	0.644
Std. Error of the Estimate	2.99705

The ANOVA was also performed and showed that there was a significant moderating effect of hospital characteristics on the relationship between social media technology use and attributes and adoption of social media marketing ($F = 28.33_{(3,47)}$, Sig $= 0.000$). Table 4.44 also shows that a P-value of 0.000 at five percent significance level which indicates that the model was significant.

Table 4.44: ANOVA for Social Media Technology use and Attributes

	Sum of Squares	df	Mean Square	F	Sig.
Regression	763.486	3	254.495	28.33	.000
Residual	422.169	47	8.982		
Total	1185.656	50			

Table 4.45 displays the regression coefficients of the independent variable (social media technology use and attributes) depicted by linear regression model $Y = B_0 + \beta_6 X_2 Z$, where, β_6 is the regression coefficient of social media technology use and attributes , X_2 is social media technology use and attributes, Z = Hypothesized moderating variable (Hospital characteristics), and Y is the adoption of social media marketing.

The results reveal that hospital characteristics enhance the relationship between social media technology use and attributes and adoption of social media marketing as show linearly by the linear model $Y = 17.027 + 0.061 X_2 Z$. Where X_2 is the social media

technology use and attributes, Z is the product term between social media technology use and attributes and hospital characteristics and Y is the adoption of social media marketing. Regression results in Table 4.45 shows that the p-value of the interacting term is positive and significant implying that hospital characteristics have a positive and significant moderating effect in the relationship between social media technology use and attributes and adoption of social media marketing by hospitals in Nairobi City County. Thus hospital characteristics enhances the relationship between social media technology use and attributes and adoption of social media marketing. Since the p-value (0.025) is less than alpha (0.05) the null hypothesis is rejected and conclude that hospital characteristics has a significant and positive effect on the relationship between social media technology use and attributes and adoption of social media marketing by hospitals in Nairobi City County.

Table 4.45: Regression Coefficients for Social Media Technology use and Attributes

Variable	Beta	Std. Error	t	Sig
Constant	17.027	2.751	6.392	0.000
Social media technology use and attributes	0.010	0.175	0.601	0.551
Hospital Characteristics	-3.545	0.053	2.351	0.023
Social media technology use and attributes *Hospital characteristics	0.061	0.026	2.321	0.025

4.16.3 Hospital Characteristics Moderating the Relationship between Users Attributes and Adoption of Social Media Marketing.

A regression analysis was conducted to empirically evaluate the moderating effect of hospital characteristics on the relationship between user attributes and adoption of social media marketing. Regression results in Table 4.46 show that there was a significant positive relationship between user attributes and adoption of social media marketing by hospitals in Nairobi City County where R = 0.731. An R-squared of 0.535 indicates that the model explains 53.5 percent of the variance in the

relationship between user attributes and adoption of social media marketing when moderated by hospital characteristics.

Table 4.46: Model Summary for User Attributes

Indicator	Coefficient
R	0.731
R Square	0.535
Std. Error of the Estimate	3.42604

The ANOVA was also performed and showed that there was a significant moderating effect of hospital characteristics on the relationship between user attributes and adoption of social media marketing (F= 18.004 $_{(3,47)}$, Sig = 0.000). Table 4.47 also shows that a P-value of 0.000 at five percent significance level which indicates that the model was significant.

Table 4.47: ANOVA for User Attributes

	Sum of Squares	df	Mean Square	F	Sig.
Regression	633.981	3	211.327	18.004	.000
Residual	551.675	47	11.738		
Total	1185.656	50			

Table 4.48 displays the regression coefficients of the independent variable (user attributes) depicted by linear regression model $Y=B_0+ \beta_7 X_3 Z$, where, β_7 is the regression coefficient of user attributes, X_3 is user attributes, Z = Hypothesized moderating variable (Hospital characteristics), and Y is the adoption of social media marketing.

The results reveal that hospital characteristics enhance the relationship between user attributes and adoption of social media marketing as show linearly by the linear model $Y=17.0163+0.036X_3Z$. Where X_3 is user attributes, Z is the product term

100

between user attributes and hospital characteristics and Y is the adoption of social media marketing.

Since the p-value (0.314) is greater than alpha (0.05) thus fail to reject null hypothesis is and conclude that hospital characteristics does not have significant effect on the relationship between user attributes and adoption of social media marketing by hospitals in Nairobi City County.

Table 4.48: Regression Coefficients for User Attributes

Variable	Beta	Std. Error	t	Sig
Constant	17.163	2.788	6.155	.000
User attributes	.021	.107	.201	.842
Hospital Characteristics	-3.294	.889	-3.705	.001
User attributes *Hospital characteristics	0.036	0.035	1.017	0.314

4.16.4 Hospital Characteristics Moderating the Relationship between Hospital Business Environment and Adoption of Social Media Marketing.

A regression analysis was conducted to empirically evaluate the moderating effect of hospital characteristics on the relationship between hospital business environment and adoption of social media marketing. Regression results in Table 4.49 show that there was a significant positive relationship between hospital business environment and adoption of social media marketing by hospitals in Nairobi City County where R = 0.723. An R-squared of 0.523 indicates that the model explains 52.3 percent of the variance in the relationship between hospital business environment and adoption of social media marketing when moderated by hospital characteristics.

