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The Effect of innovation capability on competitiveness within listed insurance firms in Kenya

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THE EFFECT OF INNOVATION CAPABILITY ON COMPETITIVENESS WITHIN LISTED INSURANCE FIRMS IN KENYA

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DECLARATION PAGE

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

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ABSTRACT

The insurance sector in Kenya has been lagging behind in adopting innovation. This has seen insurance penetration levels within the sector stagnate at very low levels. This study seeks to examine the effect of innovation capability on competitiveness of listed insurance firms in Kenya. The study specifically sought to determine the effect of market innovation, technical innovation and product innovation on competitiveness of listed firms. The research was premised on the resource-based view theory and innovation diffusion theory. The unit of analysis of the research was the six listed insurance firms in Kenya. The unit of observation was drawn from 8 senior managers within the listed firms. The sample size for the study was 48 personnel within the listed firms. The study collected primary data using a structured questionnaire administered electronically through google forms. The study was able to obtain a response rate of 95%. The research conducted a pilot test with 4 of the sample respondents. The research data collected was analysed through use of descriptive analysis, correlation analysis and inferential analysis. Findings of the research indicated that innovation capability explained 10.9% (R^2=*.109*) of the variations of competitiveness in the insurance industry. The study concludes that listed insurance firms can enhance their competitiveness by leveraging on their innovation capabilities. The study recommends that the firms should enhance their infrastructure development, integrate new technologies in marketing and foster their product development.

Keywords: *Competitiveness, product innovation, market innovation, technical innovation*

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ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey Fuller
ANOVA	Analysis of Variance
CEO	Chief Executive Officer
DSBM	Dynamic Slack-Based Measure
EG	Engle-Granger
ICT	Information Communication Technology
IRA	Insurance Regulatory Authority
NACOSTI	National Commission for Science Technology and Innovation
NHIF	National Health Insurance Fund
R&D	Research and Development
SPSS	Statistical Package for Social Science

OPERATIONAL DEFINITION OF TERMS

Competitiveness	This refers to the firm's ability to be able to compete successfully than its competitors (Mothe, 2011)
Innovation	This refers to the process of coming up with new ideas, products and way of doing things in an organization (Calantone, Cavusgil, & Zhao, 2010).
Innovation capability	This refers to the ability of an institution to transform ideas into products or services of an economic value (Quadros, Furtado, Roberto & Franco, 2010)
Insurance Penetration	This is the ratio of percentage of total insurance premiums to the gross domestic product; also, the level of insurance growth in a country (Mutegi, 2018).
Market Innovation	This refers to the marketing strategies, channels and distribution lines adopted by firms (Business Knowledge Resource, 2015).
Product Innovation	This refers to the development of new products, changes in design of established products (Letangule & Letting, 2012).
Technical Innovation	This comprises of new insurance products and processes and significant technological changes of products and processes (Letangule & Letting, 2012).

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DEDICATION

I dedicate this work to my Mum, Mary C. Mungo - for her steadfast love, support and dedication to the fulfilment of my dreams.

CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 Background of the Study

Successful establishment of innovative technologies require that organizations develop human resource strategies and technical capacity for the same (Aziz & Theuri, 2018). Equally, firms have to overcome financing challenges that inhibit the acquisition of new and unexplored technologies. Successful firms also require quality controls to accompany innovations as a way of enhancing best technological practices (Drucker, 2013). Generally, the effectiveness of innovative technologies is measured through environmental accountability such as productivity, technical innovation, efficiency, process innovation and regulatory compliance that enhances a firm's performance (Zhou & Wu, 2010).

In the ever-changing world, innovative technologies are the only mechanisms through which organizations can enhance profitable and sustainable competitive advantage that leads to high performance (Letangule & Letting, 2012). More organizations are realizing the importance of innovative technologies in gaining a competitive advantage (Ombaka, Machuki, Awino, & Wainaina, 2015).

As the business environment becomes more dynamic, market competition becomes more intense (Appiah-Adu & Amoako, 2016). Organizations have therefore resorted to developing products that add value to customers by enhancing their use of innovative technologies. Innovation revolves around exploring untapped user needs through use of technology to enhance performance, while at the same time satisfy user needs. As a result, managing innovation has become priority in the global business fraternity (Business Knowledge Resource, 2015).

The operating environment for insurance businesses is very dynamic following increased effects of globalization and development in information communication technology among other variables (Hollanders & Evangelista, 2012). In order for organizations to align their operations to the dynamic operational environment, they have to constantly formulate and implement innovative strategies (Johnson & Scholes, 2015).

A strategy is a key aspect of organizational planning, involving the transformation of key plans into actions geared up towards attaining organizational goals (Kiptugen, 2011). A strategy is successful once upon completion, the results match or exceed the projected outcome. Well-implemented innovative strategies promote overall organizational performance while poorly implemented strategies manifest themselves in poor performance results (Rudd, Greenley, Beatson, & Lings, 2015).

1.1.1 Innovation Capability

Zhou and Wu (2010) stress the importance of innovation in enabling firms to survive harsh global environment while at the same time achieving sustainable competitive advantage. To adequately adopt to changing insurance practices, continuous innovation is necessary since it enables a firm to achieve sustainable competitive advantage demands that firms develop new ways to carry out business dealings. Zemplinerova (2010) notes that among innovation determinants, research and enabling the human resources in the firm are key. Rogers (2010) posits that innovation results from employee creativity in firms and should always be customer-oriented.

Innovation capability relates to capacity of a firm to constantly convert ideas and concepts to products, or systems that all work towards attaining organizational goals (Business Knowledge Resource, 2015). Therefore, they are unique integrated tangible and intangible resources that a firm develops to attain better performance. The capability in the innovation process is a complete innovation lifestyle which includes the practices, actions, as well as activities which take either ideas or opportunities through to concepts, growth, and execution and ultimately to a point of commercialization and action. Hence, it includes constant improvement and optimization (Essmann & Preez du, 2009).

An organization builds or acquires expertise and competence capabilities by adopting development capacity, absorptive capabilities, and external knowledge (Mabrouk & Mamoghli, 2010). Innovation capability mainly covers areas of process innovation, financial innovation (Fagerberg, Mowery, & Nelson, 2014), systems innovation, product innovation (Gundaya, Ulusoy, Kilic, & Alpkan, 2011; Polder, Leeuwen, Mohnen, & Raymond, 2010), market innovation (Letangule & Letting, 2012) and service innovation (Ombaka, Machuki, Awino, & Wainaina, 2015). The research was

premised on the market innovation, technical innovation and product innovation within the insurance firms.

Research studies on innovation have been prioritized in most developed and promising developing countries. However, it mainly deals with technological aspects, and the field has essentially focused on inputs and support instruments (Mothe, 2011). Innovation, finance and technology have to go hand–in-hand to develop change in organizations that anticipate, create and respond effectively to both internal and external environmental changes to maintain optimal profits (Mabrouk & Mamoghli, 2010). Change dynamics has greatly influenced most of the sectors that rely on innovation in Kenya. These include technological advancement, regulation and competition (Letangule & Letting, 2012).

1.1.2 Competitiveness

Organizational competitiveness is the advantage that an organization has over its competitors, that further allows it record greater sales or profit margins or retains most of its customers as compared to its competition (Hollanders & Evangelista, 2012). The organization should however be in a position to sustain its competitiveness for a reasonable time through ensuring that its competitive strategies are not easily imitable by its competitors.

With global market competition becoming increasingly tight, attaining and sustaining business competitiveness has started gaining more attention (Omar & Mohamoud, 2013). According to Chepkiyeng and Choge (2014), competitiveness measures include adjusting of target market, diversification, developing new products, re-examining profit margins, efficiency in product offering, distribution changes and making price cuts.

According to Oke and Goffin (2011), developed economies have utilized innovations for the last five decades to enhance organizational internal operations and as a strategy for organizational growth and development. In this regard organizations that are seeking to remain relevant, profitable and sustainable have to embrace innovations as a transformative means to the end (Drucker, 2013; Davila, Epstein & Stretton, 2010). Gundaya, Ulusoy, Kilic and Alpkan (2011) studied how innovation affects firm

performance and found out that innovation is key in enabling a firm to enter into new markets, increase market share and the firm's competitive positioning.

1.1.3 Innovation Capability and Competitiveness

Fagerberg, Mowery, and Nelson (2014) revealed that countries with more innovation practices had higher rates of productivity than less innovative ones. OECD (2015) reported that innovation affects firm performance in a variety of ways, ranging from productivity and efficiency to market share and profitability. McAdam and Keogh (2012) in their study concluded that firms which encouraged innovation were able to attain a higher competitive advantage.

da Silva and Gomes, (2018) conducted multi-criteria evaluation of innovation projects across insurance service providers within insurance firms in Brazil and concluded that marketing and technological innovation had the highest association with enhanced growth in the service providers. Muylle, Standaert, Basu, Everaert, and Decraene (2018) examined the digital innovation in the Belgian insurance market. The researchers indicated that regulatory policies positively enhanced the technological adoption within the industry in cloud computing and big data handling which enhanced the firm efficiency and productivity.

