

**INNOVATION STRATEGIES AND SUSTAINABLE COMPETITIVE
ADVANTAGE OF INFORMATION AND COMMUNICATION TECHNOLOGY
FIRMS IN MOMBASA COUNTY, KENYA.**

BY

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented for a degree in any other university.

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This project has been submitted for examination with my approval as University Supervisor.

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DEDICATION

I would like to dedicate this MBA project to my parents Mr. Mahmoud Mohammad and Ms. Fatma Mohammad for their sacrifice, dedication and tirelessly support. They taught me the life skills that are essential in day to day life. I would also love to dedicate this to the other 2 important ladies in my life my spouse Ms. Hafswa Abdallah and my all-time partner and love, My Grand Mother Ms. Saada Ali Abdulrahman.

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In the name of Allah, the most Gracious the most Merciful. All thanks to Allah for his blessings that he has showed me with throughout my life. I also thank Him for granting me health and power that has enable me to get to this education level. It was not easy but it worth the struggle and the hustle.

As I was growing up I never imagined I would reach this stage being the first born in my family. My mum kept motivating, pushing me and setting moving objectives so that I could always strive for better goals. I am grateful to have her by my side. This project is a result the support I received from many people including my friends, my colleagues at work, my classmates, my lecturers, my family members and the university of Nairobi family. I cannot mention each and every one name but they are all in my prayers and I will be forever grateful to them for their support.

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ABBREVIATIONS & ACRONYMS

ICT	Information and Communication Technology
KBV	Knowledge Base View
Max	Maximum
Min	Minimum
N	Number/Frequency
RBV	Resource Base View
SCA	Sustainable competitive Advantage
SIG	Significant
STD	Standard
SSPS	Statistical Package for Social Sciences

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ABSTRACT

In this ever changing environment, where firms are often faced with the challenges pursuing competitive advantage, customer is an important stakeholder in deciding who is to take the top seat. The term competitive advantage means to have an ability to perform better than any other players in the same industry. Through Innovation, firms are in a strategic position to identify market opportunities and effectively take advantage of the opportunities to build a sustainable competitive advantage. The study topic in this research is innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County. The main objective of this study is to find the relationship that exist innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County. The main focus is on the following four innovations strategies; Process innovation, Product innovation, Market innovation and Organisational Innovation. The research design of this paper was cross sectional descriptive survey. Five point Likert scale survey questionnaire was prepared and distributed to 45 ICT firms in Mombasa County. Out of the sample size, 35 companies participated in the survey. The Data collected and was analysed using regression analysis. From the analysis it was found that ICT firms in Mombasa County all do include process, product, and organisational innovation in their pursuit of competitive advantage. Generally it was found that innovation strategies have a positive relationship with sustainable competitive advantage. Out of all the innovation strategies, only market innovation was found to have positive and significant effect on sustainable competitive advantage at 5% level of significance. Finally the results showed that in Mombasa County if an ICT firms wants to increase the level of sustainable competitive advantage, they should invest more in Market innovation. This implies that market innovation is more effective that the other variables. This can be explained by the fact that ICT industry in Mombasa county is at it development stage. Therefore creating awareness through market innovation would expand the firm's market share and sustains its competitive advantage. Process innovation had negative relationship with the sustainable competitive advantage. This is against the policy and the theory of innovation which implies that ICT firms in Mombasa County do not have the required competence in implementing the process innovation. It implies that to gain sustainable competitive advantage firm need to be resourced base, knowledge base and always embrace dynamic capability theory.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

In this ever changing environment, where firms are often faced with the challenges pursuing competitive advantage, customer is an important stakeholder in deciding who is to take the top seat. The term competitive advantage means to have an ability to perform better than any other players in the same industry. Competitive advantage can be achieved through satisfying customer needs in a more satisfying way than the others in the market. (Johnson et al., 1998). Customer`s needs and preferences change with time thus affecting the demand of different products in the market. Firms have to change with the customers if they are to retain the business relationship. A proactive approach to change positions a firm above the others. Proactive approach to change entails innovation. Innovation is having a view of things from a new angle, having broad perspectives, taking risk and being flexible (Marshaley J. Baquiano, 2012). Through Innovation, firms are in a strategic position to identify market opportunities and effectively take advantage of the opportunities to build a sustainable competitive advantage (Trott, 2005).

This study is guided by the following three theories; Resource base, Knowledge base and Dynamic capabilities theory that help a firm gain sustainable competitive advantage. Resource Base View (RBV) explains how one business organization can gain sustainable competitive advantage. A firm is said to have gained sustainable competitive advantage, if it has valuable and rare resources which cannot be copied/ reengineered nor can they be substituted (Barney, 1991). Knowledge base theory (KBV) is an extension of RBV. It considers knowledge to be the most significant firm`s intangible resource. Knowledge based resources are particularly very difficult to imitate, so they are critical in facilitating firms attain sustainable competitive advantage (McEvily and Chakravarthy, 2002). Dynamic capability theory helps in understanding how and when organisations develop, refresh and renew critical capabilities of their firms. It involves executing new opportunities in the market and constantly adjusting to the changing environment by defining managerial traits, managerial systems and organizational designs that scan the opportunities and threats so as to outperformance rivals.

ICT firms in Mombasa County operate in an industry that is so complex to understand due to globalization, devolution, ICT and new county regulations, advancing new technology and e-commerce. Firms can never afford to avoid developing with the changes in the market. These ICT firms are forced to innovate and come up with the best solutions in terms of software, hardware and even procedures including ICT governance so that companies can remain relevant in the market place. With the establishment of Mombasa County Government ICT Roadmap 2015-2020 economic planning, ICT firms are forced to focus their strategies to fit in so that they can be part of this technological journey. The best way to stay focused is by being innovative. The definition of innovation strategies by Damanpour (1991) accommodates different types of innovation which companies can embrace, which minimizes the possibility of a biased rooted selection. This includes process, product, market and technological innovation.

1.1.1 Innovation Strategies

An innovation strategy is a plan to grow market share and maximize return on investments through new products and services in the market or through process improvement so that organizations can effectively and efficiently satisfy the customer. Innovation is having a view of things from a new angle, having broad perspectives, taking risk and being flexible (Marshaley J. Baquiano, 2012). Innovation is about viewing business processes and functions from a new angle, having foresighted perspective, being willing to take risk and be flexible. Innovative firms promote innovation in the workplace by constantly putting in place employees developing programs and trainings. These programs are aimed at developing employees to be better by gaining new knowledge and skills.

The business environment is characterized by uncertainty and unpredictable situations (Johnson and Scholes 1999). Successful firms deal with these environmental challenges with a proactive approach and the best way to stay proactive is by being Innovative. Change is inevitable, and so is Innovation. It is important to be noted that an innovation strategy is about producing best products in an attractive market, aiming customer segment that is profitable by fulfilling unsatisfied customer needs in a better way.

Innovation strategy when implemented is meant to develop a new product or service, outperform competitors in the market by exciting its customers (Kiplimo, 2011). The general goal of an innovation strategy is to develop a life cycle of a new product which ultimately ends the life cycle of the similar existing products in the market. Through innovations firms are able outperform other competitors by overturning other firm's competitive advantage (Grant, 2005).

Innovation strategy is a plan that assist firms make decisions cumulatively in a continuous manner, about which type of innovation best suits the business objectives, how resources are to be used so as to deliver value to the customer and build sustainable competitive advantage (Dodgson et al, 2008). Through Innovation, organizations are able to better identify market opportunities and effectively take advantage of the opportunity to build a sustainable competitive advantage (Trott, 2005). Innovation can be introduction of a new product or service, a new or improved process of production, a new or improved administrative system structures (Damanpour, 1991). Innovation strategies are difficult to predict defined steps to follow to innovate and implement, also the right time to innovate and the time required for implementation and impact of the innovation is not easy to calculate.

The definition of innovation strategies by Damanpour (1991) accommodates different innovation types that include: Process Innovation, Product innovation, Market innovation and Organizational and Technological Innovation. A firm which embraces process innovation is meant to develop products at minimized costs but offer the same or improved performance and quality. Product innovation is a new technology commercially meant to be deployed in the market to satisfy market needs. Product innovation is an invention of a new product or significant improvement in a product or service (OECD, 2005). Normally product innovation is market oriented (Kraft, 1990). Market innovation is finding, creating or improving the mix of target markets and how they are best attended to. Technological innovation is considered to be in the top list of important factors affecting the firm's competitiveness in the current century. Firms with latest technologies have higher chances of doing better than the rivals when the technology is utilized well by highly competent man power.

1.1.2 Sustainable Competitive advantage

Competitiveness occurs when businesses located anywhere in the world can meet the taste of international competition at the same time can maintain or improve the standard of its customers. Competitive advantage means to have an ability to outperform all the other players in the market. It is a business concept that differentiates a business from its competitors. Michael Porter defines it as business process advantage a firm enjoys than the rival firms. A prolonged competitive advantage gives a firm sustainable competitive advantage. Sustainable Competitive advantage can be achieved through satisfying customer needs in a more satisfying way than others in the market (Johnson et al., 1998).

There are many attributes that allow an organization to gain competitive advantage. They include low-cost raw materials, highly competent manpower, Law, assets, outstanding quality, strategic location, acquiring latest technology among others. Michael Porter (1985) described two ways a firm can sustain competitive advantage: cost advantage, when a firm offers same products and services at a less cost than its competitors and Differentiation advantage occurs where a firm offers better products than its competitors.

Firms gain competitive advantage through satisfying customer needs in a better or more effectively manner than competitors in the industry (Johnson et al., 1998). Sustainable competitive advantage is a prolonged competitive advantage achieved by a firm in the industry. A firm attains sustainable competitive advantage when it has better valuable product process that cannot be reengineered. The longer the time taken by competitors to copy the champion`s products the more it enjoys and sustain the competitive advantage.

Kim and Mauborgne (2004) introduced the blue and red ocean strategy. They said, firms that compete in Red ocean are believed to be competing head to head and as a result they end up with no growth and no substantial profits. Actually, they are said to be competing over shrinking profits. Furthermore firms that make competition irrelevant through creation of Blue Ocean consisting of uncontested market place are believed to achieve competitive advantage. Firms that have implemented the blue ocean strategy achieve competitive advantage but to sustain their competitive advantage, they should distance themselves from potential imitators by swimming into deep sea of the blue ocean.

1.1.3 ICT Firms in Mombasa County

According to ICT board of Kenya, Kenya now has over 100 Internet Service Providers (ISP), and now has over 3 million internet users. Besides the large number of ICT SMEs in the country, there are a number of ICT multinationals like Google, Oracle, SAP and IBM among others who have brought Foreign Direct Investment (FDI) into the country. This has a direct positive impact on the economy.

Mombasa County Government in its official policy statement recognizes the role ICT plays in service delivery. Mombasa County Government established ICT Roadmap 2015-2020 economic Planning so that it can keep up with the heavy reliance on ICT in implementation of Integrated Financial Management Information System. It recognizes the central role ICT plays in facilitating efficient service delivery to the residents. It acknowledges that strategic investments in ICT shall lead to operational efficiencies that reduce lead times, improve communication with the County stakeholders and improve the County image. This has enabled the county transition to a knowledge-based society.