Table 4.49: Model Summary for Hospital Business Environment

Indicator	Coefficient
R	0.723
R Square	0.523
Std. Error of the Estimate	3.46946

The ANOVA was also performed and showed that there was a significant moderating effect of hospital characteristics on the relationship between hospital business environment and adoption of social media marketing (F= 17.166 $_{(3,47)}$, Sig = 0.000). Table 4.50 also shows that a P-value of 0.000 at five percent significance level which indicates that the model was significant.

Table 4.50: ANOVA for Hospital Business Environment

	Sum of Squares	df	Mean Square	F	Sig.
Regression	619.903	3	206.634	17.166	.000
Residual	565.752	47	12.037		
Total	1185.656	50			

Table 4.51 displays the regression coefficients of the independent variable (hospital business environment) depicted by linear regression model $Y = B_0 + \beta_8 X_4 Z$, where, β_8 is the regression coefficient of hospital business environment, X_4 is hospital business environment, Z = Hypothesized moderating variable (Hospital characteristics), and Y is the adoption of social media marketing.

The results reveal that hospital characteristics enhance the relationship between hospital business environment and adoption of social media marketing as show linearly by the linear model $Y = 26.078 + 0.154 X_4 Z$. Where X_4 is user attributes, Z is the product term between hospitals business environment and hospital characteristics and Y is the adoption of social media marketing.

Since the p-value (0.015) is less than alpha (0.05) thus reject null hypothesis and conclude that hospital characteristics has a significant effect on the relationship between hospital business environment and adoption of social media marketing by hospitals in Nairobi City County.

Table 4.51: Regression Coefficients for Hospital Business Environment

Variable	Beta	Std. Error	t	Sig
Constant	26.078	3.795	6.872	0.000
hospital business environment	-.377	.166	-2.275	0.027
Hospital Characteristics	-5.682	1.287	-4.413	0.000
hospital business environment *Hospital characteristics	0.154	0.061	2.537	0.015

4.17 Overall Model for Adoption of Social Media Marketing With the Moderating Variable

A multiple regression analysis was conducted to investigate the joint causal relationship between all the independent and dependent variables with the interacting term (hospital characteristics). The coefficient of determination (R^2) and correlation coefficient (R) shows the degree of association between marketing purposes, user attributes, social media technology use and attributes, hospitals business environment, and adoption of social media marketing when moderated by hospital characteristics. From the linear regression model, it is shown that R-squared =0.923 and R= 0.61. An R-squared of 0.923 indicates that the joint effect of marketing purpose, user attributes, social media technology use and attributes when moderated by hospital characteristics explains 92.3 percent of the variances in adoption of social media marketing by hospitals in Nairobi City County. This is shown in Table 4.52.

Table 4.52: Overall Model Summary for Adoption of Social Media Marketing With the Moderating Variable

Indicator	Coefficient
R	0.961
R Square	0.923
Std. Error of the Estimate	3.84788

ANOVA results are presented in Table 4.53. The results showed that the overall model was significant, that is, marketing purpose, user attributes, social media technology use and attributes and hospitals business environment when moderated by hospital characteristics were joint explanatory determinants of adoption of social media marketing. An F statistic (F=8.55$_{(9, 41)}$, P-value = 0.000). The P value is 0.000 which is smaller than P<0.05 thus implying that the overall model was significant.

Table 4.53: ANOVA for Adoption of Social Media Marketing with Moderating Variable

Indicator	Sum of Squares	Df	Mean Square	F	Sig.
Regression	875.012	9	97.224	12.832	0.000
Residual	310.643	41	7.577		
Total	1185.656	50			

4.17.1 Comparison of Overall Model Summary for Adoption of Social Media Marketing With and without the Moderating Variable

A goodness of fit analysis was done on the overall model summary for the adoption of social media marketing by hospitals in Nairobi City County with and without the moderating variable (hospital characteristics). The coefficient of determination was 0.907 indicating that the regression model without the moderating variable explained 90.7 percent of the variations in adoption of social media marketing. In the full model, the coefficient of determination was 0.923 implying that the model explained 92.3 percent of the variations, which was an improvement on the reduced model of more than one percent. This is shown in Table 4.54. This implied that the model was suited for study and worked better with the inclusion of the hospital characteristics as a moderating variable. We therefore reject the null hypothesis and state that there is a significant moderating effect of hospital characteristics on the adoption of social media marketing by hospitals in Nairobi City County.

These findings collaborate with Griffis *et al*. (2014) who in their study found that hospital characteristics affected the use of social media. They found that teaching hospitals were more likely to use social media as these hospitals tended to have a dedicated marketing and communications departments and were likely to have policies in place that supported the use of social media. They also found that large, not for profit and teaching hospitals tended to have more followers on social media. Nah and Saxton (2012) found in their studies of nonprofit website use that size of an organisation does not represent a barrier to employment of social media.