Ezirim, Eniekezimene, Ali, and Elike (2018) studied Nigerian companies to identify company-specific correlates of corporate profitability: evidence from quoted insurance companies in Nigeria. The researchers noted that increased product innovation, market innovation and the increase in uptake of new technologies fostered the profitability of listed insurance firms. Mutegi (2018) examined the effect of innovation strategies on penetration of Kenyan insurance firms. The researcher noted that market positioning, product innovation, service innovation and technological innovation enhanced the competitive edge of insurance firms. The study further concluded that innovation strategies fostered the penetration levels within the insurance sector in Kenya. Mugo (2018) studied strategic management determinants of organizational performance in the Kenyan insurance industry; indicated that continuous innovation, market and product development enhanced firm productivity.

Gitau (2013) carried out a study on strategies adopted by Kenyan insurance companies to increase penetration of insurance services and products and concluded that the

industry has low levels of creativity and as a result, the firms are forced to operate in an unhealthy and under-regulated competitive environment. Kiraka, Kobia and Katwalo (2013) examined the causal effect of financial innovation on performance of Kenyan insurance firms and concluded that most firms make use of financial innovation strategies to keep pace with changing environments. The study also found that product innovation had insignificant effects on performance while system and process innovation positively and significantly influenced performance. From the general review of the studies; the researchers (Mutegi, 2018; da Silva & Gomes, 2018; Kodongo, 2017); have all indicated that market innovation, technological innovation, service innovation and product innovation are key predictors of competitive edge among insurance service providers. There have been limited studies on how innovation capability influences the competitiveness of Kenyan insurance firms.

1.2 Statement of the Problem

The importance of the insurance industry in spurring economic growth in the country cannot be underscored, especially in developing countries where insurance penetration is still low (Gitau, 2013). IRA (2013) reports that insurance companies have, in recent years increased adoption of technology. Many of these companies are adopting various ICT strategies in an attempt to improve their competitive edge. Some of these strategies include using the internet to carry out online underwriting processes, use of automated claims management to significantly shorten the claims settlement process and curb fraudulent claims, predictive underwriting, while others are adopting platforms where they can centralize customer care functions. IRA (2015) indicates that since technology is constantly evolving, the industry's competitive patterns will also evolve rapidly thus fostering growth within the sector.

Despite industry projections on the positive outcomes of innovation within the insurance sector there has been dismal performance in the sector as well as challenges in fostering insurance penetration level in Kenya. The drop in insurance premium growth to 6.6% in 2017 from 12.3% in 2016 evidences this (IRA, 2017). According to the quarter 1 industry report (IRA, 2018); there was an increase by 3.2% in the insurance premiums to KES 65.24 billion. This was a decline in growth compared to 14.4% increase in quarter 1 2017. The premium income for reinsurers dropped by 13.7% as at quarter 1 2018 to stand at KES 3.46 billion. In contrast, total insurance

industry future liability payouts grew by 10.3% to KES 384.96 billion indicating a mismatch growth between current incomes and future expenses.

Generally, there has been a lack of conclusive evidence indicating how the innovation capability of insurance firms has affected the competitiveness within the sector and hence stimulated economic growth for the country. With the increasing proliferation of technological infrastructure and internet growth in the local insurance sector (IRA, 2013); there has been limited examination of how this has influenced the operations of the insurance sector and the performance in general. Further despite industry reports indicating growth of technological adoption and innovation in the industry there has not been a conclusive study indicating if this has affected the competitiveness of firms in the industry. The current study sought to answer how the innovation capability has affected the competitiveness in the insurance sector in Kenya.

1.3 Research Objectives

1.3.1 General Objective

The general objective of the study was to examine the effect of innovation capability on the competitiveness within listed insurance firms in Kenya.

1.3.2 Specific Objectives

i. To establish the effect of market innovation on competitiveness within listed insurance firms in Kenya.
ii. To examine the effect of technical innovation on competitiveness within listed insurance firms in Kenya.
iii. To determine the effect of product innovation on competitiveness within listed insurance firms in Kenya.

1.4 Research Question

i. What is the influence of market innovation on competitiveness within listed insurance firms in Kenya?
ii. What is the effect of technical innovation on competitiveness within listed insurance firms in Kenya?
iii. How does product innovation influence competitiveness within listed insurance firms in Kenya?

1.5 Scope of the Study

The scope of study was contextually limited to an examination of the effect of innovation capability on the competitiveness of listed insurance firms in Kenya. The study specifically examined product innovation, market innovation, technical innovation and competitiveness of insurance firms. The scope of study was limited to a descriptive research design with quantitative data collected and analysed. The geographical scope of the study was limited to insurance firms listed on the Nairobi Securities Exchange (NSE, 2018). The sample respondents were senior managers within Operations, ICT, Sales/Marketing, Actuarial, Digital Marketing, Underwriting, Strategy and Risk/Compliance Management Functions of the listed insurance firms.

1.6 Significance of the Study

Research findings will be valuable to the management of insurance firms in guiding policy formulation towards better innovation capability. The study findings will provide insight on competitiveness of the insurance industry and the general traction in innovation adoption within insurance firms. This will help the management of the insurance firms in expanding their practice and managerial decision making.

The findings will be beneficial to scholars and academicians examining insurance industry competitiveness and the innovation capacity within the firms. The research will increase the body of knowledge on innovation capacity of firms that can be replicated across other studies in the local financial sector.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed relevant available literature on the problem. The first section of the chapter reviewed the theories that underpinned the research variables. The chapter further presents the empirical review, a summary of the literature and research gaps as well as the conceptual framework indicating the hypothesized relationship of the study variables.

2.2 Theoretical Review

The study relied on the resource-based view theory, as proposed by Penrose (1959) which holds that the competitive edge of a firm depends on its unique capabilities. The study further relied on the innovation diffusion theory by Rodgers (2003) which examined technology adoption as an antecedent to better firm productivity. The theories are premised on the ability of an organization to build unique and distinctive competences for provision of superior products or services to attain a high competitive advantage.

2.2.1 Resource Based View Theory

This theory posits that competitive advantage arises from organizational resources and capabilities which determine the capacity of the firm to innovate (Penrose, 1959). A firm is considered as a coordinated bundle of resources and its capability to exploit the resources gives it sustainable competitive advantage (Teece, Pisano, & Shuen, 1997).

The resource-based view theory enables a firm to identify and analyse the strategic advantages of a firm by examining its distinct combination of assets, skills, capabilities and intangibles as an organization (Pearce II & Robinson, 2011). It sees resources as a key to superior performance. Firms obtain competitive advantage by utilizing rare, valuable non-imitable resources. The resources of a firm can be human, physical, technological or financial in nature (Ernst & Young, 2012).

The resources of a firm enable it to develop its innovation activity and adapt to the environment in which it operates (Ellul & Yerramilli, 2010). Uniform distribution of certain organizational resources and capabilities has positive effects on innovation process and capacity of firms. Organizational capabilities enable the organization to

combine and transform input into useful innovation processes and systems (Ernst & Young, 2012). This theory highlights the link between the resources of a firm and innovation i.e. how the resources affect the ability of the firm to innovate and how it is organized to exploit resources (Malik, 2011). This theory was key in the study in understanding innovation capability of firms and how different resources are utilized to support better innovation geared towards promoting competitiveness within the organization.

2.2.2 Diffusion of Innovation Theory

The innovation diffusion theory was developed by Rodgers (2003) and seeks to examine how technology adoption influences consumer preferences and productivity within a firm. The theory holds that innovation is considered a new practice by a firm whereas the diffusion aspect relates to the process through which the innovation is communicated across a business unit. The theory proposes that there are four distinct elements that guide the diffusion process. These include time, innovation, social systems and communication nodes that affect adoption of the innovation within a firm.

Rodgers (2003) points out that innovation process within a firm is limited by a myriad of factors that are both internal and external to the environment of the firm. These can be considered as the relative advantage, complexities and compatibility issues that may affect innovation. The theory further points out that inherent challenges to the innovation process may render the innovation counter-productive to a firm's goals; hence the proponent posits that a firm should conduct a comprehensive analysis before adopting a specific strategy. The theory was imperative in the current study in assisting in examination of how insurance firms develop, integrate and execute innovation capabilities across the firm and its implication on competitiveness of the institutions.

2.3 Empirical Review

2.3.1 Market Innovation and Organisational Competitiveness

Charumathi (2012) confirmed that recently introduced products had accounted for about 41% and 39% of the firm's sales and profits respectively. New products also improve the image of the firm, allowing the firm to venture into new markets and creating a way for new products to be developed further (Storey & Easingwood, 2009). Accordingly, Quadros, Furtado, Roberto and Franco (2010) studied the Brazilian insurance industry and to determine causes of technological innovation and concluded

that innovation is carried out to enable the organization to meet production and marketing goals, leading to an improvement in the quality of products, reduction in cost of production, and increase in market share.

Hollanders and Evangelista (2012) in their study on promises and pitfalls of organizational and marketing innovation on European enterprises in Europe found that a considerable share of enterprises deploys organizational and marketing innovations in order to gain economic success and competitive advantage. The study however did not specifically examine insurance companies, while the current study is based on this research. Burca and Batrinca, (2014) studied factors that determine financial performance of insurance firms in Romania. The study used questionnaires as the primary data source in a descriptive survey research design. Study findings show that marketing strategies employed by firms positively related firm performance. This study focussed on performance of Romanian insurance firms while the this study focused on competitiveness within the Kenyan insurance firms.