Mombasa County is a gateway to Fiber Optic cable through its Indian Ocean. Fiber internet suppliers and consumers depend on this Fiber for internet that is runs to different parts of Kenya. This in returns has raised the standards of ICT knowledge and Many Multibillion international companies have interest in supporting ICT related development in Mombasa County. Google, Microsoft, oracle, Firefox, Cisco among other international companies, have been holding workshops and trainings in Mombasa. Many students have been sponsored by to visit their Headquarters for training and exposure.

ICT firms in Mombasa comprises of all types from software developers, Internet Service providers, Cloud Storage, cyber security, Service providers, Data recovery, ICT product retailers among others. Examples of these firms include Techbiz Africa that has partnered with big players in the international market like IBM, Oracle and others in providing IT solutions. Internet Solutions Ltd and MTN sell Internet and Storage solutions. Safaricom has created competition from top level business companies to entry level companies.

1.2 Research Problem

In this ever changing environment, where firms are often faced with the challenge of gaining competitive advantage over competitors in the industry, customer is an important stakeholder in deciding who the market champion is. A firm is said to have gained sustainable competitive advantage, if its resources are valuable and rare which are not imitable nor are they substitutable (Barney, 1991). Here, the term competitive advantage means to have an ability to perform better than any other players in the same industry. Customer needs change with time thus affecting the demand of products. Firms have to change with the customers to retain the business relationship. Innovation creates growth and sustains performance in the dynamic and uncertain environment (Higgins, 1996; Kay, 1993; Patel, 1999). Innovation is about viewing business processes and functions from a new angle, having foresighted perspective, being willing to take risk and be flexible. Technology is an ever developing field.

ICT firms in Mombasa County operate in an industry that is so complex to understand due to globalization, devolution, ICT and new county regulations, advancing new technology and e-commerce. Every day there is a new technology in the market. This is why ICT firms in Mombasa County are forced to innovate to conform to the ever changing customer needs and standards. Firms can never afford to avoid developing with the changes in the market. These ICT firms are forced to innovate and come up with the best solutions in terms of software, hardware and even procedures including ICT governance so that companies can remain relevant in the market place. Safaricom has maintained its class of performance through innovation in service delivery thus growing its customer subscription and assured customer loyalty.

Related studies have been carried out in the concept of innovation, Sahay, Yamini Prakash and Gupta M. (2011) carried a research on organisation structure and innovation in the Indian bulk drug industry. They found that generally innovation is critical for survival and has positive effect on the bottom lines. Also, Innovative firms receive highest financial returns. Nilufer Ergeneli , Asli Goksoy and Ozalp Vayvay (2013) conducted a research on Gaining Competitive Advantage through Innovation Strategies. They concluded that in today's economy sustainable competitive advantage is through innovation.

Muzaffer ERTÜRK (2009) in his research to investigated the role and technological innovation in determining the competitiveness and profitability of the firms. He found out that technological innovation has to be successfully managed putting into consideration internal and external factors of a firm. Also, Technological innovation is important ingredient in sustaining competitive advantage in a competitive global economy conditions.

Gathai (2009) undertook a case study on the innovation strategies adopted by Equity bank Ltd. He found that for a firm to embrace innovation, top management should be involved and direct resources to the team involved in the innovation processes. Odhiambo (2008) undertook a case study on Innovation strategies at the Standard Chartered (K) Ltd. He found out that for a firm to be innovative it should encourage creativity. This leads to a higher platform of quality and innovative mindset.

Mwikali`s (2011) research to study insurance industry in Kenya and innovation processes. He found out, all companies in the insurance industry have same level of innovation process understanding that involve everyone in the firm. Arising from above its clear a lot of work has been done in this area however a lot of issues remain unresolved. This project is focused on the role of innovation strategies on sustainable competitive advantage in the ICT firms in Mombasa, and as a result, the current study will seek to answer the question: What is the role of innovation strategies in building sustainable competitive advantage in the ICT firms in Mombasa County?

1.3 Research Objectives

To establish the relationship between innovation strategies and sustainable competitive advantage of ICT firms in Mombasa County.

1.4 Value of the Study

The study will have value in different aspects. The managers of ICT firms in the ICT industry will be able to know the challenges which have been affecting the implementation of innovation strategies and thus come up with measures which will counter the challenges and be able to maintain its sustainable competitive advantage over other industries in the country. The management of the ICT firms in the industry will be able to gain more insights concerning the competitiveness of their innovation strategies and having known the challenges facing them, they will be able to mitigating them.

The study will be of academic value to those interested in the ICT industry in Mombasa county with an aim of establishing businesses since they will be able to understand what to do right to succeed and what if done wrong will bring the businesses down. The study will also be of value to the county government and national government as it will be relevant reference especially the ministry of information and technology in forming new products development guidelines and policies. It will also add new knowledge to the already existing scholar's body of knowledge in service industry. It will inform the readers how to overcome innovation strategies challenges.

The theories in subject including Resource based Value theory, Knowledge Based value theory and Dynamic capabilities theory will gain more value through this research as this research will validate the application of the theories in subject on the current business context and situation. This research will be additional evidence on the already proven theories in the academia field. Through this research we will be able to test at the 3 theories in relation to the gaining sustainable competitive advantage through innovation strategies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents Literature review of the study. This includes Theoretical foundation of the study, innovation strategies, Empirical literature Summary and Knowledge gap. The study topic is the innovation strategies and sustainable competitive advantage of information and communication technology firms in Mombasa County. We will be concentrating on the already available knowledge regarding innovation strategies, sustainable competitive advantage and the ICT firm in Mombasa County.

Our main objective being to find out the role of innovation strategies in achieving sustainable competitive advantage in the ICT firms in Mombasa County. This research will establish the innovation strategies used by ICT firms. It will also seek to establish the relationship between innovation strategies and sustainable competitive advantage of ICT firms in Mombasa County.

This chapter includes theoretical foundation of the study in subject, conclusion of the empirical review of the literature and the summary of the Study. The theories involved here will be Resource Based Theory, Knowledge Based Theory and Dynamic Capability Theory. We will also discuss different types Innovation strategies used by firms in ICT industry.

2.2 Theoretical Foundation

This section will be focusing on the theoretical review on Innovation strategies and sustainable competitive advantage in the ICT firms in Mombasa County. The study is anchored on these theories: Resource Based, Knowledge Based and Dynamic Capability.

2.2.1 Resource Based View

Resource based theory (RBV) argues that firms that possess valuable resources that are rare to find and own, resources that are inimitable and non-substitutable have higher chances of achieving superior performance than its competitors (Barney, 1991, 1995). Resources can be divided into knowledge based resources and property based resources (Millerand Shamsie, 1996). Property based resources are tangible resources that firms own and can be seen, touched or displayed like Human capital, computers and others.

Knowledge-based resources refer to the different ways firms utilize the tangible inputs resources (Galunic and Rodan, 1998). They are very difficult to imitate, so they are critical in facilitating competitive advantage sustenance (McEvily and Chakravarthy, 2002). Barney (1991) explained that for firms to gain superior performance, they should have proper organisational structure so that they can take advantage of its rare resources that are valuable and cannot be imitated. In other words to gains best performance over the competitors, firms should not only be resource based but also knowledge based.

Knowledge is power. It has been argued that knowledge or rather, Organizational knowledge, is a critical intangible input that pushes a firm into gaining sustainable competitive advantage (Hitt, Ireland, and Hoskisson, 1999). Knowledge helps firms to predict in a more accurate way the change in the unpredictable environment (Cohen and Levinthal, 1990). Therefore, according to Cohen and Levinthal without knowledge, firms have less chance of realising and take advantage of new opportunities.

In the case of Mpesa, Safaricom possess tangible and intangible resources that has helped the sustain Mpesa. Airtel, Orange tried to imitate Safaricom Mpesa, but because Safaricom possess the original knowledge on how to optimize the output from the tangible resource they have, orange has been forced to close down orange money. Airtel money is struggling to survive. We argue that resources and knowhow constitute knowledge-based resources that help a firm to uncover opportunities and effectively exploit them to attain superior performance.

2.2.2 Dynamic capability

Capabilities are the processes of a firm that are able to reconfigure resources to respond to the market place (Clegg, 2011). Customer preferences are ever evolving and require firm to evolve with them by providing new and different products that require new and different competencies to produce. Capabilities represent the firm's power to utilize their resources to achieve a set of objectives. The skills and knowledge of the employees is the basis of business capability in the market. Innovative firms invest in the development of its human capital and the rate at which firms develop new skills and knowledge to utilize in the market is a key source of sustainable competitive advantage.

Dynamic capability is the firm's power to change so as to deal with the ever changing environment, also be capable of developing new products, services and procedures, to be flexible and to learn how to deal with uncertainty in the business environment. They are systems for development of new product or procedures or contract for business acquisitions where new skills are learned by the firm and the decision making process is faster when required (Johnson, Scholes and Whittington, 2008).

Dynamic capability theory helps in understanding how and when organisations develop, refresh and renew critical capabilities of their organisations. This involves executing new opportunities in the market and constantly adjusting to the changing environment by defining managerial traits, managerial systems and organizational designs that scan the opportunities and threats in the market so as to outperformance rivals. If a firm is unable to adapt to changing circumstances over the long term it will become unprofitable (Augier and Teece, 2008).

2.3 Innovation Strategies

Innovation strategy is a plan that assist firms make decisions cumulatively in a continuous manner, about which type of innovation best suits the business objectives, how resources are to be used so as to deliver value to the customer and build sustainable competitive advantage (Dodgson et al, 2008). Through Innovation, organizations are able to better identify market opportunities and effectively take advantage of the opportunity to build a sustainable competitive advantage (Trott, 2005). Innovation can be introduction of a new product or service, a new or improved process of production, a new or improved administrative system structures (Damanpour, 1991).

Innovation strategies are difficult to predict defined steps to follow to innovate and implement, also the right time to innovate and the time required for implementation and impact of the innovation is not easy to calculate. ICT industry is ever advancing in a rate which forces firms to be more proactive and innovative than ever before. These changes make the ICT industry so complex to understand thus one can never afford to avoid developing with the changes in the market. ICT firms are forced to innovate the best solutions.

The definition of innovation strategies by Damanpour (1991) accommodates different innovation types that include: Process and Product innovation, Market innovation and Organizational and Technological Innovation. According to Cumming (1998), Process innovation involves deploying quality function and reengineering business process reengineering. Normally this coming up with new or major improvement on production method or delivery system. (OECD, 2005).

A firm which embraces process innovation is meant to develop products at minimized costs but offer the same or improved performance and quality. Process innovation is directly linked to firms operations and supply chain management, built upon performance efficiency and product's quality (Utterback and Abernathy, 1975). Process innovation is favorable in a market environment where price is basis of competition since the ultimate goal is to minimize cost but offer same quality. This increases the profit margin to the firm that decides not to pass the cost reduction to the product price or when the price adjustment is smaller than the cost reduced.