Table 4.54: Goodness of Fit of Overall Model Summary for Adoption of Social Media Marketing With and without the Moderating Variable

Indicator	Reduced Model	Full Model
R	0.952	0.961
R Square	0.907	0.923
Std. Error of the Estimate	3.99368	3.84788

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the key findings of the study, conclusion, and recommendations. This study set out with the aim of establishing the determinants of adoption of social media marketing by hospitals in Nairobi City County in Kenya. The chapter also identifies the limitations of the study and areas of further research. The following are the specific breakdown of the summaries of the major findings based on the output of the descriptive and inferential statistical analyses guided by the research objectives.

5.2 Summary of the Findings

5.2.1 Marketing Purpose and Adoption of Social Media Marketing

The first Hypothesis of the study examined the effect of the organisation's marketing purpose on adoption of social media marketing by hospitals in Nairobi City County. Both descriptive and inferential statistics were used to arrive at the findings. Correlation analysis conducted revealed that marketing purpose had a positive correlation and was significant. The P-value implied that there was sufficient evidence to conclude that there is a significant, positive linear relationship between marketing purpose and adoption of social media marketing by hospitals in Nairobi City County, Kenya. Since the p-value was less than alpha the null hypothesis was rejected and concluded that marketing purpose has a significant effect on the adoption of social media marketing by hospitals in Nairobi City County.

5.2.2 Social Media Technology use and Attributes and Adoption of Social Media Marketing

The second hypothesis explored the effect of social media technology use and attributes on adoption of social media marketing. The results of the correlation

analysis showed that there was a significant positive relationship between social media technology use and attributes and adoption of social media marketing. The significance value was less than alpha thus concluded to reject the null hypothesis and state that social media technology use and attributes has a significant effect on the adoption of social media marketing for hospitals in Nairobi City County.

5.2.3 User Attributes and Adoption of Social Media Marketing

The third hypothesis aimed at establishing the effect of user attributes or the marketers attributes on the adoption of social media marketing by hospitals in Nairobi City County. The results of the correlation showed that there was a significant positive relationship between user attributes and social media marketing. The implication is to reject the null hypothesis and conclude that user attributes has a significant effect on the adoption of social media marketing by hospitals in Nairobi City County, Kenya.

5.2.4 Hospital Business Environment and Adoption of Social Media Marketing

The fourth hypothesis aimed at evaluating the effect of the hospitals business environment on the adoption of social media marketing by hospitals in Nairobi City County, Kenya. Although the correlation coefficient between hospital environment and adoption of social media marketing was positive the P value was greater than alpha indicating that the relationship was insignificant. Thus failure to reject the null hypothesis and conclude that Hospital Business Environment does not have a significant effect on the adoption of social media marketing by hospitals in Nairobi City County.

5.2.5 Hospital Characteristics and Adoption of Social Media Marketing

The fifth hypothesis explored the moderating effect of the hospitals business environment on the adoption of social media marketing by hospitals in Nairobi City County, Kenya. The overall model was first tested without the moderating variable to see if it was significant. A multiple regression analysis to investigate the joint causal relationship between the independent variables and the dependent variable showed

the degree of association between hospitals business environment, marketing purpose, user attributes, social media technology use and attributes and adoption of social media marketing was significant. The coefficient of determination indicated that the joint effect of marketing purpose, user attributes, social media technology use and attributes explained ninety percent of the variances in of adoption of social media marketing by hospitals in Nairobi City County. The P- value which was smaller than alpha implied that the overall model was significant. The coefficient of determination was in the full model, was an improvement on the reduced model. This implied that the model was suited for study and worked better with the inclusion of the hospital characteristics as a moderating variable. Therefore the decision to reject the null hypothesis stating that there is a significant moderating effect of hospital characteristics on the adoption of social media marketing by hospitals in Nairobi City County

5.3 Conclusion

This study set out to examine the effect of the organisation's marketing purpose on adoption of social media marketing by hospitals in Nairobi City County; determine the effect of social media technology use and attributes; establish the effect of end user attributes or the marketer's attributes; evaluate the effect of the hospitals business environment. Further to also examine the moderating effect of hospital characteristics on the determinants of adoption of social media marketing by hospitals in Nairobi City County, Kenya. The study was anchored on communication theory of social exchange, social network theory, unified theory of acceptance and use of technology and social graphic framework and social feedback loop. The study adopted the worldview philosophy of positivism. Primary data was collected from hospitals in Nairobi City County, Kenya through the use of a questionnaire.

Marketing purpose had a significant effect on the adoption of social media marketing by hospitals in Nairobi City County. These findings imply that for hospitals to adopt social media marketing successfully, they must have a clear marketing goal or purpose. A clear marketing purpose enables the hospital marketer identify the target audience, appropriate message and subsequently chose the most effective marketing

communications tool. The implication is that for a hospital to successfully adopt and benefit from the use of social media marketing, the marketing purpose that guides the adoption of social media marketing must align with the overall marketing strategy which determines the direction that marketing takes to ensure that the hospital achieves the underscored strategic objectives. Since the relationship between marketing purpose and adoption of social media marketing was significant and positive, it implies that marketing departments that articulate their objectives are more likely to benefit from adoption of social media marketing.