Onyebuchi, Nwankwo, and Onuka, (2018) examined insurance sub-sector development: an emerging pillar for economic growth and sustainability in Nigeria. The study adopted various econometric techniques such as Augmented Dickey Fuller (ADF) test for the unit root test and Engle-Granger (E-G) causality test. The study findings indicated that marketing capabilities in the insurance sector contributed to the performance of Nigerian insurance firms and this in turn influenced economic growth in the long-run. The current study however focused on how innovation capability enhances the competitiveness Kenyan insurance firms.

Appiah-Adu and Amoako, (2016) studied selected market leaders to determine execution of marketing strategies developing economies. The study focussed on 100 top ranked firms in Ghana. The study utilized structured questionnaires targeting Chief Executive Officers (CEOs). The findings of the descriptive analysis indicated that marketing strategies employed by firms influence their organization performance. The study however did not examine the competitive advantage of insurance firms.

Kiragu (2014) assessed challenges encountered by insurance firms in attaining sustainable competitive advantage. The study investigated all registered insurance firms and adopted a descriptive design. Mixed research methodology was adopted leading to the conclusion that adoption of new marketing channels, increasing product awareness and training of insurance sellers was key to promoting competitive

advantage within the insurance firms. However, the study did not assess the effect of technical innovations within the insurance industry.

2.3.2 Technical Innovation and Organisational Competitiveness

The technological boom of the 21st century has led to significant increase in innovation that have transformed the way insurance firms do business (Quinn, 2010). Compounded with the impact of globalization, the business environment continues to receive dynamic and significant innovation that in turn are transforming insurance operational management. Technological innovation are the new processes, products, and services caused by technological changes (Rosli & Sidek, 2013).

According to the Zhou and Li, (2012), technological innovations are necessary for a knowledge-oriented business, which promotes not only the welfare of each entrepreneur but also the economic competitiveness of the whole country. Griffith and Rubera (2014) have further noted that both design and technological innovations provide consumers with new products and services. They have also acknowledged that innovation improve standards of old technologies, enhancing customer satisfaction. Biener, Eling, and Wirfs, (2016) studied factors that determine efficiency and productivity of insurance in Switzerland. The study employed state-of-the-art frontier efficiency methodologies and focussed on reinsurance firms in Swiss for the period 1997-2013. Study findings showed that technical capacity and adoption of modern technologies led to increased efficiency and productivity of insurance firms. However, the research did not incorporate innovation capabilities as a predictor variable.

In Japan, Kubbr (2007) notes financial institutions have adopted and embraced innovation as a way of enhancing competitive advantage. This has enabled most banks to innovate and automate most aspects of internal operations significantly reducing overheads and enhancing performance. Equally, India has over the last three decades enhanced technological innovations (Khalil, 2012). Yasuharu (2010) argue that implementing net technologies has revolutionized the functioning of banking and financial institutions. The future of the industry is predicted to be revolutionized with the expansion of internet services and other emerging technologies.

Lu, Wang, and Kweh (2014) studied how intellectual capital affects performance of Chinese life insurance companies. The research applied dynamic slack-based measure (DSBM) to measure firm performance. Study findings showed that technical

intellectual capital contributed positively to firm efficiency. The researchers recommended that intellectual capital was a key component of competitive advantage within insurance firms. However, this study used efficiency measures alone while the current study is based on competitive advantage within Kenyan insurance firms.

Agboola (2012) studied effects of ICT on the Nigerian banking industry, focussing on the nature and degree of adoption of innovative technologies; degree of utilization of the identified technologies; and the impact of the adoption of ICT devices on banks. The conclusion was that technological advancement was key in ensuring that the banks remained competitive and that more successful integration of technology in these banks led to an improvement in performance. He noted that banks had varying degrees of adoption of technology, from ATM facilities, to smart cards to telephone banking. ICT adoption improved the image of the banks and this in turn improves the banks performance. The recommendation of this study was that adoption of ICT facilities is necessary to improve the speed, accuracy and convenience to customers. This in turn increases the competitive advantage of these banks. The study focus was on Nigerian banks while the current study scope is competitiveness of the Kenyan insurance industry.

Kibicho (2015) examined the 51 listed Kenyan insurance industries to determine factors that lead to successful strategy implementation. The study indicated that managerial competency factored on technological development was positively related to success in strategy execution. However, this research focussed on success of strategy implementation whereas current study examined the competitiveness in the insurance industry.

Ombaka, Machuki, Awino, and Wainaina, (2015) studied how availability of resources in an organization affect the rate of innovation and ultimately performance of Kenyan insurance companies, obtaining data from 46 insurance companies. The findings indicated that tangible and non-tangible resources influence the non-financial performance of insurance companies. The study indicated that technical and service innovation positively influenced insurance firm performance.

2.3.3 Product Innovation and Organisational Competitiveness

According to Markham and Lee (2013), the importance of effective new product development cannot be overstated. They noted that most companies generate most of

their profits from newly introduced products and services, further noting that higher performing firms excel at development of new products Gubler (2010) noted that being capable to develop new products over time is vital to many firms and organizations. Calantone, Cavusgil, and Zhao (2010) concluded by stating that product innovation positively affects the performance of new products such as sales relative to market share, goals and profitability of a new product.

Hoang, Igel, and Laosirihongthong (2010), affirm that modern firms depend on innovation to gain economic benefits and competitive advantage. They attest that innovation is advantageous to both the firm and the general insurance industry. These advantages may be in terms of; increased sales and profits, reduction in production costs and time and improved product quality. Polder, Leeuwen, Mohnen, and Raymond (2010) also affirms that product innovation is a key stimulant of growth and productivity of the economy. They state that successful innovations usually result in new products and services and this could result in emergence of new markets, generation of business enterprises and creation of customer value. Werbach (2011) affirms that innovation results in an improvement of existing systems and this lowers production cost, increases return on investment, improves productivity and efficiency of employees. More innovative firms and organizations perform better and have higher performance results than less innovative companies.

Pishgar, Dezhkam, Ghanbarpoor, Shabani and Ashoori (2013) studied the impact of product innovation on satisfaction and loyalty of customers in the construction industry in Iran. A descriptive research approach was adopted, utilizing correlation analysis as the primary technique for analysis. The researchers found out that customer orientation positively affects performance. However, the study examined the Iranian construction industry while the current study seeks a Kenyan perspective of the listed insurance firms.

Mabrouk and Mamoghli (2010) studied Dynamics of Financial Innovation and Performance of Banking Firms. The analysis involved product and process innovation on bank performance. They analysed two adoption behaviour of technology; first movers and the imitator. They noted that first mover behaviour improved the rate of process initiative positively affected profitability and efficiency of analysed firms.

Their research focussed on commercial banks while the current study context is on the Kenyan insurance industry.

Muthoga, Odhiambo, Ngugi, and Ngugi, (2018) studied the effect of entrepreneurial innovativeness on micro insurance uptake by Kenyan SMEs, employing a descriptive research design and utilized a mixed research methodology. Descriptive and inferential analysis techniques were employed with the results showing that development of products tailored to the MSE industry influence the uptake and retention of clients. The study did not examine the competitiveness of the Kenyan insurance industry.

Aziz and Theuri, (2018) studied the National Health Insurance Fund to determine the strategies undertaken to enhance loyalty among customers adopting a descriptive research design which targeted 175 external customers of NHIF. Study results indicated that customer communication and product innovation strategies were could be used as efficient variables when attempting to explain customer loyalty. The study however focussed on the clients whereas the current study focused on the firm and its operations. Furthermore, the study focussed on a public-insurance scheme whereas the current study's scope was Kenyan listed insurance firms. The research also examined the causal link between strategies adopted and customer loyalty whereas the current study examined the association between innovation capability and competitiveness in the insurance industry.

2.4 Summary of Literature and Research Gaps

Table 2.1 Research Gaps

Author	Title	Findings	Research Gap
Aziz and Theuri, (2018)	Strategies undertaken by health insurance scheme to enhance customer loyalty: A Case Study Of National Hospital Insurance Fund, Ukunda Branch Office.	The study indicated that enhanced customer feedback systems and better product development enhanced loyalty within the NHIF scheme	The study focussed on the strategies adopted to enhance customer loyalty in a publicly owned insurer. The current study examined innovation capability and competitiveness within privately listed insurance firms.
Kibicho (2015)	Determinants of strategy implementation success in the insurance industry: a survey of insurance companies in Kenya.	The study indicated that technological development was positively related to success in strategy execution within insurance companies.	The study focussed on strategy execution whereas current study contextually examined the competitiveness within the Kenyan insurance industry.
Muthoga, Odhiambo, Ngugi, and Ngugi, (2018)	Influence of entrepreneurial innovativeness on micro insurance uptake by Micro and Small Enterprises in Kenya.	The study findings indicated that development of customer-tailored products positively influence uptake of insurance by micro and small firms.	The study focussed on uptake of insurance products but did not examine innovation and competition within the insurance sector.
Onyebuchi, Nwankwo, and Onuka, (2018)	Insurance sub-sector development: an emerging pillar for economic growth and sustainability in Nigeria.	Marketing capabilities positively strengthened the performance of the insurance sector.	The study was conducted in Nigeria while the current study was conducted in Kenya. The study did not also consider competitiveness in the insurance industry.