Globalization and Technology advancement plays a major role in innovation. Customers move all over the world freely and have access to information in their hands. Most of these customers know what they want and need. ICT firms in Mombasa County are always faced with challenges of reengineering or comparing their products with what international firms offer. Recently we have seen Techbiz Africa rebranding their company so that it can conform to the market standards. We will be examining them to find out the impact process innovation has on overall profit.

Product innovation is a new technology commercially meant to be deployed in the market to satisfy market needs. Product innovation is an invention of a new product or significant improvement in a product or service (OECD, 2005). Normally product innovation is market oriented (Kraft, 1990). It is about differentiated products in the market place (Porter, 1985) and the degree of competition (Bonanno and Haworth, 1998; Weiss, 2003). If competition in the market is characterized by product differentiation, then product innovation strategies are adopted and are preferred by firm's management.

Market innovation is finding, creating or improving the mix of target markets and how they are best attended to. Its ultimate goal is to find better, new potential and ready markets, attending to them in an improved or new ways in order to maximize the market share. In market innovation concept, market segmentation is very critical. Incomplete market segmentation will not reflect the outcome of an optimal mix of target markets; this means that revenue earned might be misinterpreted (Kimberly and Evanis, 1981).

Technological innovation is considered to be in the top list of important factors affecting the firm`s competitiveness in the current century. Firms with latest technologies have higher chances of doing better than the rivals when the technology is utilized well by highly competent man power. In this century, globalization and knowledge economies, organizational innovation is a critical ingredient in advancing economic performance of firms. Most of the people address the world as technology world or rather dotcom society. These statements are simple but carry an important and critical message to firms. Hannay (1980) said economy and society is fundamentally affected by the technological change.

Shaw and de Mattos, (2001) explained that the first mover in seeking change has high chances of gaining competitiveness than the late mover who end up adopting the invention. This means that an innovation has to be well calculated with a competitive mind, once it is implemented either radically or incrementally, the process should be smooth and should be implemented in a manner that imitators would take time before they learn the skills and knowledge required to imitate. Technological imitative innovation can sometimes have favorable effects on the general outcome of the project and return on investment but can also sometimes have huge negative impact on the return on investment.

In recent years, we have experienced the massive introduction of new smart phones in Mombasa, every year Infinix, Iphone, Nokia, Samsung, Techno are introducing different smart phones of different prices and specifications. To some mobile phone users these expensive smart phones are of great importance considering they need to take good pictures for the social media, cosmetic purposes and other reasons, but to others they do not really matter, they only need phones for calling and texting. So ICT firms should scan the market before imitating or introducing a new technology.

2.4 Empirical Studies and Knowledge Gaps

Michael Porter (1985) notes that innovation guides firm in achieving competitive advantage through relative differentiation, low cost positioning or focus. Damanpour et al. (2009) in their research found that firms that adopt innovation have positive impact on the general firm's performance. Bowen et al. (2010) noted that a future performance of a firm has a direct relationship with innovation. Subramanian & Nikalanta's (1996) in their analysis found that there exist a positive correlation between innovativeness and performance.

A Firm with an ability to respond to ever changing customer wants and needs is linked to creation of innovation activities (Kanter, 1983). Feldman (1996) stated in his study that when a firm can be a bank of very important information that is positive and product oriented if it invest in research and innovation. Waterman (1987) stated that a business opportunity that is governed by information is critical in achieving prolonged competitive innovation.

Lengnick-Hall (1992) stated that, there exist a strategic link with positive results between innovation, technology and competitive advantage. Innovations yield positive results but innovations that are difficult to imitate mostly yield a sustainable competitive advantage (Clark 1987; Porter, 1985). Innovations helps business organizations gain sustainable competitive advantage, when it greatly relies on the organisations unique capabilities and technologies (Ansoff, 1988; Miller, 1990).

Related studies have been carried out in the concept of innovation, Sahay, Yamini Prakash and Gupta M. (2011) carried a research on organisation structure and innovation in the Indian bulk drug industry. They found that generally innovation is critical for survival and has positive effect on the bottom lines. Also found that Innovative firms receive highest financial returns. Nilufer Ergeneli , Asli Goksoy and Ozalp Vayvay (2013) conducted a research on Gaining Competitive Advantage through Innovation Strategies. They concluded that in today's economy sustainable competitive advantage is obtained through innovation.

Muzaffer ERTÜRK (2009) investigated the role and importance of technological innovation in the firm level in order to analyse the technological determinants of the competitiveness and the profitability of the companies. He found out that technological innovation has to be successfully managed putting into consideration internal and external factors of a firm. Also, Technological innovation is important ingredient in sustaining competitive advantage in a competitive global economy conditions.

Faems et al (2005) shares the opinion that firms must collaborate with others in order to come up with innovation strategies that are superior. Even though the authors lay emphasis on this collaboration, they admit that little empirical evidence is available to support the postulate. In a research done to find evidence about success of inter-organizational collaboration in innovation, the researchers analyzed data from 221 Belgian firms. The analysis came up with a positive relationship between innovation performance and collaboration. From the same study, it was deduced that the impact of the innovation relied on the nature of partners involved.

Gathai (2009) undertook a case study on the innovation strategies adopted by Equity bank Ltd. He found that for a firm to embrace innovation, top management should be involved and direct resources to the team involved in the innovation processes. Odhiambo (2008) undertook a case study on Innovation strategies at the Standard Chartered (K) Ltd. He found out that for a firm to be innovative it should encourage creativity. This leads to a higher platform of quality and innovative mindset. Mwikali`s (2011) research to study insurance industry in Kenya and innovation processes. He found out, all companies in the insurance industry have same level of innovation process understanding that involve everyone in the firm.

The above factors as explained influence the relationship between innovation and sustainable competitive advantage. Firm`s capabilities are critical in exploiting and sustaining innovation. When innovation is effectively exploited reflects the wide range of internal organization capabilities. For an effective exploitation, cross-functional, cross-product integration and continual organizational learning are critical (Burgelman & Maidique, 1988; Damanpour & Evan, 1984; Leonard-Burton, 1987).

In this era, sustainable competitive advantage is reflected through innovation activities that are surrounded by dynamic capabilities, efficiency in decision making, quality products and promptness in serving customer needs. The market giants who maximize the innovation strategies are able to constantly maintain their quality standards by developing new quality products in the market more frequently is a rate that is faster than the competitors and maintaining low cost of production. These process and systemic innovation is meant to satisfy customers in a better way giving them value for their money. This multi combination of strategies make the firms dynamic and sustainable in nature that makes the firm a moving target assuring them sustainability of its competitive advantage.

It's clear a lot of work has been done in this area however a lot of issues remain unresolved. This project is focused on the role of innovation strategies on sustainable competitive advantage in the ICT firms in Mombasa, and as a result, the current study will seek to answer the question: What is the role of innovation strategies in building sustainable competitive advantage in the ICT firms in Mombasa County?

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

In this section of the project presented Research methodology, the study Population, Sampling technique and sample size. It also included Data collection and Data analysis process. Research methodology is the systematic, theoretical analysis of the procedures applied to a field of study (Kothari, 2004). We will be discussing the process through which the research objectives will be achieved.

A Methodology does not set out to provide solutions but offers the theoretical explanation of the research objectives for to offer a better understanding of the research process and procedures. Basically this chapter contains concept of research design that the author intends to uses. It also contains the target population that is critical in this study. The chapter will also have sample size and sampling procedures. Sample size must represent the whole population for a reliable outcome from the research. Finally we will discuss data collection instruments and data analysis procedures.

Each research has their different objectives and different research purposes. Research methodology helps the researcher in determining how accurate the results of a research are. The final results of a research should provide relevant and enough evidence inorder to have a higher measure of validity. According to Kothari (2004), research design is a plan, a roadmap and blueprint strategy of investigation conceived so as to obtain answers to research questions; it is the heart of any study.

3.2 Research Design

The research design of any research is the strategy the researcher selects so as to integrate effectively different components on the research. Research design ensured that the research problem is addressed comprehensively. Here it's where the research blueprint was defined to guide the data collection, data measurements, and data analysis of data.

The research design of this paper was a cross sectional descriptive survey. A cross sectional study is a collection of surveyed data just once, it may take some days, maybe or even months to answer a research question (Cooper and Schindler, 2011). This approach helped in analysing the opinion that was collected from the management through providing insight into the role of innovation strategies in building sustainable competitive advantage in the ICT firms in Mombasa County.

The advantage of cross-sectional analysis was that it avoided date errors like serial correlation residuals that may result from data being collected from different point in time. This also avoided having assumptions on the variable relationship that they are stable over a certain period of time. Therefore the data analysis is free from assumptions.

3.3 Population of the Study

The population of the study is a portion of the general population that shares common characteristics such as professional, age, sex, demography, health condition among others. The portion is meant to be studies for different objective. Normally this group of people can be a large group, standard size or relatively small ground. It is meant to contribute in study by giving responses which is the primary data of the study.

The population of the research study was the ICT firms in Mombasa County. According to Mombasa county Government, under the Ministry of Trade and Public Service Board, there are 90 ICT firms registered to operate in the County in 2018. The researcher believed that this population has vital information on the role of innovation in building sustainable competitive advantage in ICT firms in Mombasa County.

The population of our study was 90 ICT firms in Mombasa. This is the context of the research. The population is large for this research; we will reduce the number using sampling technique to obtain a sample size that will represent the population.

3.4 Sampling Technique and Sample Size

Sampling technique is the method used to obtain sample size from the population of the study. It is very important to select the correct sampling technique as the sample size must be a representative of the general population of the study. A smaller sample size may be having insufficient power in identifying critical differences that the target population has.

Therefore sample size must be of at least minimum required size to have the data and conclusions which are credible and accurate. The study employed simple random sampling technique. This is because this technique requires the researcher of the minimum knowledge of the population and it is also a classification error free (Martha, 2010). The sample size was 50% of the general study population and that was 45 ICT firms that were registered by Ministry of Trade, Mombasa county government.

The sample size chosen is appropriate because the population was varied and the firms were many in the study hence the data analysis with 45 firms whom fell within the middle sized companies, appropriate and gave accurate and detailed report. The study established a regression analysis between the dependent and independent variables.

3.5 Data Collection

Data collection is the process of gathering relevant information through different data collection techniques like observation, interviews, questionnaires and many others. The collected data is then measured using the defined variables in a systematic manner. The collected data is then analysed using statistical models to obtain the answer to the problems and evaluate the outcome.

The study used primary data. Primary data was collected using closed ended questionnaire. The tool was used to determine the role of innovation strategies to sustainable competitive advantage. Target respondents were the Directors, ICT Managers, Operations Managers, General Managers, Sales Managers, Accounts Managers and any person at the managerial position, as they had the knowledge of the study therefore the response information was precise and accurate. Data was collected using a five point Likert scale in the Study.

In order to improve the response rate and quality of data gathered, the researcher administered the questionnaires to the respondents in the study and picked them later once completed. The researcher introduced himself and his research objective and explained the relevant process and procedures to follow in responding to the questionnaire.

3.6 Data Analysis

Data analysis is the process of studying the data collected with objective of discovering and testing your hypothesis. Data collection was studied, inspected, transformed and modelled in order to conclude the research based on the outcome and help in decision making process. Data analysis was critical and very important in the research process.