Social media technology use and attributes has a significant effect on adoption of social media marketing by hospitals in Nairobi City County. Social media use and attributes was measured by engagement of the hospital's followers, use of social media technology and ability to monitor the social media accounts. An important finding was that even though hospitals were using social media tools, there was a lack of engagement with their followers where on average more than half of the hospitals did not engage their followers. A lack of engagement with followers negates the very essence of social media which is a two-way conversation with followers rather than one-way communication from the hospital to the followers. The results of this study showed that social media technology use and attributes had a positive and significant relationship with the adoption of social media marketing. By their very nature hospitals in Kenya have been conservative when it comes to marketing communications and may explain why the hospitals did not engage their followers, nor monitor their social media accounts on a regular basis. However the findings of the study imply that the attributes of a social media platform, its technology and use should be carefully considered by hospitals when adopting social media marketing as part of a conscious well thought through marketing effort that will support the business goals.

User attributes has a positive and significant effect on adoption of social media marketing by hospitals in Nairobi City County. Even though majority of hospital marketing officers have adopted social media for their personal use, primarily using it for entertainment and social interaction, a third of them do not have social media accounts for their hospital. One unanticipated finding was that majority of the

109

respondents indicated that they had visited their own social media platforms that day "today" or "within the last week" but had not visited their own hospital's social media pages. Further, more than two-thirds were familiar with social media analytics but they reported that they did not monitor their hospital social media pages. The implication may be that marketers may be viewing social media as a responsibility of the person to whom it has been delegated as a duty rather than as part of a social network that requires team effort thus shifting the accountability to the communications person or the agency. Increased user attributes positively and significantly affected adoption of social media. The implication is that when hospitals are adopting social media marketing, they should take into consideration the abilities of their marketers to use social media.

The hospital business environment had a positive effect on adoption of social media. However, the effect was not significant. The business environment was measured through marketing, legal and senior management indicators (staffing, policy, expertise, and measurement of ROI; patient confidentiality, malpractice and negative reputation; access to the internet, lack of senior management support and lack of financial resources respectively).

Although the respondents indicated that they thought these barriers as ranking highly in the effect they have on adoption of social media marketing in their hospital, the study surprisingly found this effect to be insignificant. An implication of this is the possibility that despite these hurdles, the majority of hospitals had adopted at least one social media platform for their marketing purposes. The implication may be a lack of strategic planning in the adoption of social media marketing. Inability to ensure expert engagement, adequate staffing, sufficient financial resources, availability of policies to monitor use of social media or mechanisms to measure ROI; as well as the lack of concerted plans to protect patient confidentiality, manage reputation and address malpractice concerns in itself, is a recipe for future disaster that will rob a hospital the numerous benefits of adoption of social media marketing.

Hospital characteristics has a significant moderating effect on the relationship between the independent variables and adoption of social media marketing. The

characteristics of the hospital were ownership status (public-private, not for profit, faith-based), teaching status (university hospitals) and size (number of beds) and the number of years that they have used social media. The diversity in hospital characteristics brought a variation to the adoption of social media marketing by hospitals in Nairobi City County, Kenya.

5.4 Recommendation

5.4.1 Marketing Purpose and Adoption of Social Media Marketing

Hospitals marketing and senior management must understand that as the study implies, a hospital may engage highly educated marketers, who are savvy and participatory in their personal use of social media networks. The marketer may have an understanding of the various social media platforms and their attributes, working in a conducive business environment that supports adoption of social media. However without a well-articulated marketing purpose or goal, which consequently guides hospital marketing messages to the right target audience, and aligns the needed resources to the achievement of the predetermined marketing purpose, then social media will be another ineffective marketing communications avenue where the hospital is most likely speaking to itself.

5.4.2 Social Media Technology Use and Attributes and Adoption of Social Media Marketing

The study recommends that hospital marketers familiarize themselves with the different social media platforms available. This would include the different attributes of the social media such as ability to share video, photographs and information as well as ability to accommodate and engage a large number of followers. This will allow them to better adopt the appropriate social media platforms that will ensure maximum benefit. In the same breadth, hospital marketers are better placed to successfully adopt social media they use the platforms in an engaging and conversational manner, encouraging feedback, responding to their followers rather than a one way platform to bombard their followers with information on their services. This will ensure their followers are listening and viewing the hospital as a

partner in healthcare rather than a mere service provider thus building loyalty. However social media followers can only listen and respond to the benefit of the hospital if it has delineated the marketing purpose of which it utilises social media marketing. For example if the goal is to increase sales, then engaging social media followers on attendance of free medical camps will not meet the hospitals objectives rather than engaging the followers on the benefits of utilising the services offered such as medical checkups, diagnostics and other healthcare services.

5.4.3 User Attributes and Adoption of Social Media Marketing

The study recommends that hospitals must evaluate the capability of their marketers prior to engaging them to adopt social media marketing for their hospitals. As the study implies, Hospitals marketing and senior management may engage highly educated marketers, who are savvy and participatory in their personal use of social media networks but are not necessarily focused on effective management of corporate social media platforms. Further given that adopting and managing social media marketing is time consuming and in effect a full time job limitations of resources may affect its effective utilisation. However, today there are many option of management of social media including the use of automated technology or indeed specialised consultants who with proper guidance can manage the social media platforms to the benefit of the hospital. As the study implies this being done without a well-described purpose and a sufficient understanding of social media technology use and attributes, engagement of social media savvy marketers alone will not lead to the hospital successfully benefiting from adoption of social media marketing.