2.5 Conceptual Framework

The conceptual framework explains the relationship between the independent variables and the dependent variables. It explains the possible connections between the variables (Smyth, 2004). Independent variables include market innovation, technical innovation and product innovation while the dependent variable was competitiveness in the insurance industry.

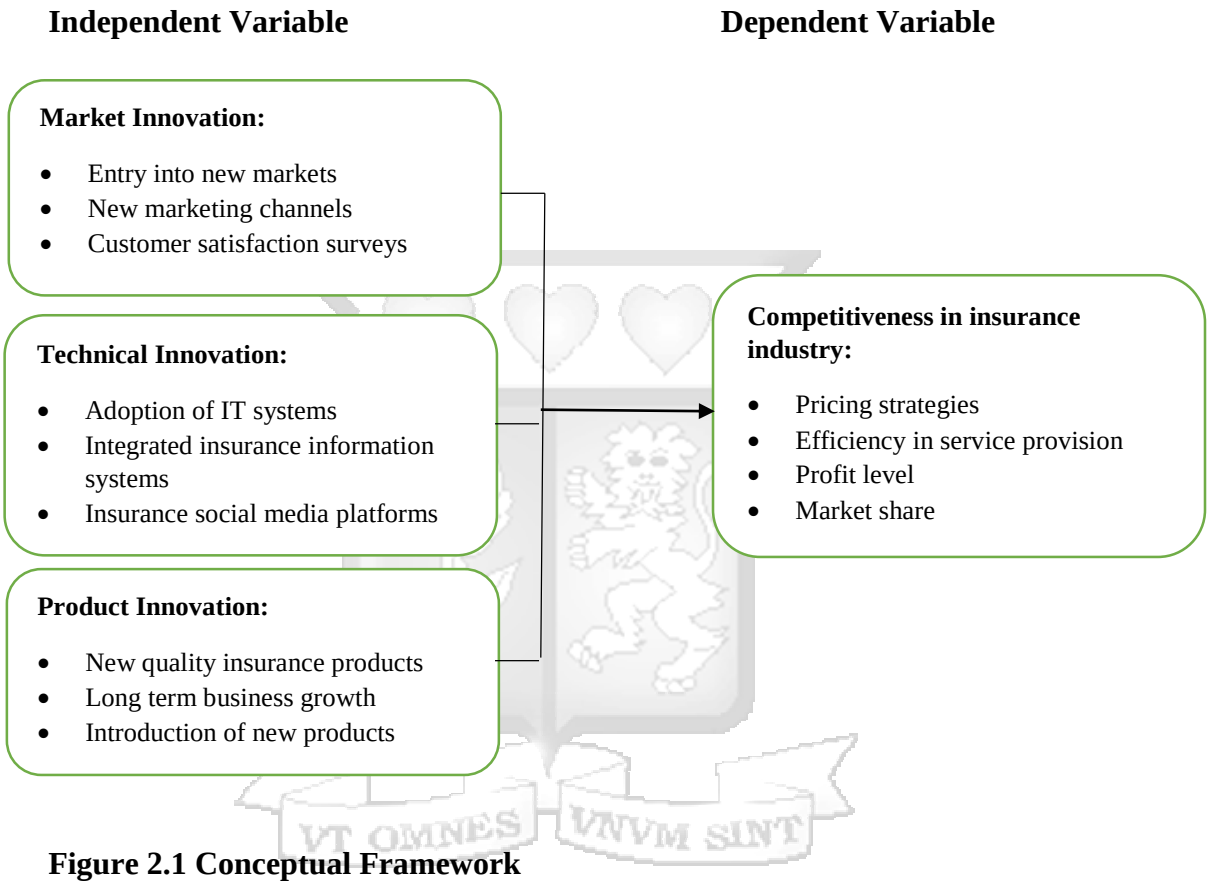

Figure 2.1 Conceptual Framework

The conceptual framework above indicated the relationship between innovation capability and the competitiveness within the Kenyan insurance industry. The innovation capability was conceptualized on three main dimensions; market innovation, technical innovation and product innovation. The dependent variable – competitiveness within the insurance industry was measured based on the market share, pricing, efficiency in service provision and profit level.

Table 2.2 Operationalization of Variables

Objective	Variable	Measurement	Data collection	Data Analysis
To establish the influence of innovation capability on competitiveness within listed insurance firms in Kenya.	• Pricing strategies • Efficiency in service provision • Profit level • Market share	Quantitative data	Structured questionnaire	Descriptive Correlation tests Regression tests
To establish the influence of market innovation on competitiveness within listed insurance firms in Kenya.	• Entry into new markets • New marketing channels • Customer satisfaction surveys	Quantitative data	Structured questionnaire	Descriptive Correlation tests Regression tests
To examine the effect of technical innovation on competitiveness within listed insurance firms in Kenya.	• Adoption of IT systems • Integrated insurance information systems • Insurance social media platforms	Quantitative data	Structured questionnaire	Descriptive Correlation tests Regression tests
To determine the influence of product innovation on competitiveness within listed insurance firms in Kenya.	• New quality insurance products • Long term business growth • Introduction of new products	Quantitative data	Structured questionnaire	Descriptive Correlation tests Regression tests

2.6 Chapter Summary

This second chapter reviewed the relevant literature in line with the research objectives. The review of the theoretical literature presented the two main theories that

were connected to the study objectives. The resource-based view theory explains how the firm capabilities presented a firm with a competitive edge whereas diffusion of innovation theory links the adoption and integration of innovation within the business environment. The review of empirical literature was based in line with the themes of the research presented the empirical, methodological and knowledge gaps that the research sought to fill.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter specifically examined the research design, population of the study, sampling procedures, data collection methods, data analysis techniques, validity and reliability tests.

3.2 Research Design

Gall, Borg, and Gall, (2006) Bryman and Bell (2007) describe research design as a general plan that provides a framework for the choice of data collection techniques and data analysis procedures. The study will employ a descriptive research design because it will give a good description of what, when and how understanding of phenomenon under study. Further, a descriptive study was ideal since it allows the examiner to determine the relationship between research variables; hence was instrumental in estimating association between innovation capability and competitiveness within listed insurance firms.

3.3 Population of the Study

The target population consists the specific elements from which specific information is desired. Ngechu (2004) defines population as a defined set of individuals with perceptible qualities under investigation. For this study, the population consisted of 6 insurance firms in Kenya that are publicly listed at the NSE. The listed insurance firms were selected since they are top-performers in the industry and represent more than 50% of the market share within the insurance industry (IRA, 2017).

3.4 Data Collection Methods

Kothari (2004) defines data collection methods as the systematic approach employed by a researcher to collect primary or secondary data essential in answering the study objectives. Structured questionnaires were used to collect primary data over a four-week period. Structured questionnaires were adopted since they offer the researcher an opportunity to collect structured data. This is important in research since standardized data makes it easy to conduct analysis and to draw inferences, while at the same time will offer respondents opportunity to clarify their answers in the structured section (Cooper & Schindler, 2014). In abiding with best practice standards,

listed firms are adequately resourced with personnel who have adequate knowledge on innovation. The researcher considered the personnel heading each of the relevant departments thus ensuring equal representation of all the respondents. This resulted in 8 senior managers being drawn within each of the listed insurance firms.

Table 3.1 Respondents Selection

Department Head	Number of Respondents
Operations Manager	6
ICT Manager	6
Sales/Marketing Manager	6
Actuarial Manager	6
Strategy Manager	6
Risk/Compliance Manager	6
Digital Marketing Manager	6
Underwriting Manager	6
Total	**48**

These respondents are deemed to have adequate knowledge on innovation within their specific firms and how it has affected the competitiveness of the firm.

The researcher utilized an electronic medium through use of google forms easing the data collection process.

3.5 Data Analysis

Data analysis is defined as the process of transforming raw data into meaningful themes by use of statistical tools (Cox &Hassard, 2005). Descriptive statistics was analysed using frequencies, percentages and means, while inferential statistics were analysed using a multi linear regression model using (SPSS) version 23. Collected qualitative data was converted into quantitative data and analysed similarly to descriptive statistics. The findings were presented using tables and figures. The study utilized a regression model to estimate the relationship between competitiveness of an insurance firm and the influence of market, technical and product innovation as independent variables:

$$\mathbf{Y = \beta 0 + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + e}$$

Where:

Y = Competitiveness within listed insurance firms in Kenya

β1- β3 = coefficient of determination for independent constructs

Xi for;

X1 = Market Innovation

X2 = Technical Innovation

X3 = Product Innovation

e = Error term

3.6 Research Quality

To enhance the quality of the research instrument; the researcher conducted a pilot tests of the research instrument. The pilot test enabled for both reliability and validity tests to be conducted. The sample respondents for the pilot study was chosen from the first 4 respondents.

3.6.1 Validity of the Research

The research employed construct and content validity. To ensure content validity, the questionnaire was reviewed by an insurance sector expert as well as the institutional supervisor. The construct was upheld by ensuring that all the research variables are covered in the questionnaire.