After the questionnaires have been collected, the data was extracted from them. The data was then coded and input in the SPSS software accurately avoiding errors that may occur during the data input. Mean tables were then generated though descriptive analysis tools representing the response rate and the average of the variable information collected from the closed ended questions. The relationship of the variables under study was established through correlation analysis. Statistical Package for Social Sciences, SPSS software was used throughout the data analysis.

In finding out the role of innovation strategies in building sustainable competitive advantage, a multiple regression model was used in estimating the effect of independent variables (innovation strategies) on dependent variable which is building sustainable competitive advantage in the ICT firms in Mombasa County. The regression model was represented by $Y = \partial + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4$.

Where Y represents the dependent variable (Sustainable Competitive Advantage).

x_1, x_2, x_3, x_4 , Represent the independent variables.

x_1 , - Organisational Innovation

x_2 , - Market Innovation.

x_3 , - Process Innovation.

x_4 , - Product Innovation.

$\beta_1, \beta_2, \beta_3, \beta_4$, - The coefficients of estimation.

∂ - the constant/Intersection.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

The data analysis, findings and interpretations of the research study are detailed in this chapter. The innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County were sought to be studied to establish the relationship that existed between those innovation strategies and sustainable competitive advantage. To achieve this objective, a five point Likert scale questionnaires were developed and used to collect primary data from respondents that included the Directors, ICT managers, and General Managers, Sales Managers and Operational managers. Generally the project respondents targeted were managers and staff involved in the management of the company operation.

From a sample of 45 ICT firms in Mombasa County, firms which responded were only 35 giving a 78% response rate. 10 firms turned down to participated in the survey citing security reasons and confidentiality of the information. This represents 22% refusal rate. The response rate was good enough to represent the whole population. Also the respondents were from managerial position. This showed that the primary data collected is relevant and presented the true picture of the operation of ICT firms in Mombasa County. Generally, in this section the analysis of the primary data collected in terms of mathematical figures was done using descriptive statistical tools and the results presented in terms of mathematical figure as well.

SPSS software was used to analyse the primary data collected. Data was first coded and inputted for statistical analysis. Mean and standard deviation was calculated to obtain the average understanding of different independent and dependent variables of our study. Statistical correlation analysis was done to establish the relationship that existed between the innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County. Regression statistical analysis was done to establish the numerical relationship that existed between the dependent variables and dependent variable. Data findings and discussion were also done in this section of the project. Generally there exist a positive relationship between innovation strategies and sustainable competitive advantage.

4.2 Profile of Respondent Firm

In this section the results of the profile of respondent was presented by ICT firms that took part in the survey. It was important to know ownership of the firms which influenced their resources, capabilities and strategies used to remain competitive. Operation years was significant because it implied the experience gained over time and the stability. The composition of the firm in terms ownership, scope of services, years in operation and markets served had a bearing on the different innovation strategies used by ICT firms in Mombasa County to remain competitive. Results obtained were as tabulated below;

Table 4.1: Ownership of The ICT firms in Mombasa County

Variables	Frequency	Percent	Cumulative Percent
Local	35	100%	100%
Foreign	0	0%	0%
Total	35	100%	

Source: Primary Data 2018

The analysis showed that all 100% of the respondents in the survey manage firms that are locally-owned partnered with national and international companies to serve local market. This means that Local companies enjoy 100 percent market share of the ICT industry in Mombasa County. A few multinational companies have shown interest in investing in Mombasa but until now no foreign company has invested in Mombasa count on its own.

4.2.2 Number of Years the ICT Firms in Mombasa County have been in Operation

Experience is the best teacher. The period a company has been in operation, defines the experience that firm has gained over the years doing business. The longer the period the more the experience the more the chance a company can gain sustainable competitive advantage since it has gained the important information regarding the market the operate in. In this study the respondents were required to indicate the category the firm belonged as shown in Table 4.2.

Table 4.2 Representing Years in operation For ICT firms in Mombasa County

Variables	N	Percent	Cumulative Percent
Less than 10 years	15	43%	43%
10 to 20 years	17	49%	92%
More than 20 years	3	8%	100%
Total	35	100%	

Source: Primary Data 2018

As shown in Table 4.2, 43% of ICT firms that took part in the research have been in the ICT industry or rather market for number of years not exceeding ten years. The majority, 49% of firms have operated for 10 to 20 years, and 8% have operated for more than 20 years. Before 1998, very few companies enjoyed in the field of ICT. After 1998 to 2008 the ICT industry has been growing drastically. This can be due to introduction of windows 2000 and server 2000 which was an amazing operating system that everyone was amazed by it. The ICT industry growth rate has dropped, this can be deduced from the fact that many new companies are registered and start operating but they close down after the first year due to business related challenges including legal processes, finances and competition.

4.2.3 Respondent Position in the Firm

Innovation activities employed by a firm may not be understood as a whole by all the employees. Heads of department may understand the strategies for their departments without a clear knowledge of the overall strategy of the company. The position of an employee gave an indication of relevance of the data collected. The questionnaires were meant to be filled by employees in the managerial positions. Employee who have a direct link with the company management. One of the questions in the questionnaire was asking the target respondents of their designation in the target company they are working for. The outcome was coded and tabulated as below:

Table 4.3 Respondent position in the firm

Variables	N	Percent	Cumulative Percent
General Manager	10	28%	28%
IT Manager	9	25%	53%
Director	7	20%	73%
Sales Manager	3	9%	82%
Operations Manager	2	6%	88%
Accounts Manager	1	3%	91%
Chief Executive Designer	1	3%	94%
Student Desk Manager	1	3%	97%
Administrator	1	3%	100%
Total	35	100%	

Source: Primary Data 2018

As observed, the outcome as tabulated suggested that 28% of the people who answered the questionnaires were Company General Managers, 25% of respondents were IT Managers, 20% were Directors and the rest included Operation managers, Accounts manager, Chief Executive Designer, Student Desk Manager and an administrator. High percentage of the people who took time to respond to the questionnaires served in high-level of the organisation structure and were reporting directly to the Managing Directors. Therefore this presented information given can be relied upon for inferential analysis. Only one administrator did not have direct management experience, meaning that our data quality should be quite exceptional.

4.2.4 Those Involved in Innovation Activities

Due to the nature of output of the organizations operations the respondents were required to answer a question that would define the people in their firm that were involved in innovation related activities of the firm. The culture of innovation in a company can be observed here. The primary data collected in this section explained the culture in terms of innovation activities of the ICT firm in Mombasa County. Innovative Firms encourage everyone in the company to innovate or suggest an idea into how the company can improve its operation and other business processes. The results were as indicated in Table.

4.4 Those Involved in Innovation Activities

Variables	Frequency	Percent	Cumulative Frequency
Top Managers	20	57%	57%
CEO	6	17%	74%
All Employees	6	17%	91%
Development Partners	2	6%	97%
Everyone	1	3%	100%
Total	35	100%	

Source: Primary Data 2018

The tabulated data above shows that, many of the firms that took part in the survey involved Top manager in their quest to implement innovation strategies in their companies. This actually constitute 57% of the firms. 17% of the firms surveyed CEO exclusively is involved in innovation activities, 17% of the firms involves every employees in making decisions related to innovation activities. As indicated in our earlier chapters, innovative firms invest in development programs like training and development. This means Innovative firms involves everyone in the company and that is what make a firm to idea champion firm. It was note from the ICT firms in Mombasa County that only 14% involves all employees and 3% of the companies surveyed involves everyone including customers. This means many ICT firms in Mombasa county do not invest must in transforming there manpower in suggesting ideas and come up with innovative solutions and strategies so that they can improve their business processes.

4.2.5 Range of products ICT firms in Mombasa

Regarding the nature of output of the firms operations, the range of processed products in the industry may be as a result of some organizations innovation activities. Most of the companies dealt computers, computer accessories, Laptops, Networking and networking devices, Internet, Telephony, CCTV, Softwares, Printing and Printers, Graphics design, websites and Cloud solutions.

4.2.6 Target Market

With regards to the output of the organization's operations the respondents were also required to indicate their outlet for their products. The target market as surveyed Corporate companies, Commercial companies, governments, SME's, retailers and consumers. This has created a lot of competition as almost all the ICT firms fight for the common customer. The information is of great importance in the analysis of innovation strategies implemented by the ICT because it means that whatever innovation strategies an ICT firm decides to adopt, it must be to sustain the competitive advantage since the market is highly competitive in nature.

4.3 Innovation Strategies among the ICT Firms in Mombasa County

There are many innovation strategies that exist in academic and business field. Many of them are used by ICT firms in Mombasa County but our study has concentrated on only 4 innovation strategies that include Technological Innovation, Market Innovation, Process Innovation and Product Innovation. Product innovation is a new technology commercially meant to be deployed in the market to satisfy market needs. Normally product innovation is market oriented. A firm which embraces process innovation is meant to develop products at minimized costs but offer the same or improved performance and quality.

Market innovation is finding, creating or making major improvement of the target markets and finding the best or better way the can be attended to. Technological innovation is considered to be in the top list of important factors affecting the firm's competitiveness in the current century. Firms with latest technologies have higher chances of doing better than the rivals when the technology is utilized well by highly competent man power. In this section of the study, we analyzed the data collected for all the innovation strategies of ICT firms in Mombasa County.

4.3.1 Organization Innovations

In this century, globalization and knowledge economies, organizational innovation is a critical ingredient in advancing economic performance of firms. Here all the information regarding organizational innovation collected was coded and analyzed. The outcome of the analysed data is tabulated below.

Table 4.5 Organizational Innovations

Variables	N	Min	Max	Mean	Std. Deviation
Q1 Organization structure renewal for teamwork facilitation.	35	1.00	5.00	3.6286	.91026
Q2 The production and quality management systems renewal	35	2.00	5.00	3.6571	.93755
Q3 Renewing the organization structure to facilitate coordination Between different functions such as marketing and finance.	35	1.00	5.00	3.7143	.92582
Q4 Renewing the organization structure to facilitate coordination Between different functions such as marketing and finance.	35	1.00	5.00	3.4286	1.06511
Q5 The human resources management system renewal.	35	1.00	5.00	3.4000	1.06274
Q6 The supply chain management system renewal.	35	1.00	5.00	3.2000	1.15809
Valid N (listwise)	35				

Source: Primary Data 2018

Responses for organizational innovation questions ranged from “to no extent (1)” to “a very large extent (5)” except for question two, “Renewing the production and quality management systems.” This question minimum score was 2 and maximum 5. This means all ICT firms in Mombasa County believe at least to a small extent management of production and quality system is so important in attaining sustainable competitive advantage. Looking at the mean score, all questions in this section received almost same score according to the outcome of the average as seen in the above Table. This shows that all ICT firms have same mind-set when it comes to Organisational Innovation in attaining sustainable competitive advantage and they are above average in its implementation.