5.4.4 Hospital Business Environment and Adoption of Social Media Marketing

Working in a conducive internal business environment that supports adoption of social media marketing is the responsibility of hospitals leadership. The study recommends that hospital leadership should provide adequate resources and support such as access to internet, training, guiding policies, such as social media, website and crisis communications guidelines to equip marketers with tools needed to adopt social media. This should be guided by and incorporated in the strategic planning which should ultimately support the vision and mission of the hospital.

5.4.5 Hospital Characteristics and Adoption of Social Media Marketing

The study recommends that a hospital understands its unique characteristics such as teaching status, private for profit, size, and government owned in order to successfully adopt social media marketing. An understanding of this characteristics will help the hospital articulate its social media marketing plan. For instance, a large size hospital with over three hundred beds inadvertently has a large number of patients. Consequently, the hospital's levels of efficiency needs will also be increased. Therefore the more the patients the more likely that the hospital will be highly engaged in its social media platforms by its stakeholders. Choosing a marketing purpose such as booking doctor's appointments on social media platforms for instance can prove to be detrimental to the patient's satisfaction if the appointments are not seamlessly coordinated with the actual hospital visits or the timeliness of the service offered. Further, low patient satisfaction can be reflected by the patients in the social media platforms leading to reputational and crisis management issues. Thus understanding the hospitals unique characteristics will be of credence to successfully benefit from adoption of social media marketing.

5.5 Contribution of the Study

This study has made four particular contributions to the field of marketing study. First, as an initial contribution, a study of this nature on the adoption of social media marketing by hospitals in Nairobi City County Kenya had not been done.

Secondly, as a policy contribution, it is of note that the Ministry of Health recently (2016) published guidelines that now allow hospitals and doctors to advertise their facilities and services under certain predetermined guidelines. This study gives meaningful insight to hospitals and the healthcare industry on the fundamentals of understanding the determinants of successfully adopting social media marketing as they embark on advertising of doctors and hospitals services and facilities. Further as the government of Kenya works towards marketing the country as a medical hub, these findings can be used to generate meaningful policy that will support the country's efforts in medical tourism as social media marketing is an essential element that cannot be ignored.

Thirdly, as a contribution to existing marketing knowledge towards the development of a sound marketing communications strategy. Social media has enabled word of mouth be tested in real terms. The very essence of social media revolves around sharing, being more than a two-way conversation between the hospital and its followers, but also between the followers themselves about the hospital, its services and their areas of health interest and or concern. Whereas people previously had to accept one way messages from healthcare organisations including pharmaceutical industry, today patients can refer to the internet or turn to social networks to get information about various diseases, treatment options and side effects of drugs as well as risks and reputational issues about hospitals. This study therefore shows that even though information on the web may not always be accurate, but it does tell listening marketers, that if you are not part of that conversation, then there are a lot of elements in your marketing strategy that maybe just assumptions and not well informed leading to a failure in meaningful use of social media.

Finally, as a concluding contribution in marketing management knowledge, based on this study, the independent variables jointly were found to be significant determinants of adoption of social media marketing by hospitals. This study shows that there is a clear connection between the organisation's social media marketing strategy and strategic management goals. Justifying a marketing budget to the executive may constitute elements such as Return on Investment, but the strategic and executive leaders are more likely to be convinced when they see a clear connection of the marketing strategy towards achieving the business objectives and consequently the vision of the hospital.

5.6 Areas for Further Research

The result of this study supports the understanding that marketing purpose, user attributes, social media technology use and attributes and hospitals business environment, are fundamental drivers of adoption of social media adoption by hospitals in Nairobi City County, Kenya. Social media marketing and hospital advertising is in its infancy in Kenya. Further research might examine if the other independent variables are significant in future when the adoption of social media

marketing by hospitals is in the majority stage of the technology adoption lifecycle. An avenue for further research would be a comparative study to compare the determinants of adoption of social media marketing in different Counties in Kenya. Of particular note is that the healthcare sector in Kenya has been decentralized, with county governments taking more responsibility for its delivery and performance. Additionally, the respondents of this research were marketing officers or hospital administrators who assume the marketing role. Further research can be done to include other senior management, staff and more importantly patients to understand the drivers of participation in social media marketing by hospitals in Kenya.

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APPENDICES

Appendix I: Introduction Letter

Date 16th April, 2016

<div align="right">

Eunice Mwangi

P.O. Box 283-00621

Nairobi

Tel: 0720920316

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</div>

To Whom It May Concern:

Dear Sir,

RE: ACADEMIC RESEARCH PROJECT

The above refers. I am a PhD student from Jomo Kenyatta University of agriculture and technology (JKUAT). I wish to conduct a research titled "***Determinants of Adoption of Social Media Marketing by Hospitals in Nairobi City County, Kenya".***

A questionnaire has been designed which will be used to gather the necessary information needed to address the research objective.