3.6.2 Reliability of the Research

The study conducted a reliability test to measure the internal consistency of the research instrument. Cronbach Alpha internal consistency technique to measure the reliability of the data collection instruments was adopted in the current study. While there is no agreement between researchers regarding the acceptable value of reliability, the study applied the widely accepted value of 0.70 as the cut-off point for the Cronbach alpha coefficient (Gall, Borg, & Gall, 2006).

Table 3.2 Reliability Results

The effect of innovation capability on competitiveness of listed insurance firms			
Variable	Cronbach's Alpha	Number of Items	Comment
Competitiveness	.840	5	Accepted
Market innovation	.785	5	Accepted
Technical innovation	.860	5	Accepted
Product innovation	.835	5	Accepted
Overall Reliability Statistics	.820	5	Accepted

The results of the study indicated that all the research variables had a Cronbach Alpha of above 0.7; thus, indicating there was internal consistency within the research instrument. The overall reliability statistics was 0.820 which was above the threshold of 0.7 hence the constructs were accepted for the study.

3.7 Ethical Issues in Research

To ensure the study meets ethical guidelines the researcher observed ethical guidelines while carrying out the study. The researcher sought clearance from Strathmore Business School before embarking on the data collection process. Further to ensure compliance with regulations the researcher sought clearance from NACOSTI and the listed insurance firm's management prior to the data collection process. The study further ensured that anonymity of the respondents is maintained in the course of the study. The research also ensured that all the collected data was used only for academic purposes and confidentiality is maintained in the study process.

CHAPTER FOUR

PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter presented the findings of the research and presents the background information, the descriptive analysis, correlation analysis and the regression analysis. The chapter further contained a summary of the results.

4.2 Background Information

The research sampled 48 respondents drawn from the insurance industry. The study further utilized 4 respondents for the pilot test. The study obtained a response rate of 95% (*N=42*) deeming it adequate for statistical analysis.

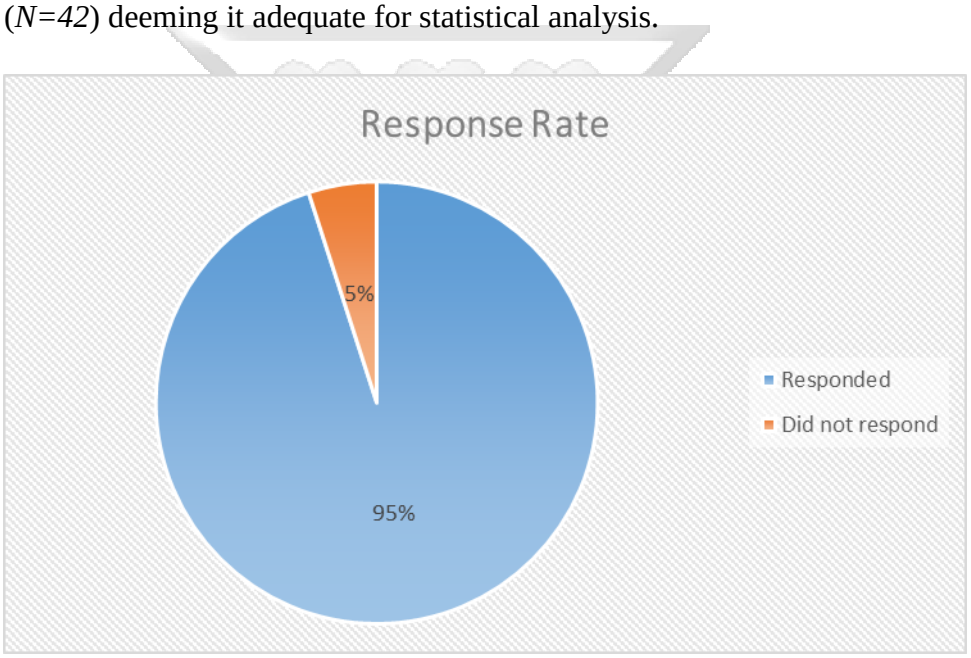

Figure 4.1 Response Rate

4.2.1 Education Level

The study examined the education attainment level among the respondents. The results of the research are shown below;

Table 4.1 Education Level of Respondents

	Frequency	Percent (%)
Diploma	2	4.7
Graduate	14	33.3
Post graduate	26	62.0
Total	**42**	**100.0**

Research findings showed that 62% of the respondents had attained postgraduate education, 33% attained a graduate level education while only 5% of the respondents had a diploma level education.

4.2.2 Managerial Position in the Organization

The study examined the managerial position held by the respondents within the organizations. The results are as presented below:

Table 4.2 Respondents Managerial Position

	Frequency	Percent (%)
Strategy Managers	6	14.3
Risk/Compliance Managers	6	14.3
ICT Manager	6	14.3
Operations Manager	6	14.3
Sales/Marketing Manager	6	14.3
Actuarial Manager	4	9.5
Underwriting Manager	4	9.5
Digital Marketing Manager	4	9.5
Total	**42**	**100.0**

Research findings showed that 14.3% of the respondents were within strategy managers, risk/compliance managers, ICT managers, operations managers and sales/marketing managers. Further, 9.5% were actuarial managers, underwriting managers and digital marketing managers.

4.2.3 Number of Years in the Organization

The research sought to determine the length of service of the respondents within the insurance industry. The results of the study indicated that 62% of the respondents had served for 10-15 years, 24% had served for more than 15 years while only 14% had served for between 5-9 years indicating that the respondents had adequate experienced and knowledge in the insurance industry.

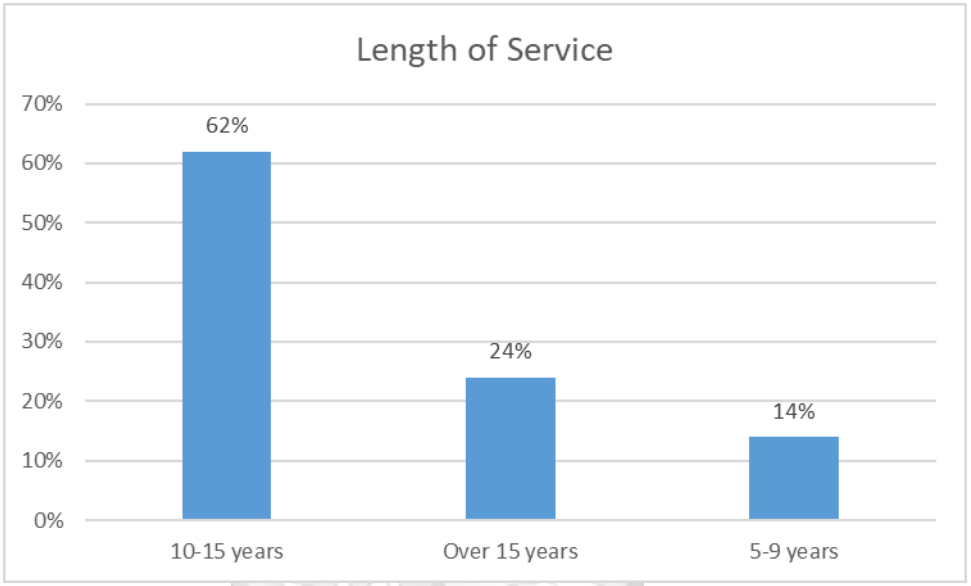

Figure 4.2 Length of Service

4.3 Descriptive Analysis

The research adopted a 5-likert scale questionnaire. The data collected was analysed using sum, means and standard deviations. The results were presented using tables within the themes of the research.

4.3.1 Competitiveness of the Insurance Industry

The study sought to determine the level of competitiveness within the listed insurance firms in the country.

Table 4.3 Competitiveness of Insurance Firms

	N	Sum	Mean	Std. Deviation
There is a growth in the firm's customer numbers.	42	164.00	3.9048	.7262
There is growth in the organisation's profit margins.	42	150.00	3.5714	.9408
There is increased client value in the organisation's product offering.	42	173.00	4.1190	.6326
There is increased customer retention within the organisation.	42	158.00	3.7619	.7262
There are better pricing strategies within the organisation.	42	155.00	3.6905	.8407

Study results showed that respondents were in agreement that there is an improvement in the organisation's customer numbers as shown by a mean of 3.9048 and a deviation of .7262 indicating moderate variations. The findings of the study further indicated respondents were in agreement that there is growth in the organisation's profit margins as shown by a mean of 3.5714 and a deviation of .9408. This is in agreement with IRA (2015) who posited that increase adoption of new technologies has fostered the growth of the industry and enhanced the competitiveness nature.

Concerning whether there is increased client value in the organisation's product offering, a mean of 4.119 and a dispersion of .6326 showed that the respondents were in agreement. Regarding whether there is increased customer retention within the organisation, a mean of 3.7619 showed agreement. The results of the research indicated that respondents agreed that there are better pricing strategies within the organisation as shown by a 3.6905 mean and a deviation of .8407. The results are consistent with IRA (2018) who acknowledged there has been an increase in the performance metrics within insurance firms in the country.

4.3.2 Market Innovation

The first variable of the study examined the level of market innovation within listed insurance firms.