4.3.2 Marketing Innovations

A firm needs to clearly identify its target market as this is a determinant of the strategies an organization will adopt and also affect the firm performance. Its ultimate goal is to find better, new potential and ready markets, attending to them in an improved or new ways in order to maximize the market share and ultimately gaining sustainable competitive advantage. Here all the information regarding market innovation collected was coded and analyzed. The outcome of the analysis was tabulated below.

Table 4.6 Marketing Innovations

Variables	N	Min	Max	Mean	Std. Deviation
Q7 Renewal of the techniques of promotion of products used for the promotion of current and / or new products.	35	1.00	5.00	3.8000	.99410
Q8 Renewal of the channels of the distribution but not changing the processes of logistics related to the produce delivery.	35	2.00	5.00	3.1714	.85700
Q9 Renewal of the techniques of Pricing of the products designed for the current and/or new products pricing.	35	2.00	5.00	3.2000	.86772
Q10 Renewing general marketing management activities	35	1.00	5.00	3.5143	1.14716
Valid N (listwise)	35				

Source: Primary Data 2018

The score of all questions in this section regarding market innovation received an average score which is above 3. This means that all ICT firms in Mombasa County believe, to some extent, market innovation is very critical in achieving sustainable competitive advantage. Question 7 received the highest score of 3.8. This was deduced that product promotion technique in ICT firms in Mombasa County. Generally the data as analysed and shown that ICT firms in Mombasa County believe that growth and Sustainable competitive advantage come from market innovation. It's about finding new markets that are not saturated to maximize their Return on investment and sustain their competitive advantage.

4.3.3 Process Innovations

Firm`s process innovation requires developing new competences and routines. Process innovation involves deploying quality function and business process reengineering. Normally this involves coming up with new or major improvement on production method or delivery system. An organization has to clearly identify a process innovation that will lead to efficiency and effectiveness. The data collected, coded and analysed was tabulated below:

Table 4.7 Process Innovations

Variables	N	Min	Max	Mean	Std. Deviation
Q11 Identifying in order to eliminate non-value-added activities in processes of delivery.	35	2.00	5.00	3.6571	1.08310
Q12 Reduction of variable costs and / or increase the speed of delivery in the logistics process related to delivery.	35	1.00	5.00	3.2857	1.04520
Q13 Identifying in order to eliminate non-value-added activities in processes of production.	35	1.00	5.00	3.4857	1.22165
Valid N (listwise)	35				

Source: Primary Data 2018

The tabulated data above shows that, the scores of all questions ranged between a least score of 1 and a highest score of 5. But for particular question number 11 which is about doing away with non-value adding activities in the delivery system of a business. It also had a mean score of 3.6571 which is higher than the rest of the questions in this section. This means all ICT firms in Mombasa believe that finding out the non-value adding activities in the delivery system and eliminating them is very important in sustaining the competitive advantage through process innovation.

4.3.4 Product Innovation

Product innovation is a new technology commercially meant to be deployed in the market to satisfy market needs. Product innovation is an invention of a new product or significant improvement in a product or service (OECD, 2005). Normally product innovation is market oriented. It is about differentiated products in the market place and the degree of competition. If competition in the market is characterized by product differentiation, then product innovation strategies are adopted and are preferred by firm's management. Data collected and analysed as shown below:

Table 4.8 Product Innovations

Variables	N	Min	Max	Mean	Std. Deviation
Q14 New products development with technical specifications and features totally different from current ones.	35	1.00	5.00	3.5714	1.09237
Q15 Creating newness for current products that are in the market, which will improve the ease of use for customers and their satisfaction.	35	2.00	5.00	3.6857	.93215
Q16 Producing new products with different components and materials.	35	1.00	5.00	3.3143	1.10537
Q17 Reducing cost of component and materials of manufacturing of current products.	35	1.00	5.00	3.3714	1.23873
Q18 Quality improvement in the components and materials of the current products manufacturing.	35	1.00	5.00	3.6571	1.08310
Q19 Overall cost leadership (offering low prices for your products than competitors).	35	1.00	5.00	3.3429	1.13611
Q20 Focus (focusing on a certain group of product line buyers/geographic line/geographic market).	35	1.00	5.00	3.4000	1.24144
Q21 Is your company's mission statement specifically mention creativity and/or innovation.	35	1.00	5.00	3.0857	1.09468
Q22 Does your organization's actual performance contribute in making innovation happen.	35	1.00	5.00	3.1714	1.12422
Q23 Do you have formal programs for innovation in your organization	35	1.00	5.00	3.0286	1.17538
Q24 To what extent do you have quantified goals for innovation and its impact on future performance.	35	1.00	4.00	2.8286	.92309
Valid N (listwise)	35				

Source: Primary Data 2018

Almost all the responses in this section majority ranged from 1 to 5, except for the question 15. The minimum score was 2 “to a small extent”, the meant that all ICT companies do work to improve on their existing products to improve on their quality and satisfy their customers in a better way. With question 15 and 18 scoring top average score while question 24 scoring the lowest average score. This means that ICT firms believe that quality is critical in propelling a firm in sustaining competitive advantage. On the other hand question 24 tells us that most of ICT firms in Mombasa County do not have quantified goals for product innovation.

4.4 Sustainable Competitive Advantage in ICT firms in Mombasa County.

Competitive advantage means to have an ability to outperform all the other players in the market. It is a business concept that differentiates a business from its competitors. Sustainable Competitive advantage can be achieved through productively satisfying customer needs in a better way than the others in the market. (Johnson et al., 1998). Here, questions that were meant to measure the sustainability of competitive advantage in ICT firms in Mombasa County were coded, converted to mathematical figures and analysis was done as shown in the below computed table.

Table 4.9 Sustainable competitive Indicators in ICT firm in Mombasa County

Variables	N	Min	Max	Mean	Std. Deviation
Market Performance Indicators	35	1.50	5.00	3.7143	.81155
Performance Measure Indicators	35	2.00	5.00	3.3000	.68546
Customer Satisfaction Indicators	35	1.67	5.00	4.0095	.81844
Customer Loyalty Indicators	35	1.33	5.00	3.6571	.81844
Valid N (listwise)	35				

Source: Primary Data 2018

The responses in this section majority ranged from 1 to 5. All the responses of the Sustainable competitive advantage had a mean score of above three (Average Score). This means most ICT firms in Mombasa count enjoy sustainable competitive advantage. Company Performance in terms of Sales revenue, shareholder returns, and return on investment, profit and cost of doing business received the least mean score among all other sustainable competitive advantage indicators. The cost of doing business for most ICT firms is the same, it received least of scores even for the market giants citing that environmental uncertainties are really crucial in doing business.

Market Performance and Customer loyalty scoring a descriptive average of 3.7 and 3.65 respectively. It was deduced that, most of the ICT firms in Mombasa County enjoy sustainable competitive advantage. They believe that they do have loyal customers who are always there to support the business as they receive customer satisfaction. Also, they believe that they all are doing well in term of market performance again this is through satisfaction of the customer and build loyalty to the target customers.

Customer Satisfaction getting the top score in the Sustainable competitive indicators questions. This means that ICT firms believe that ICT firms in Mombasa County mostly sustain their competitive advantage through innovation buy concentrating on customer in their strategies and Daily operations. From the analysis it has been deduced that many ICT firms in Mombasa County strive to satisfy their customers' in order to build their customers trust and loyalty with their outstanding market performance.

4.5 The Relationship of Innovation and Sustainable Competitive Advantage

Through Innovation, firms are in a strategic position to identify market opportunities and effectively take advantage of the opportunities to build a sustainable competitive advantage. In this section, we established the relationship of innovation strategies and sustainable competitive advantage from the data collected. Mean of mean innovation strategies were calculated and mean of mean sustainable competitive advantage was also calculated to establish the relationship that existed between innovation strategies and sustainable competitive advantage of ICT firms in Mombasa County. Pearson correlation analysis and regression analysis was used to analyse the collected data.

Table 4.10 Descriptive Statistics for Innovation Mean

Variables	N	Min	Max	Mean	Std. Deviation
Mean Organizational Innovation	35	1.50	4.67	3.5048	.80489
Mean Market Innovation	35	1.50	4.75	3.4214	.81071
Mean Process Innovation	35	1.33	5.00	3.4762	1.00419
Mean Product Innovation	35	1.45	4.55	3.3143	.82979

Source: Primary Data 2018

The mean index for mean organizational Innovation was 3.5048 with standard deviation of 0.80489. The mean index for mean marketing innovation was calculated as 3.4214 and the corresponding standard deviation was 0.81071. Also, mean index of the mean process Innovation was 3.4762 with standard deviation of 1.00419. Finally, the mean index for the mean product innovation was recorded as 3.3143 with standard deviation of 0.82979.

Table 4.11 Descriptive Statistics for Sustainable Competitive Advantage Mean

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Mean sustainable Competitive Advantage	35	1.63	4.92	3.6702	.72367

Source: Primary Data 2018

The mean index for mean Sustainable Competitive Advantage was 3.6702 with standard deviation of 0.72367.

4.5.3 Correlation analysis of innovation strategies and SCA

In this section of the study Pearson correlation coefficients (r) was used to analyse and test the relationship that existed between various innovation strategies that are of the study interest and sustainable competitive advantage of ICT firms in Mombasa County. Also to establish whether there is serial correlation between the each innovation strategies in this study. Using SPSS software, the correlation results were tabulated as shown below.

Table 4.12 Correlations of innovation strategies and competitive advantage

Variables	Mean Organization Innovation	Mean Market Innovation	Mean Process Innovation	Mean Product Innovation	Mean Competitive Advantage
Mean Organization Innovation	1	.819**	.838**	.818**	.642**
Mean Market Innovation	.819**	1	.725**	.656**	.743**
Mean Process Innovation	.838**	.725**	1	.693**	.500**
Mean Product Innovation	.818**	.656**	.693**	1	.589**
Mean Competitive Advantage	.642**	.743**	.500**	.589**	1

** Correlation is significant at the 0.01 level (2-tailed).

Source: Primary Data 2018

The tabulated data above shows, when product innovation strategy was correlated against itself, it gave a positive relationship of $r = 1$. Similar results were obtained on market, process and organisation innovation strategies. The results showed that when product innovation strategy is correlated against organisational, market and process innovation strategies gave a positive outcome and the correlation coefficients of $r=0.818$, $r=0.656$ and $r=0.693$ respectively.

This means there existed a constructive relationship between product innovation strategy and organisational, market and process innovation strategy. The conclusion is that there was some serial correlation in the innovation strategies. Also, the tabulated results showed the relationship that existed when sustainable competitive advantage is correlated against the innovation strategies. It was found out that there existed a relationship between the sustainable competitive advantage and innovation strategies.

The correlation coefficients were as follows $r = 0.642$ when competitive advantage was correlated against organisational innovation strategy, $r = 0.743$ when it was correlated against market innovation strategy, $r = 0.5$ when correlated against process innovation strategy and $r = 0.589$ when correlated against product innovation strategy. Generally it was deduced that there existed a positive connection between sustainable competitive advantage and innovation strategies.