I kindly request for your authority to collect the information from your organisation on this very recent marketing topic.

The information collected will be held in utmost confidentiality and will be used only for academic research purposes. The study outcomes and reports will not be used to make any individual reference.

Your assistance is highly appreciated.

Yours Sincerely,

Eunice R Mwangi

Appendix II: Questionnaire for Hospital Marketing Officers

DETERMINANTS OF ADOPTION OF SOCIAL MEDIA MARKETING BY HOSPITALS IN NAIROBI CITY COUNTY, KENYA.

Thank you for taking time to answer this questionnaire. This questionnaire will be used by the researcher to gather some information on the above subject. You have been chosen as a respondent because you are the marketing officer/manager/director of your institution or because you assume the role of marketing in your institution. The information you give will be treated confidentially and will be only for research purpose. Thank you.

Please answer all questions by inserting a **TICK (√)** where appropriate or alternatively please write in the space provided.

SECTION A: BIO DATA

This section will allow the researcher to gather information about you as the marketing officer/manager/director of your institution or because you assume the role of marketing in your institution.

1.   Sex: ☐Male ☐Female

2. Your age in years (please tick one)   ☐20-30 years   ☐30-40 years ☐40-50 years ☐over 50 years

3. The number of years you have worked in healthcare marketing? ☐Less than 3 years ☐3– 5 years ☐5 – 10 years ☐11 – 15 years ☐Over 15 years

4. What is your level of education? ☐ Certificate ☐ Diploma   ☐ Bachelor's Degree ☐ Master's Degree   ☐ Doctorate

SECTION B: MARKETING PURPOSE

This section will help us understand what marketing purpose your hospital uses social media for.

1. State the extent to which your hospital uses social media for the following marketing purposes.

Indicator	No Extent at all	Small Extent	Moderate extent	Great Extent	Greatest extent
Marketing of products and services					
Patients Relations					
Brand Management					
Product Research and Development					
Reputation Management					
Promotion of health events and activities					
Public Health Information					
Announcements of awards and achievements					
Staff Recruitment					

2. Is there any other purpose that your hospital uses social media for?

_____

_____

SECTION C: SOCIAL MEDIA TECHNOLOGY USE AND ATTRIBUTES

This sections will assist the researcher understand the social media technology use and attributes that your hospital has adopted.

1. To what extent does your hospital use the following social media tools

Indicator	No Extent at all	Small Extent	Moderate extent	Great Extent	Greatest extent
Facebook					
Twitter					
LinkedIn					
Instagram					
Blogs					

2. How would you rate the ease of use of the following social media platforms

Indicator	Don't know how to use	Little Ease	Moderate Ease	Great Ease	Expert
Facebook					
Twitter					
LinkedIn					
Instagram					
Blogs					

3. To what extent does your hospital engage your social media followers on the activities indicated?

Indicator	No Extent at all	Small Extent	Moderate Extent	Great Extent	Greatest Extent
Posting content on patient education					
Re-tweets by followers					
Solicitation of donor funding					
Booking a doctor's appointment					
Medical Research					
Posting content on hospital news and events					
Answering customer queries/complaints					
Staff and Institutional awards					
Conversations on national healthcare issues					

4. How often do you monitor your social media accounts?

Indicator	No at all	Not often	Moderately Often	Very Often	Always
Facebook					
Twitter					
LinkedIn					
Instagram					
Blogs					

5. Apart from the above social media platforms, is there any other platform that you think would be useful to your hospital's marketing activities?

_____

_____

_____

SECTION D: USER ATTRIBUTES

1. Do you have a smart phone for your personal use? □ Yes   □ No

2. To what extent do you use the following social platforms on a personal level?

Indicator	No Extent at all	Small Extent	Moderate Extent	Great Extent	Greatest Extent
Facebook					
Twitter					
LinkedIn					
Instagram					
Blogs					

3. What is the motivation of your use of personal social media platforms?

Indicator	Not applicable	Information Seeking	Entertainment	Social Interaction	Professional Engagement
Facebook					
Twitter					
LinkedIn					
Instagram					
Blogs					

4. When was the last time you visited the following social media platforms?

Indicator	Not applicable	More than a month	Last two weeks	This week	Today
Facebook					
Twitter					
LinkedIn					
Instagram					
Blogs					

5. To what extent are you familiar with the following social media analytics tools?

Indicator	No Extent at all	Small Extent	Moderate Extent	Great Extent	Greatest Extent
Facebook Insights					
Twitter analytics					
LinkedIn Analytics					
Instafollow					
Google analytics					

6. In which social media platform do you have the highest following?
_____
_____
_____

SECTION E: HOSPITALS BUSINESS ENVIRONMENT

This section will help us understand how the hospitals business environment impacts the adoption of social media marketing.

1. State the extent to which you agree the following indicators of your business environment affect the adoption of social media by your hospital?