Table 4.4 Market Innovation Descriptive

	N	Sum	Mean	Std. Deviation
Entry into new markets enhances the organisation's market share.	42	164.00	3.9048	1.1221
Creation of new markets enhances adoption of efficiency measures within the organisation.	42	153.00	3.6429	.8785
Creation of new markets promotes price-reduction strategies.	42	141.00	3.3571	1.0551
Increased customer retention improves the organisation's profitability.	42	176.00	4.1905	.8622
Customer feedback enhances efficiency in service provision.	42	189.00	4.5000	.5947

There was agreement among respondents that entry into new markets enhances organisation's market share as indicated by a mean of 3.9048 and a deviation of 1.1221 showing high variation in responses. The results are consistent with Quadros, Furtado, Roberto and Franco (2010) who indicated that technological innovation increased market share and entry into new markets. Results from respondents indicated that creation of new markets enhances adoption of efficiency measures within the organisation as shown by a mean of 3.6429 and a deviation of .8785. Hollanders and Evangelista (2012) were of a similar view that adoption of marketing innovations enhanced competitive edge of firms.

Regarding whether creation of new markets promotes price-reduction strategies, a mean of 3.3571 and a deviation of 1.0551 showed disagreement. Kiragu (2014)

indicated that adopting new marketing channels enhanced product offering and competitive edge of insurance firms. Results further showed agreement that increased customer retention improves the organisation's profitability as shown by a mean of 4.1905 and deviation of .8622. Respondents agreed that customer feedback enhances efficiency in service provision as shown by a 4.5 mean and a deviation of .5947. Appiah-Adu and Amoako, (2016) concluded that increased adoption of new technologies in marketing strategies positively enhanced the customer satisfaction and retention within firms.

4.3.3.1 Effect of Market Innovation on Competitiveness of Insurance Industry

The first objective of the study sought to determine the effect of market innovation on the competitiveness of the listed insurance firms in Kenya.

Table 4.5 Correlation between Market Innovation on Competitiveness of Insurance Industry

		Competitiveness of Insurance
Market Innovation	Pearson Correlation	.239
	Sig. (2-tailed)	.001
	N	42

The first objective of the study examined the effect of market innovation on competitiveness within listed insurance firms in Kenya. Results of the correlation analysis indicates that there is a positive and significant effect of market innovation on competitiveness within listed insurance firms in Kenya *(P-value = .239, Sig = .001<.05).* The results are in line with Burca and Batrinca, (2014) who indicated that adoption of marketing strategies had a positive effect on the performance of insurance firms.

Table 4.6 Regression between Market Innovation and Competitiveness of Insurance Industry

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.239[a]	.057	.033	2.38806

a. Predictors: (Constant), Market Innovation

The results of the regression analysis indicated that 5.7% of the variations of competitiveness in the insurance industry were determined by market innovation as indicated by a coefficient of determination of $R^2 = .057$.

Table 4.7 ANOVA for Market Innovation and Competitiveness of Insurance Industry

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.792	1	13.792	3.418	.008[b]
	Residual	228.113	40	5.703		
	Total	241.905	41			

a. Dependent Variable: Competitiveness of Insurance

b. Predictors: (Constant), Market Innovation

From the resulting findings it was evident that the regression model was significant *sig = .008<.05* testing at 95% confidence interval. The results also generated a *F-value of 3.418* which is above the critical value of 2.76 indicating that the entire research model was statistically significant.

Table 4.8 Regression Coefficients for Market Innovation and Competitiveness of Insurance Industry

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	14.603	2.881		5.068	.000
	Market Innovation	.227	.146	.239	1.555	.008

a. Dependent Variable: Competitiveness of Insurance

The resultant simple regression model was;

$$\mathbf{Y = 14.603 + .227X_1 + 2.881}$$

The beta value (β) = .227 is significantly different from 0 since the p-value .008<.05. This indicates that there is a statistically significant positive effect of marketing innovation on competitiveness of insurance industry. A unit change in marketing innovation will result in a .227-unit change in the competitiveness of insurance

industry. The findings are in agreement with Biener, Eling and Wirfs (2016) who indicated that adoption of marketing innovations enhanced the efficiency and productivity of insurance firms.

4.3.3 Technical Innovation

The second variable of the study examined technical innovation among listed insurance firms.

Table 4.9 Technical Innovation Descriptive

	N	Sum	Mean	Std. Deviation
Adoption of new systems enhances efficiency within the organisation.	42	166.00	3.9524	.8822
Integrated information systems enhance review of the organisation's niche market.	42	173.00	4.1190	.7392
Adoption of IT systems to increase automation lead to cost-cutting which contributes to better pricing.	42	178.00	4.2381	.6918
Use of social media platforms influences customer satisfaction which contributes to higher market share.	42	161.00	3.8333	1.1025
Use of mobile platforms enhances development of new market channels.	42	175.00	4.1667	.7938

With regard to whether adoption of new systems enhances efficiency within the organisation, there was agreement as shown by a mean of 3.9524 and a deviation of .8821. Results showed that respondents agreed that integrated information systems enhances review of the organisation's niche market as shown by a mean of 4.119 and a deviation of .7392. These results are in line with Griffith and Rubera (2014) who

indicated that technological adoption enhances the design, consumer options and efficiency in product offering.

Findings indicated agreement that adoption of IT systems to increase automation leads to cost-cutting which contributes to better pricing as shown by a mean of 4.238. Biener, Eling, and Wirfs, (2016) indicated that adoption of modern technologies enhanced the efficiency of institutions. With regard to whether the use of social media platforms influences customer satisfaction that contributes to higher market share, there was agreement as indicated by mean of 3.8333 and deviation of 1.1025. There was agreement that use of mobile platforms enhances development of new market channels as shown by a mean of 4.1667 and deviation of .7938. The findings of the research are in line with Agboola (2012) who indicated that adoption of ICT enhanced the speed, convenience and accuracy of service provision and product development.

4.3.3.1 Effect of Technical Innovation on the Competitiveness of Insurance Industry

The second objective of the study sought to determine the effect of technical innovation on the competitiveness of the listed insurance firms in Kenya.

Table 4.10 Correlation between Technical Innovation on Competitiveness of Insurance Industry

		Competitiveness of Insurance
Technical Innovation	Pearson Correlation	.315
	Sig. (2-tailed)	.042
	N	42

The second objective of the study examined the effect of technical innovation on competitiveness within listed insurance firms in Kenya. Results of the correlation analysis indicates that there is a positive and significant effect of technical innovation on competitiveness within listed insurance firms in Kenya *(P-value = .315, Sig = .042<.05).* The results are consistent with Biener, Eling, and Wirfs, (2016) who indicated that technical innovations had a psoitive effect on efficiency and productivity of organizations.

Table 4.11 Regression between Technical Innovation and Competitiveness of Insurance Industry

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.315[a]	.099	.076	2.33435

a. Predictors: (Constant), Technical Innovation

The results of the regression analysis indicated that 9.9% of the variations of competitiveness in the insurance industry were determined by market innovation as indicated by a coefficient of determination of $R^2 = .099$.

Table 4.12 ANOVA for Technical Innovation and Competitiveness of Insurance Industry

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23.937	1	23.937	4.393	.042[b]
	Residual	217.967	40	5.449		
	Total	241.905	41			

a. Dependent Variable: Competitiveness of Insurance

b. Predictors: (Constant), Technical Innovation

From the resulting findings it was evident that the regression model was significant *sig = .042<.05* testing at 95% confidence interval. The results also generated a *F-value of 4.393* which is above the critical value of 2.76 indicating that the entire research model was statistically significant.

Table 4.13 Regression Coefficients for Technical Innovation and Competitiveness of Insurance Industry

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	13.484	2.679		5.034	.000
	Technical Innovation	.274	.131	.315	2.096	.042

a. Dependent Variable: Competitiveness of Insurance

The resultant simple regression model was;

$$\mathbf{Y = 13.484 + .274X_1 + 2.679}$$

The beta value (β) = .274 is significantly different from 0 since the p-value .042<.05. This indicates that there is a statistically significant positive effect of technical innovation on competitiveness of insurance industry. A unit change in technical innovation will result in a .274-unit change in the competitiveness of insurance industry. The results are consistent with Sriboonlue, Ussahawanitchakit and Raksong (2015) who indicated that strategic technical innovation capacity positively enhanced the firm performance and competitive edge.

4.3.4 Product Innovation

The third variable of the study examined the product innovation within listed insurance firms.

Table 4.14 Product Innovation Descriptive

	N	Sum	Mean	Std. Deviation
Development of new quality products enhances market share.	42	181.00	4.3095	.7805
Development of long-term growth strategy contributes to better returns for the organisation.	42	180.00	4.2857	.5078
Introduction of custom-tailored products enhances satisfaction levels with customers.	42	188.00	4.4762	.5942
Continuous product development impacts the organisation's profitability positively.	42	183.00	4.3571	.6922
Adoption of technology in product development contributes to competitive pricing.	42	185.00	4.4048	.5868

Findings of the study indicated agreement that development of new quality products enhances market share as shown by a mean of 4.3095 and a deviation of .7805. Calantone, Cavusgil, and Zhao (2010) had similar observations that new product development fostered the market share of firms and increased sales volumes. Concerning whether development of long-term growth strategy contributes to better

returns for the organisation, there was agreement among respondents as shown by a mean of 4.2857 and a deviation of .5078 indicating minimal variation in responses. Markham and Lee (2013) indicated that new product development enhanced the firm's earnings and profitability.