4.5.4 Regression Analysis of innovation strategies against SCA

In this section a regression analysis was done using the SPSS software to check the numeric relationship that existed between sustainable competitive analysis and innovation strategies anchored in this study. As indicated in the previous chapter our regression equation is given by:

$$Y = \partial + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + E$$

Where;

Y = Sustainable Competitive advantage (Independent Variable)

∂ = Constant/Intercept

x_1 = Organisational Innovation strategy (dependent Variable)

x_2 = Market Innovation strategy (dependent Variable)

x_3 = Process Innovation strategy (dependent Variable)

x_4 = Product Innovation strategy (dependent Variable)

$\beta_1, \beta_2, \beta_3, \beta_4$ = Coefficient of innovation strategies

E = Error term

Using the SPSS software program, the following regression coefficients were obtained and tabulated below;

Table 4.13: Coefficients of Regression model for Sustainable competitive Advantage

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.216	.399		3.043	.005
	Mean Organizational Innovation	.063	.279	.071	.227	.822
	Mean Market Innovation	.622	.184	.697	3.376	.002
	Mean Process Innovation	-.161	.156	-.223	-1.031	.311
	Mean Product Innovation	.200	.178	.229	1.124	.270

a. Dependent Variable: Mean Sustainable Competitive Advantage

Source: Primary Data 2018

The above table contains the data showing the numerical relationship between the sustainable competitive advantage and innovation strategies. From the above table, it showed that Organisational Innovation strategy, Market Innovation Strategy and Product Innovation Strategy have positive relationship with sustainable competitive advantage. Process innovation had a beta value of -0.161 which implies that process innovation had a negative relationship with sustainable competitive advantage. This implies ICT firms should not expect positive results when they implement process innovation. Process innovation was inversely proportional to sustainable competitive advantage.

The table further showed the data significance score of each variable at 0.05 level of significance. Organisational Innovation had a value of significance of 0.822 which is above 0.05 level. This meant that Organisational innovation strategy was not significant at 5% level of significance. Process Innovation strategy received significance value of 0.311 which is also above 0.05 level of significance and Product innovation scored a significance value of 0.270 which is also above the 0.05 level of significance. This showed that Process and Product innovation is not significant at 5% level of significance. Market Innovation strategy scored a significance value of 0.002 below 0.05 level of significance. This showed that Market innovation strategy is significant as 5% level of significance.

4.5.5 Test of Significance

Test of significance as a statistical tool was used to shows whether researcher was right in finding that a relationship existed between innovation strategies and competitive advantage. Of significance was the R square value which indicated how well the model explained the competitiveness of Logistic firms in Mombasa County.

Table 4.14: Model summary of innovation strategies on SCA

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.766 ^a	.587	.532	.49516

a. Predictors: (Constant), Mean Product Innovation, Mean Market Innovation, Mean Process Innovation, Mean Organization Innovation

Source: Primary Data 2018

Table 4.14 indicates that innovation strategies influenced 58.7% of variations in sustainable competitive advantage as deduced by the analysis of the above tabulated data. **ANOVA** as a statistical tool was used to analyse the differences or variances in the dependent and independent variables. The purpose of this statistical process was check and test the acceptability of the model using F statistics.

Table 4.15: ANOVA for innovation strategies on Sustainable competitive advantage

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.451	4	2.613	10.656	.000 ^b
	Residual	7.355	30	.245		
	Total	17.806	34			

b. Predictors: (Constant), Mean Product Innovation, Mean Market Innovation, Mean Process Innovation, Mean Organization Innovation

Source: Primary Data 2018

From the tabulated data above, the F statistic of 10.656 was significant at 5% level. This shows that the model used was fit to discuss and establish a proper explanation of the relationship that existed between sustainable competitive advantage and innovation strategies. Also, as noted the P value for F is 0 which is less than the significance level 0.05. This meant that the regression model used to analyse the data is significant at 5% level of significance. This signifies the relationship that existed between sustainable competitive advantage and innovation strategies.

4.6 Discussion of Findings

Innovation strategy is a plan that helps business organizations make decisions cumulatively in a sustainable manner, about which innovation type best suits the corporate objectives, how resources are to be used so as to deliver value to the customer and build sustainable competitive advantage (Dodgson et al, 2008). To find out the relationship between the dependent variable and the independent variables, the study opted to collect primary data. Questionnaires of 5 likert scale close ended questions were created to measure the dependent and independent variable of the ICT firms in Mombasa county so that connection between the could be measured and established. The questionnaires were supplied to 45 ICT firms in Mombasa County. The data collected from 35 ICT firms in Mombasa County was coded and analysed using SPSS software. The data analysed was of quality that gives a clear representation of the Innovation strategies and sustainable competitive advantage in ICT firm in Mombasa County, since it was collected from employee at managerial position that were either involved in strategy formulation process and they knew information of the strategies and management business plans.

The research design of this paper was cross sectional descriptive survey. A cross sectional study involves data being gathered just once, it may take some days, maybe or even months to answer a research question (Cooper and Schindler, 2011). The data was collected from the respondents only once. Majority of the questionnaire respondents had a management position, 28% of them were General Managers, 25% were IT managers, 20% were company directors, 9% Sales Manager and 6% Accounts Manager. All these respondents reported directly to the Company directors. All of the firm surveyed were owned by Locals that are operating in similar markets, selling almost same kinds of products targeting similar markets. This has given all ICT firms in Mombasa County a fair battle ground as they all have similar access to the target market and offering almost same range of products.

The survey also shows that almost all companies either partially or in full force invested in all innovation strategies; Technological, Market, Process and Product innovation. It was noted that Top Manager in ICT firms in Mombasa County are the one involved in innovations activities. Under Organizational Innovation, it was found that all ICT firms have same mind-set when it comes to attaining sustainable competitive advantage since almost all of their respondents were almost the same. Lengnick-Hall (1992) stated that, there exist a strategic link with positive results between innovation, technology and sustainable competitive advantage. Most of the ICT firms in Mombasa County believes, coordination between different functions within the firms should be enhanced and facilitated by constantly renewing organisation structures in order to gain and sustain competitive advantage. Technological innovation strategy drives the firm`s competitiveness in the current century.

Hannay (1980) said economy and society is fundamentally affected by the technological change. As technology grows, firms have to change with the technology. Thus firms are faced with a challenge to keep up with organizational innovation to deal with the technological developments in the market. The data analysed showed that Market innovation is the most critical innovation strategy in achieving sustainable competitive advantage in ICT firms in Mombasa County.

Most of the respondents believed in promotion of new and current products through renewal of product promotion techniques. This shows that marketing is very important in doing sales and gaining competitive advantage. Since ICT industry is ever advancing, Firms need to renew their marketing and promotion techniques more often to keep their target customers informed and to push them into purchasing the new products or improved products. Market innovation is finding, creating or improving the mix of target markets and how they are best attended to. Its ultimate goal is to find better, new potential and ready markets, attending to them in an improved or new ways in order to maximize the market share. In market innovation concept, market segmentation is very critical. Incomplete market segmentation will not reflect the outcome of an optimal mix of target markets; this means that revenue earned might be misinterpreted (Kimberly and Evanis, 1981).

The firm's ultimate goal was to find better, new potential and ready markets, attending to them in an improved or new ways in order to maximize the market share. It was also noted that market segmentation was very critical. Incomplete market segmentation would not reflect the outcome of an optimal mix of target markets; it means that revenue earned may be misinterpreted (Kimberly and Evanis, 1981). Product promotion, Products distribution channels and Pricing techniques were the tools used in implementing market innovation.

According to Cumming (1998), Process innovation involves deploying quality function and reengineering business process reengineering. Normally this coming up with new or major improvement on production method or delivery system. (OECD, 2005). The data collected on process innovation strategies showed that the responses of the respondents ranged between 1 and 5. The average response was above 3 and it was also noted that there was no significance difference between the responses to process innovation strategies questions. Though delivery related processes question received the highest score, which demonstrated the importance of streamlining delivery related processes.

It was noted that Determining and eliminating non value adding activities in production processes and decreasing variable cost and/or increasing delivery speed in delivery related logistics process were equally important in implementing process innovation in the quest to gain sustainable competitive advantage. Generally it was deduced that the techniques implemented here were to minimize the production cost while maintaining or improving the quality of the products (OECD Oslo Manual, 2005).

The study established that Almost all the responses in this section ranged from 1 to 5, with question 15; Developing newness for current products leading to improved ease of use for customers and to improved customer satisfaction and question 15; Increasing manufacturing quality in components and materials of current products getting significantly highest score while question 24 (To what extent do you have quantified goals for innovation and its impact on future performance) scoring the lowest. This means that ICT firms believe that quality is critical in propelling firms in sustaining competitive advantage. On the other hand question 24 tells us that most of ICT firms in Mombasa County do not have quantified goals for innovation. Product innovation is an invention of a new product or significant improvement in a product or service (OECD, 2005). All ICT firms in Mombasa County agree that their industry is ever changing. Therefore product innovation is critical and has to be adopted either partially or fully.

Innovations helps business organizations gain sustainable competitive advantage, when it greatly relies on the organisations unique capabilities and technologies (Ansoff, 1988; Miller, 1990). The data collected to establish the relationship between Innovation strategies and sustainable competitive advantage, was analysed using Correlation analysis and regression analysis. The relationship between Innovation strategies and sustainable competitive advantage and serial correlation was established by Pearson correlation. There existed a positive relationship between innovation strategies and sustainable competitive advantage as depicted by Pearson correlation coefficient r . Lengnick-Hall (1992) stated that, there exist a strategic link with positive results between innovation, technology and competitive advantage. Innovations yield positive results but innovations that are difficult to imitate mostly yield a sustainable competitive advantage (Clark 1987; Porter, 1985).

The closed ended questions were analysed using correlation analysis which used a mathematical procedure for the identification of the relationship among the variables given within a study (child, 2006). There also existed some serial correlations between the innovation strategies. These result therefore indicated that innovation strategies significantly influence sustainable competitive advantage of ICT firms in Mombasa County. To test a numerical relationship between innovation strategies and sustainable competitive advantage, Regression analysis was used and established the below;

$$\text{Sustainable Competitive Advantage} = 1.216 + 0.063x_1 + 0.622x_2 - 0.161x_3 + 0.2x_4$$

The multiple regression model represent the nature of ICT industry in Mombasa County. It deduced that at any given time when organizational innovation strategy is positively affected by one unit then the level of sustainable competitiveness is positively affected by 0.063 units. At the same time, when market innovation strategy positively gains a unit, sustainable competitiveness is gains by 0.622 units positively. The same with product innovation strategy, it is positively connected to Sustainable competitiveness of ICT firms. When product innovation strategy gains one unit positively, sustainable competitiveness gains but 0.2 units. Process innovation strategy was negatively associated with sustainable competitive advantage, therefore when process innovation strategy gains by one unit, sustainable competitiveness decreases by 0.161 units. Overall, a relationship existed between innovation strategies and sustainable competitive advantage of ICT firms in Mombasa County. Shaw and de Mattos, (2001) explained that the first mover in seeking change has high chances of gaining competitiveness than the late mover who end up adopting the invention.