Indicators	No Extent at All	Small Extent	Moderate Extent	Great Extent	Greatest Extent
Lack of time/dedicated social media staff					
Lack of social media marketing strategy					
Lack of access to internet					
Lack of social media expertise					
Lack of social media policy					
Lack of senior management support					
Lack of access to Internet					
Lack of website policy					

Inability to measure return on Investment					
Fear of liability or malpractice concerns					
Concern that patients will post negative comments about your hospital					
Problems associated with data privacy security and patient confidentiality					
Lack of financial resources					

2. Is there any other indicator that you think has affected social media marketing

adoption in your hospital?

_____

SECTION F: HOSPITAL CHARACTERISTICS

This section will assist the researcher gather information about your hospital's characteristics.

1. Name of Hospital (optional)

_____

2. Which of the following best describes your hospital (Please tick one)

☐ Public/Government   ☐ Private for profit   ☐ Private-not-for-profit

☐Faith based Hospital   ☐University /Teaching Hospital

3. Number of Beds of the hospital you work in: ☐ 0   ☐ 1-50   ☐51-100

☐101-200   ☐ 201-300 ☐over 300 beds

SECTION G: ADOPTION OF SOCIAL MEDIA MARKETING

1. How long has your hospital been using social media platforms?

☐ Less than six months   ☐ six months to one year   ☐one to two years ☐

two to three years ☐ over three years

2. Which of the below outcomes describes the effect that adoption of social media marketing has had on your hospital?

Indicator	No Improvement	Small Improvement	Large Improvement	Worsened	Don't know
Revenue Increase					
Customer Service Improvement					
Marketing Costs Reduction					
Visibility and Brand Enhancement					
Staff Recruitment					
Increased Patient Recruitment					

3.   Which negative outcome has your hospital ever experienced in any?

_____
_____
_____

Appendix III: List of Hospitals

	Hospital Name	Owner/Type	County	Constituency
1.	Rangel Medical Centre	Private Institution	Nairobi	Embakasi East
2.	Mediheart Outpatient And Maternity Home	Private Practice - Company Medical Clinics	Nairobi	Embakasi East
3.	Mariakani Nursing Home And Rehabilitation Centre (South C)	Private Practice - Private Institution	Nairobi	Langata
4.	St Joseph Nursing Home (Eastleigh North)	Kenya Episcopal Conference- Catholic Secretariat	Nairobi	Kamukunji
5.	Nairobi Place Addiction Treatment Centre Tumaini Ltd (Karen)	Private Practice - Private Institution	Nairobi	Langata
6.	Euraka Medical Centre	Private Practice - Private Institution	Nairobi	Embakasi East
7.	Blessed Medicare Centre	Private Practice - General Practitioner	Nairobi	Embakasi South
8.	Abraham Memorial Nursing Home (Westlands)	Private Practice - Private Institution	Nairobi	Westlands
9.	Imani Health Services	Private Practice - Nurse / Midwifery	Nairobi	Dagoretti South
10.	St Michael Community Nursing Home	Private Practice - General Practitioner	Nairobi	Roysambu
11.	Joy Nursing Home And Maternity	Private Practice -	Nairobi	Kamukunji

		General Practitioner		
12.	Unity Maternity & Nursing Home	Private Practice - General Practitioner	Nairobi	Embakasi West
13.	Lions Sightfirst Hospital	Private Practice - Private Institution	Nairobi	Loresho
14.	Komarock Morden Medical Care	Private Practice - General Practitioner	Nairobi	Embakasi Central
15.	Imara Health Centre	Christian Health Association Of Kenya	Nairobi	Embakasi South
16.	Mary Mission	Private Practice - Private Institution	Nairobi	Dagoretti South
17.	Patanisho Maternity And Nursing Home	Private Practice - Private Institution	Nairobi	Embakasi East
18.	Maria Immaculate Health Centre	Kenya Episcopal Conference- Catholic Secretariat	Nairobi	Dagoretti North
19.	Frepals Community Nursing Home	Non- Governmental Organizations	Nairobi	Kibra
20.	Ray Of Hope Health Centre	Private Practice - Private Institution	Nairobi	Dagoretti North
21.	St Catherine's Health Centre	Private Practice - Private Institution	Nairobi	Dagoretti North
22.	Family Care Medical Centre & Maternity	Non- Governmental Organizations	Nairobi	Langata
23.	Mercy Mission Health Centre	Other Faith Based	Nairobi	Dagoretti North
24.	Marie Stopes Nursing	Non-	Nairobi	Kamukunji

	Home (Eastleigh)	Governmental Organizations		
25.	Marura Nursing Home	Private Practice - Private Institution	Nairobi	Ruaraka
26.	St Patrick Health Care Centre	Private Practice - Private Institution	Nairobi	Embakasi Central
27.	Samaritan Medical Services (Dandora)	Non-Governmental Organizations	Nairobi	Embakasi North
28.	Diwopa Health Centre	Kenya Episcopal Conference-Catholic Secretariat	Nairobi	Embakasi Central
29.	Saola Maternity And Nursing Home	Private Practice - Private Institution	Nairobi	Kibra
30.	Alice Nursing Home	Private Practice - Private Institution	Nairobi	Embakasi South
31.	Salama Nursing Home	Private Practice - General Practitioner	Nairobi	Kamukunji
32.	Pipeline Nursing Home	Private Practice - Private Institution	Nairobi	Embakasi South
33.	Parkroad Nursing Home (Nairobi)	Private Practice - Private Institution	Nairobi	Starehe
34.	Emmaus Nursing Home	Private Practice - Private Institution	Nairobi	Embakasi West
35.	Phadam Hospital Nasra	Private Practice - Medical Specialist	Nairobi	Embakasi Central
36.	Phadam Hospital Umoja	Private Practice -	Nairobi	Embakasi West