Results showed agreement that introduction of custom-tailored products enhances satisfaction levels with customers as shown by mean of 4.4762 and a variation of .5942. The results are consistent with Polder, Leeuwen, Mohnen, and Raymond (2010) who indicated that new products and services had a positive effect on creation of customer value. Findings also showed agreement that continuous product development impacts the organisation's profitability positively as shown by mean of 4.3571 and a deviation of .6922. Aziz and Theuri, (2018) also pointed out that adoption of new product development enhanced the customer loyalty which improves the profitability of the value. With regard to whether adoption of technology in product development contributes to competitive pricing there was agreement as indicated by a mean of 4.4048.

4.3.4.1 Effect of Product Innovation on Competitiveness of Insurance Industry

The third objective of the study sought to determine the effect of product innovation on the competitiveness of the listed insurance firms in Kenya.

Table 4.15 Correlation between Product Innovation and Competitiveness of Insurance Industry

		Competitiveness of Insurance
Product Innovation	Pearson Correlation	.284
	Sig. (2-tailed)	.006
	N	42

The third objective of the study examined the effect of product innovation on competitiveness within listed insurance firms in Kenya. Results of the correlation analysis indicates that there is a positive and significant effect of product innovation on competitiveness within listed insurance firms in Kenya *(P-value = .284, Sig = .006<.05).* The findings of the research are consistent with Polder, Leeuwen, Mohnen, and Raymond (2010) who indicated that product innovation fostered organization performance. Werbach (2011) was of the view that innovation positively influenced profit levels and firm productivity.

Table 4.16 Regression between Product Innovation and Competitiveness of Insurance Industry

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.284[a]	.081	.058	2.35759

a. Predictors: (Constant), Product Innovation

The results of the regression analysis indicated that 8.1% of the variations of competitiveness in the insurance industry were determined by product innovation as indicated by a coefficient of determination of $R^2 = .081$.

Table 4.17 ANOVA for Product Innovation and Competitiveness of Insurance Industry

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.575	1	19.575	3.522	.000[b]
	Residual	222.330	40	5.558		
	Total	241.905	41			

a. Dependent Variable: Competitiveness of Insurance

b. Predictors: (Constant), Product Innovation

From the resulting findings it was evident that the regression model was significant *sig = .000<.05* testing at 95% confidence interval. The results also generated a *F-value of 3.522* which is above the critical value of 2.76 indicating that the entire research model was statistically significant.

Table 4.18 Regression Coefficients for Product Innovation and Competitiveness of Insurance Industry

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	11.721	3.921		2.989	.005
	Product Innovation	.336	.179	.284	1.877	.000

a. Dependent Variable: Competitiveness of Insurance

The resultant simple regression model was;

$$Y = 11.721 + .336X_1 + 3.921$$

The beta value (β) = .336 is significantly different from 0 since the p-value .000<.05. This indicates that there is a statistically significant positive effect of product innovation on competitiveness of insurance industry. A unit change in product innovation will result in a .336-unit change in the competitiveness of insurance industry. Hoang, Igel, and Laosirihongthong (2010) also indicated that adoption of product innovation was positively related to the competitive edge of insurance firms.

4.4 Diagnostic Analysis

The study applied the collinearity test to examine the independence between the research variables.

Table 4.19 Collinearity Statistics

		Collinearity Statistics	
Model		**Tolerance**	**VIF**
1	(Constant)		
	Market Innovation	.577	1.732
	Technical Innovation	.499	2.003
	Product Innovation	.441	2.268

a. Dependent Variable: Competitiveness of Insurance

Table 4.19 shows that all variance inflation factors (VIF) values are less than 10 indicating no multi-collinearity issues in the variables used when testing the nature of the relationship between dependent and independent variables (market innovation = 1.732; technical innovation = 2.003; product innovation = 2.268). The tolerance value checks on the degree of collinearity. Since all tolerance values were above 0.1, there were no collinearity problems (market innovation = .577; technical innovation = .499; product innovation = .441).

4.5 Regression Summary

The study further sought to examine the magnitude of the relationship between innovation capability and competitiveness within listed insurance firms in Kenya. The research adopted regression tests for this analysis.

Table 4.20 Regression Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.331[a]	.109	.039	2.38097

a. Predictors: (Constant), Product Innovation, Market Innovation, Technical Innovation

The results of the regression analysis indicated that 10.9% of the variations of competitiveness in the insurance industry were determined by innovation capability as indicated by a mean of $R^2 = .109$. Ombaka, Machuki, Awino, and Wainaina, (2015) concluded that innovation positively influenced the financial performance of firms. Griffith and Rubera (2014) similarly concluded that technological innovations positively influenced the performance of firms.

4.5.1 ANOVA Summary

The research further sought to examine the statistical significance of the research model using ANOVA analysis.

Table 4.21 ANOVA Summary

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	26.483	3	8.828	4.557	.000[b]
	Residual	215.422	38	5.669		
	Total	241.905	41			

a. Dependent Variable: Competitiveness of Insurance

b. Predictors: (Constant), Product Innovation, Market Innovation, Technical Innovation

From the resulting findings it was evident that the regression model was significant *sig = .000<.05* testing at 95% confidence interval. The results also generated a *F-value of 4.557* which is above the critical value of 2.76 indicating that the entire research model was statistically significant in predicting the relationship between innovation capability and competitiveness of insurance industry.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The fifth chapter of the study gave an overview of the summary, conclusions and recommendations made in the course of the research. The chapter further presented the suggestions for future research work.

5.2 Discussion

The findings of the research generally indicated that innovation leads to improved market share within the listed firms, growth in profit margins, client retention, better pricing strategies and increased efficiency.

5.2.1 Market Innovation and Competitiveness of Listed Insurance Firms

The first objective of the study examined the market innovation and competitiveness of insurance firms. The findings of the study indicated that market innovations were central to increased market share, enhanced efficiency in marketing, promoted better pricing strategies and improved customer retention and feedback. The results of the study indicated that there is a positive and significant effect of market innovation on competitiveness within listed insurance firms in Kenya. The findings are consistent with Quadros, Furtado, Roberto and Franco (2010) who indicated that innovation centred on the marketing goals and structures of the firm enhanced the organizations productivity. Appiah-Adu and Amoako, (2016) posited that enhanced adoption of new marketing strategies positively influenced the organization performance.

5.2.2 Technical Innovation and Competitiveness of Listed Insurance Firms

The second objective of the study examined technical innovation within listed insurance firms. Research findings showed that adoption of technology enhanced efficiency and formation of new niche market. Findings of the research also showed that adoption of IT systems leads to cost-cutting and better pricing as well as improving customer satisfaction. Griffith and Rubera (2014) also held similar observations that technical innovations enhanced the capacity of the firm in design and offering consumers new options. The study indicated that there is a positive and significant effect of technical innovation on competitiveness within listed insurance firms in

Kenya. Biener, Eling, and Wirfs, (2016) concludedthat technical innovation enhanced the efficiency and productivity of insurance firms.

5.2.3 Product Innovation and Competitiveness of Listed Insurance Firms

The third objective of the study examined product innovation within the listed insurance firms. Results showed that new product development and long-term business strategy enhanced the firm market share and performance respectively. The findings of the research also indicated that having custom-tailored products and continuous product development fostered firm profitability. Calantone, Cavusgil, and Zhao (2010) indicated that new product innovation enhanced the performance of the performance in relation to attaining a higher market share and enhancing their profitability. Further adoption of new technologies in product development led to cost-cutting which lowered the pricing of products. Research findings showed that there is a positive and significant effect of product innovation on competitiveness within listed insurance firms in Kenya. The results are consistent with Markham and Lee (2013) who indicated that new product innovation contributed to high performing firms.

5.3 Conclusions

The research in general concluded that enhancing the innovation capability is essential to improving the competitiveness of the insurance firms. The study concludes that integrating innovation in marketing, product and technical aspects of the insurance firms was central to the performance of the insurance firms.

5.3.1 Market Innovation

The study concludes that market innovation was a key driver for the competitiveness of insurance firms. The study concludes that market innovation enhances the ventures into new markets and support better market shares. The study further concludes that development to new marketing channels is vital in contributing to a competitive environment for the insurance firm. The study further concludes that engaging the customers leads to better customer retention and satisfaction.

5.3.2 Technical Innovation

The research concludes that technical innovation was essential in enhancing competitiveness of insurance firms. The study concludes that integration of IT systems promotes efficiency, cost-cutting measures and is key to fostering market share. The

research concludes that information systems enhanced creation of niche markets within the insurance industry.

5.3.3 Product Innovation

The study further concludes that integration of mobile platforms in product development and offering was integral in supporting competitiveness. The research concludes that continuous product development will be instrumental in fostering competitiveness of the listed firms. The research further concludes that insurance firms should foster the provision of product through new digital channels as means of maintaining their competitiveness in the industry.

5.4 Recommendations

The study recommends that insurance firms should expand the capacity of their digital marketing teams as well as support digitalization of their marketing strategies as this will enhance market innovations. The study further recommends that the insurance firms should invest in new core infrastructure that will foster the technical innovation within the insurance firms. The study further recommends that the insurance firms should expand integration of new technologies in product development and offering. This will enhance customer satisfaction and retention levels within the insurance industry.