The view by most ICT firms surveyed, show that innovation strategies significantly influence sustainable competitive advantage which agrees with RBV, KBV and Dynamic capability theory. Competitive advantage can be achieved through satisfying customer needs better than any other competing player in the market. (Johnson et al., 1998). There are many attributes that allow an organization to gain competitive advantage. They include low-cost raw materials, highly competent manpower, Law, assets, outstanding quality, strategic location, acquiring latest technology among others.

Michael Porter (1985) described two ways a firm can sustain competitive advantage: cost advantage, when a firm offers same taste of its commodities but a minimized cost than any other player in the market. A firm enjoys differentiation advantage when it offers better substitute products in the market. Firms gain competitive advantage through satisfying customer needs in a better or more effectively manner than competitors in the industry (Johnson et al., 1998). A firm attains sustainable competitive advantage when it has better valuable product process that cannot be reengineered.

Firms that possess valuable resources that are rare to find and own, resources that are inimitable and non-substitutable have higher chances of achieving better performance than its competitors (Barney, 1991, 1995). Resources can be divided into knowledge based resources and property based resources (Millerand Shamsie, 1996). Property based resources are tangible resources that firms own and can be seen, touched or displayed like Human capital, computers and others. Knowledge-based resources refer to the different ways firms utilize the tangible inputs resources (Galunic and Rodan, 1998). They are very difficult to imitate, so they are critical in facilitating competitive advantage sustenance (McEvily and Chakravarthy, 2002). Barney (1991) explained that for firms to gain superior performance over the competitors, firms should not only be resource based but also knowledge based.

Through Innovation, organizations are in a better angle to realise market opportunities and effectively take advantage of the opportunities to build a sustainable competitive advantage (Trott, 2005). Innovation can be introduction of a brand new commodity or service, a brand new or improved process of production, a new or improved administrative structured system (Damanpour, 1991). During the survey it was observed that generally all ICT firms in Mombasa county embrace innovation. The factors that influenced innovation included but not limited to; Customer demands, Technology advancement, globalization, increased competition in the market, and Environment. ICT firms in Mombasa County are competitive and cannot avoid innovation either drastically or incrementally. The innovation strategies adopted in this study were product innovation strategy, process innovation strategy, market innovation strategy and organisation innovation strategy in the quest to pursue sustainable competitive advantage.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this section of the project contains summarized findings of the study, Data analysis done in the previous chapter. It also included conclusions drawn from the findings in chapter four. This chapter also contains details on the study limitations and the suggestions of the further studies that can be done in this area.

The study topic in this research is innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County. The main goal of this project was to find the relationship that existed between innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County. The main focus is on the following four innovations strategies; Process innovation, Product innovation, Market innovation and Organisational Innovation. The research design of this paper was cross sectional descriptive survey. Five point Likert scale survey questionnaire was prepared and distributed to 45 ICT firms in Mombasa County. Out of the sample size, 35 companies participated in the survey. Statistical regression analysis was used to analyse the data gathered.

From the analysis it was found that ICT firms in Mombasa County all do include process, product, and organisational innovation in their pursuit of competitive advantage. Generally it was found that innovation strategies have a positive association with sustainable competitive advantage. Out of all the innovation strategies, only market innovation was realised to have positive and significant effect on sustainable competitive advantage at 5% level of significance. Finally the results showed that in Mombasa County if an ICT firms wants to increase the level of sustainable competitive advantage, they should invest more in Market innovation. This implies that market innovation is more effective than the other variables. Process innovation had negative relationship with the sustainable competitive advantage. It implies that to gain sustainable competitive advantage firms need to be resourced base, knowledge base and always embrace dynamic capability theory.

5.2 Summary of the Findings

The main goal of this study project was to establish the relationship between innovation strategies and sustainable competitive Advantage in ICT firms in Mombasa County. To establish the relationship that existed between innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County, a cross sectional descriptive survey was done. A cross sectional study is a collection of surveyed data just once, it may take some days, maybe or even months to answer a research question (Cooper and Schindler, 2011). This approach will help in analysing the opinion that will be collected from the management by providing insight into the role of innovation strategies in building sustainable competitive advantage in the ICT firms in Mombasa County.

This study used 5 Likert scale questionnaire to collect primary data from ICT firms in Mombasa County. The data was then coded and inputted into SPSS software for data analysis and findings conclusion. From the data findings, it was deduced that most of the ICT firms in Mombasa County were in operation for more than 10year but less than 20 years. This was represented by 49% of the firms surveyed. 43% of the ICT firms in Mombasa County were in business for less than 10 years and 8% more than 20 years. Before 1998, very few companied enjoyed in the field of ICT. After 1998 to 2008 the ICT industry has been growing drastically. This can be due to introduction of windows 2000 and server 2000 which was an amazing operating system that everyone was amazed by it. The ICT industry growth rate has dropped, this can be deduced from the fact that many new companies are registered and start operating but they close down after the first year due to business related challenges including legal processes, finances and competition.

The quality of the data analysed affirms that the survey is a fair representation of innovation strategies and Sustainable competitive advantage in ICT firms in Mombasa County. Majority of the questionnaire respondents had a management position, 28% of them were General Managers, 25% were IT managers, 20% were company directors, 9% Sales Manager and 6% Accounts Manager. All these respondents reported directly to the Company directors. Others were involved in innovation activities and almost all of them had Management position that made them new the strategic business plan of the firms they are working for.

All of the firm surveyed were owned by Locals that are operating in similar markets, selling almost same kinds of products targeting similar markets. This has given all ICT firms in Mombasa County a fair battle ground as they all have similar access to the target market and offering almost same range of products. The survey also shows that almost all firms either partially or in full force invested in all innovation strategies; Technological, Market, Process and Product innovation. It was noted that Top Manager in ICT firms in Mombasa County and the ones mostly involved in innovations activities in the firm.

Almost all ICT firms in Mombasa County embraced innovation strategies in pursuit of sustainable competitive advantage. Our main focus was on Organisational, market, process and product innovation strategies against sustainable competitive advantage. To establish the relationship that existed between the innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County, correlation analysis was done. Regression analysis was also done to test the numerical relationship that existed. From correlation analysis, it was deduced that a positive relationship existed between SCA and innovation strategies. Correlation coefficients were as follows: for Sustainable and Organisational Innovation strategies $r = 0.642$, for Market innovation $r = 0.743$, Process innovation $r = 0.5$ and for SCA and product innovation strategy $r = 0.589$.

The numerical relationship analysis of innovation strategies on sustainable competitive advantage was calculated using statistical Regression analysis. It showed that Organisational Innovation strategy, Market Innovation Strategy and Product Innovation Strategy have positive relationship with sustainable competitive advantage. Process innovation had a beta value of -0.161 which implies that process innovation had a negative relationship with sustainable competitive advantage. Process innovation is directly linked to firms operations and supply chain management, built upon performance efficiency and product's quality (Utterback and Abernathy, 1975).

This implies ICT firms should not expect positive results when they implement process innovation. Process innovation was inversely proportional to sustainable competitive advantage. This has come as a surprise as a rational thinking is that process innovation is supposed to improve on the quality of the products and minimize cost. Process innovation is directly linked to firms operations and supply chain management, built upon performance efficiency and product's quality (Utterback and Abernathy, 1975). But it is not the case in this study. This could be explained by the fact that process innovation would require a certain competence since the employs are used to the old way of doing things. So the innovation was faced with internal resistance due to lack of required competence. Dynamic capability theory is important here in changing and improving this outcome.

The analysis further showed the data significance score of each variable at 0.05 level of significance. Organisational Innovation had a significance value of 0.822 which is greater than 0.05. This meant that Organisational innovation strategy was not significant at 5% level of significance. Process Innovation strategy received significance value of 0.311 which is also above 0.05 level of significance and Product innovation scored a significance value of 0.270 which is also above the 0.05 level of significance. This showed that Process and Product innovation is not significant at 5% level of significance. Market Innovation strategy scored a significance value of 0.002 below 0.05 level of significance. This showed that Market innovation strategy is significant as 5% level of significance. The following regression model was obtained.

$$\text{Sustainable Competitive Advantage} = 1.216 + 0.063x_1 + 0.622x_2 - 0.161x_3 + 0.2x_4$$

The data studies showed that innovation strategies influenced 58.7% of variations in sustainable competitive advantage. The percentage variation is found from the R square statistic 0.587 obtained from the data analysis. Market innovation got a P value of (0.002 < 0.05), which was significant. The rest, product innovation, process innovation, and organization innovation had p-values (0.270, 0.311 and 0.822 > 0.05), which were not significant.

Therefore out of the four variable, Market Innovation was the most important innovation strategies. According the study a company invested in market innovation yield huge returns out of it and enjoyed the sustainable competitive advantage. The firm's ultimate goal was to find better, new potential and ready markets, attending to them in an improved or new ways in order to maximize the market share. It was also noted that market segmentation was very critical. Incomplete market segmentation would not reflect the outcome of an optimal mix of target markets; it means that revenue earned may be misinterpreted (Kimberly and Evanis, 1981). Product promotion, Products distribution channels and Pricing techniques were the tools used in implementing market innovation.

5.3 Conclusion of the Study

The study results indicated that ICT firms in Mombasa County embrace innovation strategies in the pursuit of sustainable competitive advantage. Almost all firms studied implemented process innovation, product innovation, market innovation and organisational innovation strategies in order to sustain the competitiveness in the industry. At 5% level of significance, it was found that there existed a causal relationship between the innovation strategies and sustainable competitive advantage.

Generally, it was found that there exist a positive relationship between innovation strategies and sustainable competitive advantage in ICT firms in Mombasa County. This study concluded that market innovation is the most critical innovation strategy in attaining sustainable competitive advantage in ICT firms in Mombasa County. Therefore for any ICT firm in Mombasa County to gain sustainable competitive advantage, it should consider innovation strategies in it operation. Lengnick-Hall (1992) stated that, there exist a strategic link with positive results between innovation, technology and competitive advantage. Innovations yield positive results but innovations that are difficult to imitate mostly yield a sustainable competitive advantage (Clark 1987; Porter, 1985). Innovations helps business organizations gain sustainable competitive advantage, when it greatly depends on its outstanding tangible and intangible resources that are rare and inimitable.

ICT industry in Mombasa County is still growing though the rate at which it was growing last 10 years. Between last 10 years to 20 years the ICT firms are 49% but the firms that started in the last 9 years is 47%. This is a decrease in the rate by 2%. This might be due to government policy, high competition in the market or other reasons that can be established in a different study of this kind. Also the Industry is being dominated by the locals only. This has shown a sense of patriotism and sense of ownership from the locals.

Almost all the respondents served in high-level management positions, and thus the information given can be relied upon for inferential analysis. Only one administrator did not have direct management experience, meaning that our data quality should be quite exceptional. This has been concluded from the findings of the data as, 28% of the respondents were Company General Managers, 25% of respondents were IT Managers, 20% were Directors and the rest included Operation managers, Accounts manager, Chief Executive Designer, Student Desk Manager and an administrator.

The study also showed that there are ICT firms in Mombasa County who do not care about research and development. In the field of ICT, you can't afford to remain static or you can't be satisfied with the information you are having only. The industry is ever growing. Everyday there is a new technology being introduced in the market. A proactive firm would invest more in research and development so that to get informed, to know about the market and the target customers.