		Private Institution		
37.	Rheema Hospital	Private Practice - General Practitioner	Nairobi	Embakasi East
38.	Mediheal Hospital Eastleigh	Private Practice - Medical Specialist	Nairobi	Kamukunji
39.	Oasis Mental Health Limited	Private Practice - Private Institution	Nairobi	Westlands
40.	Life Bridge Cottage Hospital	Private Practice - Private Institution	Nairobi	Roysambu
41.	Brain Spine And Rehabilitation	Private Practice - Private Institution	Nairobi	Westlands
42.	Bristol Park Hospital Utawala	Private Practice - Private Institution	Nairobi	Embakasi East
43.	Better Living Hospital	Seventh Day Adventist	Nairobi	Dagoretti North
44.	Emarat Hospital	Private Practice - Private Institution	Nairobi	Kamukunji
45.	Haven Hospital Ltd	Private Practice - Private Institution	Nairobi	Starehe
46.	Radiant Group Of Hospitals-Umoja	Private Practice - General Practitioner	Nairobi	Embakasi West
47.	South C Hospital Limited(South C)	Private Practice - Private Institution	Nairobi	Langata
48.	Mercylight Hospital-Lucky Summer	Private Practice - Nurse / Midwifery	Nairobi	Ruaraka

141

49.	Hayat Hospital	Private Practice - General Practitioner	Nairobi	Starehe
50.	The Mater Hospital (Westlands)	Private Practice - General Practitioner	Nairobi	Westlands
51.	Mariakani Cottage Hospital Utawala	Private Practice - General Practitioner	Nairobi	Embakasi East
52.	Juja Road Hospital (Nairobi)	Private Practice - Private Institution	Nairobi	Starehe
53.	Lad Nan Hospital	Private Practice - Private Institution	Nairobi	Starehe
54.	Ruaraka Uhai Neema Hospital	Kenya Episcopal Conference-Catholic Secretariat	Nairobi	Ruaraka
55.	Bristal Park Hospital	Private Practice - General Practitioner	Nairobi	Embakasi East
56.	South B Hospital Ltd	Private Practice - General Practitioner	Nairobi	Starehe
57.	St Francis Community Hospital (Kasarani)	Kenya Episcopal Conference-Catholic Secretariat	Nairobi	Kasarani
58.	Nairobi South Hospital	Private Practice - Private Institution	Nairobi	Langata
59.	Mariakani Cottage Hospital Ltd	Private Practice - Private Institution	Nairobi	Makadara
60.	Mother & Child Hospital	Private Practice -	Nairobi	Kamukunji

		Private Institution		
61	Dorkcare Nursing Home	Private Practice - Private Institution	Nairobi	Kamukunji
62	Afwan Medical Centre	Private Practice - Private Institution	Nairobi	Kamukunji
63	Nairobi West Hospital	Private Practice - Private Institution	Nairobi	Langata
64	Coptic Hospital (Ngong Road)	Christian Health Association Of Kenya	Nairobi	Dagoretti North
65	Jamaa Mission Hospital	Kenya Episcopal Conference-Catholic Secretariat	Nairobi	Makadara
66	Kayole Hospital	Private Practice - Private Institution	Nairobi	Embakasi Central
67	Mp Shah Hospital (Westlands)	Private Practice - Private Institution	Nairobi	Westlands
68	The Karen Hospital	Private Practice - General Practitioner	Nairobi	Langata
69	Avenue Hospital	Private Practice - Private Institution	Nairobi	Westlands
70	Nairobi Womens Hospital (Hurlingham)	Private Practice - Private Institution	Nairobi	Dagoretti North
71	Metropolitan Hospital Nairobi	Private Practice - Private Institution	Nairobi	Makadara
72	Melchezedek Hospital	Private	Nairobi	Dagoretti

		Practice - Private Institution		North
73.	Langata Hospital	Private Practice - Private Institution	Nairobi	Langata
74.	Meridian Equator Hospital	Private Practice - Private Institution	Nairobi	Langata
75.	Nairobi Hospital	Private Practice - Private Institution	Nairobi	Dagoretti North
76.	Aga Khan Hospital	Private Practice - General Practitioner	Nairobi	Westlands
77.	The Mater Misericordiae Hospital	Kenya Episcopal Conference- Catholic Secretariat	Nairobi	Starehe
78.	Mathari Hospital	Specialized & Tertiary Referral Hospitals	Nairobi	Mathare
79.	National Spinal Injury Hospital	Specialized & Tertiary Referral Hospitals	Nairobi	Dagoretti North
80.	Kenyatta National Hospital	Comprehensive Teaching & Tertiary Referral Hospital	Nairobi	Kibra

Source: (www.kmhfl.health.go.ke, 2016)