The study recommends that insurance firms should expand their funding towards innovation and R&D activities within the firm. Further insurance firms should conduct regular brainstorming among the personnel within the firm to encourage formulation, adoption and effective implementation of innovation. The study further recommends that insurance firms should motivate their personnel to be engaged in the innovation process, this will enhance the firm efficiency and productivity.

5.5 Contributions of the Study

The findings of the study are expected to contribute to the depth of knowledge on the contribution of innovation capability in enhancing the competitiveness of the insurance firms.

The results of the study will also be integral in expanding the available empirical evidence on the competitiveness of the insurance industry.

From a theoretical standpoint the findings of the research will contribute to the continuous evaluation of the significance of both resource based view theory and the

diffusion innovation theory in future studies within the innovation field and their overall effectiveness.

5.6 Suggestions for Further Research

The research was integral in expanding the available knowledge on the contribution of innovation capability on the insurance industry competitiveness. The study was constrained to an evaluation of market, technical and product innovation. The study suggests that there is need for the research scope to be expanded and take into consideration other elements of innovation that could have an impact on the competitiveness of insurance firms.

The study further suggests the study should be replicated within financial institutions to examine the link between the variables and the generalization of the results.

5.7 Limitations of the Study

The research faced limitations in unwillingness of some participants to be part of the research process. This was minimized by affirming to the respondents that their confidentiality will be upheld throughout the research process.

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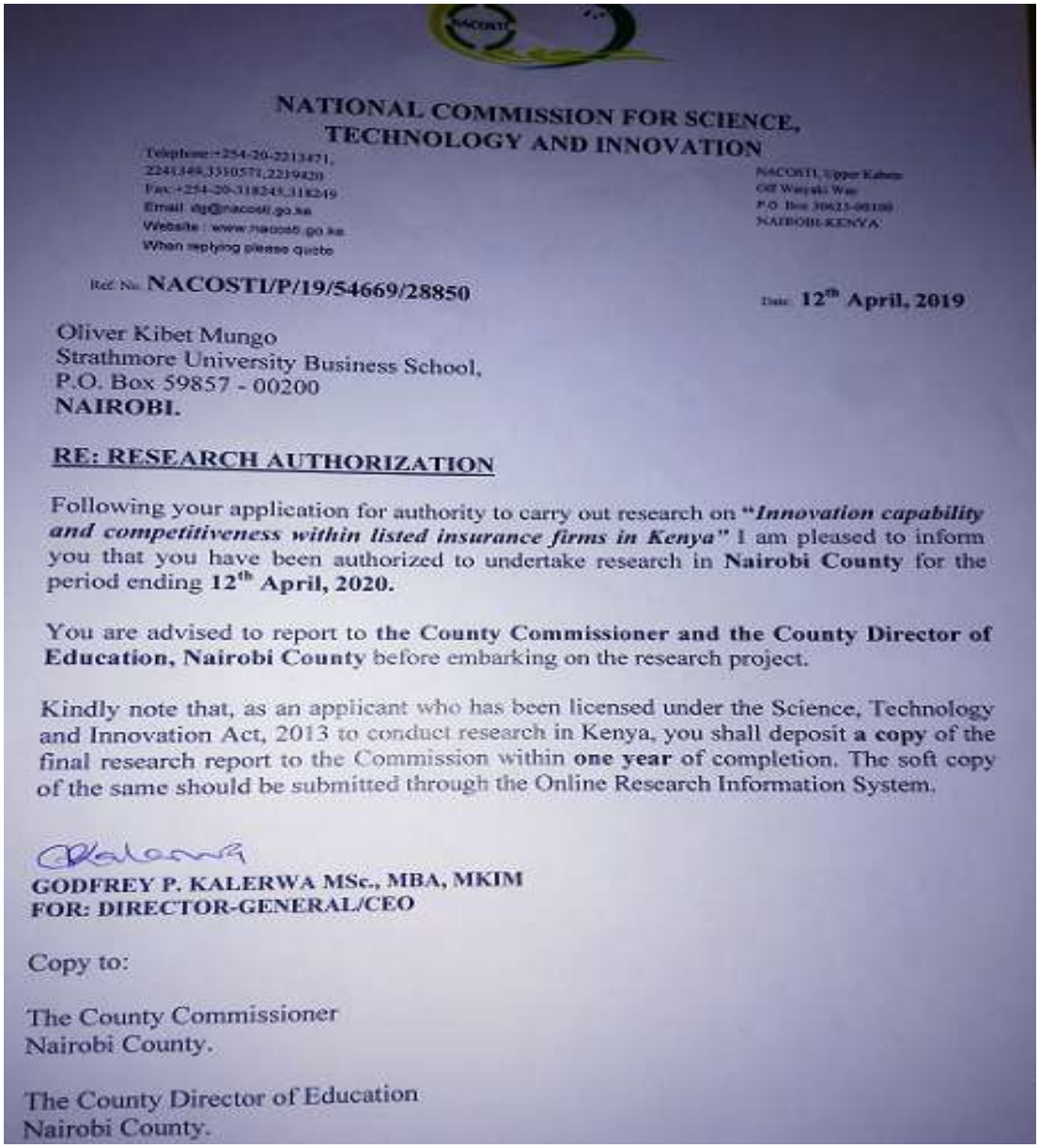
APPENDICES

Appendix I: Letter of Introduction



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Ref No. **NACOSTI/P/19/54669/28850**

Date: **12th April, 2019**

Oliver Kibet Mungo
Strathmore University Business School,
P.O. Box 59857 - 00200
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Innovation capability and competitiveness within listed insurance firms in Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **12th April, 2020.**

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

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.

Appendix II: Research Instrument

The questionnaire below seeks to collect data that will help in undertaking my research work. I kindly request all participants to answer the questions to the best of their ability and truthfully.

PART A: GENERAL INFORMATION

1) Education Level

   O- Level [ ]

   Diploma [ ]

   Graduate [ ]

   Post Graduate [ ]

Others

(Specify)……

2) Your Managerial position in the organization

   Strategy Manager [ ]

   Risk/Compliance Manager [ ]

   ICT Manager [ ]

   Operations Manager [ ]

   Sales/Marketing Manager [ ]

   Actuarial Manager [ ]

   Digital Marketing Manager [ ]

   Underwriting Manager [ ]

3) Number of years in this department/position

Less than 5 [ ] 5-9 [ ] 10-15 [ ] Over 15 [ ]

PART B: Influence of Innovation Capability on Competitiveness within listed insurance firms in Kenya

Please tick the level of agreement on the following statements.

Please indicate in the table with a tick (√) or a cross (×) with a scale of

5= Strongly Agree **4**= Agree **3**= Moderate Agree **2**= Disagree **1**= Strongly Disagree

No	Competitiveness within listed insurance firms in Kenya	1	2	3	4	5
1.	There is a growth in the firms customer numbers					
2.	There is a growth in the firm profit margins					
3.	There is an increase in efficiency in the firm product offering					
4.	There is increased client retention within the firm					
5.	There are better pricing strategies within the firm					

No	Market Innovation in Insurance Firms	1	2	3	4	5
1.	Entry into new markets enhances firm's market share					
2.	Creating new markets enhances adoption of efficiency measures within the firm					
3.	Creation of new markets promotes price-cutting strategies					
4.	Increased customer retention improves firm profitability					
5.	Customer feedback enhances efficiency in the service provision					

No	Technical Innovation in Insurance Firms	1	2	3	4	5
1.	Adoption of new systems enhances efficiency within the firm					
2.	Integrated information systems enhances review of the firm niche market					
3.	Adoption of IT systems lead to cost-cutting which contributes to better pricing					
4.	Usage of social media platforms influence customer satisfaction which contributes to higher market share					
5.	Usage of mobile platforms enhances development of new market channels.					

No	Product Innovation in Insurance Firms	1	2	3	4	5
1.	Development of new quality products enhances the market share					
2.	Development of long term business growth strategy contributes to better firm returns					
3.	Introduction of custom-tailored products enhances satisfaction levels with firm customers					
4.	Continuous product development positively affects the firms profitability					
5.	Adoption of technology in product development contributes to competitive pricing					

Appendix III: Research Timeline

ACTIVITIES	December	Jan/Feb	March	April	April	April
Formulation of the research problem						
Proposal writing						
Defence of Proposal						
Data collection						
Data analysis						
Project report writing and review						

Appendix IV: Research Budget

NO	ITEMS	COST (KSHS)
1	Stationery	3,500.00
2	Typing & Printing	3,500.00
3	Photocopying & Binding	3,000.00
4	Analysis	10,000.00
5	***Sub – Total***	***20,000.00***
6	Miscellaneous (10%)	2,000.00
7	Publication Fees	15,000.00
	TOTAL	**37,000.00**

Appendix V: Listed Insurance Firms

1. Jubilee Holdings Ltd.
2. Sanlam Kenya PLC
3. Kenya Reinsurance Corporation Ltd
4. Liberty Kenya Holdings Ltd
5. Britam Holdings Ltd
6. CIC Insurance Group Ltd