5.4 Limitations of the study

The study did not include on the 45 companies that were meant to be study and represent the sample size. 10 firms refused to take part in the survey citing security and confidentiality of the company information. They feared information could leak to their competitors. This shows that there are few firms in ICT industry in Mombasa that do not believe in research and development. This is a weakness of these few companies. An informed decision making process is highly to be productive and effective. This might also open an opportunity for multinationals to invest in ICT industry in Mombasa County since international companies invest more in research and development.

This study was anchored on only four innovation strategies mainly Process, product, market and organisational innovation where as other firms were implementing more than these four strategies. Some ICT firms may have been implementing more than these four variable that we study. Another study might be implemented to find out the innovation strategies of ICT firm in Mombasa County. This way we will be able to learn and study the role all innovation strategies in attaining sustainable competitive advantage,

Also, the interpretations of this study may deviate if the study same study is done period other than this one as the industry is fast growing. The ICT industry in Mombasa County is of uncertainty in nature. It changes every day, it is growing every day. Innovative ICT firms in Mombasa County keep renewing their strategies and their ways of doing businesses. So doing the same Study during different times may show different results. ICT industry is dynamic.

5.5 Suggestions for Further Studies

Further to the subject research project, an investigation maybe done to find out the relationship that existed between other innovation strategies and sustainable competitive advantage. This study only focussed on Product, process, market and organisational innovation strategies and SCA in ICT firms in Mombasa County. Sustainable competitive advantage maybe having a positive or negative relationship with other innovation strategies in ICT firms in Mombasa County.

Also, Mombasa being coastal region, the same study can be done on different context like Kilifi County, Kwale County or Lamu County to compare the findings for find the insight on the ICT industry in coast region. Since Lamu, Kilifi and Kwale are developing counties, it would be interesting to study them to find out the relationship that existed between innovation strategies and sustainable competitive advantage. This will give a clear comparison between the different ICT industries in Coastal region.

Further study could be done to find out factors that influenced the outcome of this study. These factors are very important to be study as ICT firms will get an insight on how to achieve sustainable competitive advantage. Also a study can be done to establish why this study constituted the specified relationship between Innovation Strategies and sustainable competitive Advantage. Finally an amazing study would be to study the innovation strategies that are used by ICT firms in the quest to gain sustainable competitive advantage.

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APPENDICES

Appendix I: Introduction Letter

Dear Sir/Madam

REF: Research Project on Innovation Strategies and Sustainable Competitive Advantage in ICT firms in Mombasa County, Kenya.

I am a postgraduate student in the School of Business, University of Nairobi, currently undertaking a management research project on the above subject as part of the requirement. This is in partial fulfilment to the award of Master degree in Business Administration (Strategic Management).

You have been selected as one of the respondents in this study. I therefore request you to kindly facilitate the collection of the required data by answering the questions herein. This questionnaire is purely for academic purpose and the data collected will be treated with utmost confidentiality. A copy of the completed project report shall be availed to you upon request.

Your assistance and cooperation will be highly appreciated. Thank you in advance.

Yours faithfully,

Mohammad Mahmoud

Mobile No. 0731332235

Appendix 2: Questionnaire

Research Topic: Innovation strategies and sustainable Competitive Advantage in ICT firms in Mombasa County.

Instructions: Please Tick/give details Where Applicable

SECTION 1: Demographic Details

1. Name of the firm

2. What is your organization's area of specialization?

3. Company Ownership a) Local

b) Foreign

c) Other

If other, Please specify.....

4. Number of years the firm has been in operation.....

5. What position do you hold in the firm?

6. Who is mainly involved in the innovation activities in the organization?

a) CEO

b) Top Managers

c) All Employees

d) Development partners

e) If Others. Please specify.....

7. What range of products/Services does your firm sell?

8. What is your target market?

- a) Retail
- b) Supermarket
- c) Other. Please specify:

9. What percentage of your company's budget is allocated to R&D or innovation?

- a) 75-100%
- b) 50-75%
- c) 25-50%
- d) Below 25%
- e) None

10. What percentage of your company's turnover is accounted for by innovations launched in the last three years?

- a) 75-100%
- b) 50-75%
- c) 25-50%
- d) Below 25%
- e) None

SECTION 2: Innovation Activities and Sustainable Competitive Advantage

Instructions: Please indicate to what extent you agree with the statements given by circling or striking through as per the following scale:

- 5 = To a very large extent,**
- 4 = To a large extent,**
- 3 = To some extent,**
- 2 = To a small extent,**
- 1 = To no extent**

Factor 1: Organizational Innovations

- | | | | | | |
|--|---|---|---|---|---|
| 1. Organization structure renewal for teamwork facilitation. | 1 | 2 | 3 | 4 | 5 |
| 2. The production and quality management systems renewal | 1 | 2 | 3 | 4 | 5 |
| 3. Renewing the organization structure to facilitate coordination
Between different functions such as marketing and finance | 1 | 2 | 3 | 4 | 5 |
| 4. Renewing the routines, procedures and processes employed
to execute firm activities in innovative manner. | 1 | 2 | 3 | 4 | 5 |
| 5. The human resources management system renewal. | 1 | 2 | 3 | 4 | 5 |
| 6. The supply chain management system renewal. | 1 | 2 | 3 | 4 | 5 |

Factor 2: Marketing Innovations

- | | | | | | |
|---|---|---|---|---|---|
| 7. Renewal of the techniques of promotion of products used for the promotion of current and / or new products. | 1 | 2 | 3 | 4 | 5 |
| 8. Renewal of the channels of the distribution but not changing the processes of logistics related to the produce delivery. | 1 | 2 | 3 | 4 | 5 |
| 9. Renewal of the techniques of Pricing of the products designed for the current and/or new products pricing. | 1 | 2 | 3 | 4 | 5 |
| 10. Renewing general marketing management activities. | 1 | 2 | 3 | 4 | 5 |

Factor 3: Process Innovations

- | | | | | | |
|---|---|---|---|---|---|
| 11. Identifying in order to eliminate non-value-added activities in processes of delivery. | 1 | 2 | 3 | 4 | 5 |
| 12. Reduction of variable costs and / or increase the speed of delivery in the logistics process related to delivery. | 1 | 2 | 3 | 4 | 5 |
| 13. Identifying in order to eliminate non-value-added activities in processes of production. | 1 | 2 | 3 | 4 | 5 |

Factor 4: Product Innovations

- | | | | | | |
|--|---|---|---|---|---|
| 14. New products development with technical specifications and features totally different from current ones. | 1 | 2 | 3 | 4 | 5 |
| 15. Creating newness for current products that are in the market, which will improve the ease of use for customers and their satisfaction. | 1 | 2 | 3 | 4 | 5 |
| 16. Producing new products with different components and materials. | 1 | 2 | 3 | 4 | 5 |
| 17. Reducing cost of component and materials of manufacturing of current products. | 1 | 2 | 3 | 4 | 5 |
| 18. Quality improvement in the components and materials of the current products manufacturing. | 1 | 2 | 3 | 4 | 5 |
| 19. Overall cost leadership (offering low prices for your products than competitors) | 1 | 2 | 3 | 4 | 5 |
| 20. Focus (focusing on a certain group of product line buyers/geographic line/geographic market). | 1 | 2 | 3 | 4 | 5 |

21. Is your company's mission statement specifically mention creativity and/or innovation 1 2 3 4 5
22. Does your organization's actual performance contribute in making innovation happen. 1 2 3 4 5
23. Do you have formal programmes for innovation in your organization 1 2 3 4 5
24. To what extent do you have quantified goals for innovation and its impact on future performance 1 2 3 4 5

Section 3. Factors that influence Firms in implementation of Innovation Activities

To what extent has the following factors affected or continue to affect the implementation of innovation activities? **Tick where appropriate in the boxes below**

Factors	Very Great Extent	Great Extent 4	Moderate Extent 3	Low Extent 2	No Extent 1
Customer demands					
Technology advancement					
Globalization/increased competition					
Legislation					
Environmental issues					

Section 4 : Competitive Indicators

1. To what extent do you agree that your firm is rated better than your peers in the industry on the following parameters? (Key: 1=Strongly disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly agree)

Statement	1	2	3	4	5
Market Leadership					
Cost Leadership					
Superior Customer Service					
Innovative products/Processes					

2. To what extent do you agree that your firm is rated better than your peers in the industry in terms of competitiveness as far as the following statements are concerned? (Key: 1-More worse than competitors, 2-Worse, 3-Fine, 4-Better and 5-Much better than competitors)

Customer satisfaction indicators	1	2	3	4	5
The clients are always proud of our products and services					
The firm delivers products and services that meet customer requirements and expectation					
The customers commend our exemplary product quality					
Customer loyalty Indicators	1	2	3	4	5
Clients have a low switching cost of products to competitors					
Customers are loyal even when there is a price change					

Our customers always come back for more purchase					
--	--	--	--	--	--

3. Please rate your performance relative to your peers in the industry as far as the following performance measures are concerned.

Indicators	Best	Better	Good	Same	Worse
The sales revenues of the firm					
Shareholder return and Profits					
Return on Investment					
Overall Profits of the firm					
Cost of doing business					

Thank you for your time and co-operation

Appendix 3: List of ICT Firms in Mombasa County

1	ACCORD SOFTWARE	16	GAZ ENTERPRISES	31	NEXT COMPUTERS
2	ADVANTECH COMPANY LIMITED	17	GOSHRANI PRINTER	32	OVERDRIVE CONSULTANT
3	AIRTEL KENYA	18	HI-TEC COMPUTERS	33	SAFARICOM LTD
4	BASHARAHIL PRINTERS	19	INTELLITECH LTD	34	SANTECH LTD
5	BEST BUYS COMPUTERS	20	ITECH COMPUTER SYSTEMS	35	SASA TELECOM LIMITED
6	CAPITAL ICT LTD	21	JAFFTEK COMPUTER SOLUTION	36	SEACOM
7	CLICKS COMPUTER LTD	22	JAHADHMY ENTERPRISES	37	SERVTEL COMMUNICATIONS LTD
8	COASTAL IMAGE LTD	23	KELSAM COMPUTERS	38	SUPERIOR PRINTERS LTD
9	COMPUTER PRIDE SOLUTION	24	KEN COMPUTER	39	SIMPLE COMPUTERS
10	COPY CAT LTD	25	LECOL	40	SPACEMAN IT MART
11	DESTTECH ENTERPRISE	26	METIS AFRICA CONSULTANT	41	TELKOM
12	DG-TEC COMPUTER CENTRE	27	MFI	42	TOP SHOP SOLUTIONS
13	EMERGING SOLUTION KENYA	28	MICROLINK LTD	43	WEB RUNNER
14	FEBIS COMPUTER	29	MOVETECH ICT SOLUTIONS	44	WEBNET MASTERS
15	FIRST COMPUTER LTD	30	MULTISOURCE NETWORKS LTD	45	WENET TECHNOLOGIES

Source: Mombasa County Data 2018

Appendix 4: Plagiarism Test

MOHAMMAD MAHMOUD MOHAMMAD

ORIGINALITY REPORT

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