INNOVATION STRATEGIES AND COMPETITIVE ADVANTAGE IN THE TELECOMMUNICATION INDUSTRY IN KENYA

By

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DECLARATION

This research project is my original work and has not been submitted for examination to any other University.

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D61/67577/2011

The research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this project to God Almighty for his unbounded mercy that He has granted to me through my studies. I also dedicate this work to my parents Mr. & Mrs. F.M. Kahiga for their financial and moral supports throughout the course. May God bless them and sustain them to reap the fruits of their labour.

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ABSTRACT

The telecommunication industry in Kenya has been characterized by declining voice revenues, increased regulations, technological advancements and changing consumer needs. This has led to industry players formulating sound innovations strategies to ensure they create a competitive advantage over their competitors in order to survive and grow in the ever competitive market. However, in spite of the crucial role played by innovative strategies to ensure competitive advantage, some companies with innovative strategies have not translated them to competitive advantage. Therefore the study was to establish how have innovations strategies enhanced, if at all, the competitive advantage of the different players in the Kenyan telecommunication industry in Kenya In order to satisfy the objective of the study, a descriptive survey research design was adopted and data was collected from top management and senior managers of the four telecommunication companies in Kenya. The findings revealed that most innovation strategies were formulated to meet customer needs. In order for a company to have a competitive advantage, technological innovation and research was most important. Moreover, external environment was monitored to determine the innovation strategies to be formulated. This study established that understanding customer needs was the major reason for success levels of products in the market and this can be attributed to lead to a superior competitive advantage. The study therefore recommends that top management in the telecommunication industry should realign their innovation strategies to understand customer needs in order to acquire competitive advantage. The success of their innovative strategies heavily depends on how well they were being implemented.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In today's fast-changing business environment, characterized by increasing globalization, rapid technology changes and newer lifestyles, firms that want to remain competitive must be innovative. Innovation is not simply developing new technologies into new products or services, but in many cases involves finding new models for doing business in the face of change. It often entails changing the rules of the game. Modern businesses are increasingly engaging in constant competition with rivals with a goal to survive on the market and must therefore formulate well aligned strategies in order to meet customer demands and a significant form of growth. It is in this aspect that executives of these firms regularly consider how they can improve their competitive edge by means of developing and putting into practice various business strategies.

The Resource Based View (RBV) takes an 'inside-out' view or firm-specific perspective on why organizations succeed or fail in the market place. The RBV draws upon the resources and capabilities that reside within the organization in order to develop sustainable competitive advantages. However, competitive advantage occurs only when there is a situation of resource heterogeneity and resource immobility (Madhani, 2009). A well-formulated strategy helps to marshal and allocate an organization's resources into a unique and viable posture based on its relative internal competencies and shortcomings, anticipated changes in the environment, and contingent moves by intelligent opponents (Quinn, 1980).

In the past decade, technological advancement, liberalization and regulatory restructuring have in a very big way transformed the telecommunication industry in Kenya. Liberalization saw the end of monopoly in the telecom industry and gave rise to a vibrant competitive market environment with four major operators namely Airtel Kenya, Essar Telecom Kenya, Telkom Kenya and Safaricom Limited. According to the Communication Commission of Kenya (CCK), which is the industry regulator, mobile subscription and penetration has experienced an exponential growth over the years, to reach the current subscriber base of 30.7 million subscribers which represents a mobile penetration rate of 78.0% (CCK website, 2013). To intensify this growth, operators have had to give priority to formulating and implementing innovation strategies in their effort to boost their competiveness in the market.

1.1.1 Concept of Innovation Strategies

In both developed and developing countries, innovation strategies have been heralded as one of the juggernauts in propelling organizations to higher levels of profitability and customer retention. Innovation is regarded as a key business process that companies are using to achieve competitive advantage. Innovations are currently a fundamental prerequisite of competitiveness (Striss et al., 2009). Successful companies are currently the ones that implements innovative strategies, invests in research, development and innovations. The basic precondition for the creation and use of innovation in the enterprise is a well formulated and implemented innovative strategy.

Kovac (2007) sees innovation as a strategy for determining long-term fundamental business objectives and determines the activities and resources for achieving these goals. According to him the innovation strategy must be based on variation, long term, systematism, the time factor and the concentration of resources and activities. Dodgson et al, (2008) defines an innovation strategy as a plan that helps firms decide in a cumulative and sustainable manner, about the type of innovation that best match corporate objectives, guides decisions on how resources are to be used to meet a firm's objectives for innovation and thereby deliver value and build competitive advantage.

The telecommunication industry in Kenya has undergone fundamental and dramatic changes since its liberalization 12 years ago. The sector, which is one of our country's economic drivers, is today defined by competition, capital intensive investment, dynamism, and exponential growth. The sustained presence of mobile products being floated to customers on a consistent basis depicts high standards of innovativeness. Despite the continued upward growth in mobile subscription, voice revenue in the industry has continued to decline at an alarming rate. As a result, they industry players have continuously worked to introduce innovative products, in addition to the traditional voice calls, often based on new technologies.

The telecommunication operators invest in these new technologies to be able to cross-sell additional mobile services and increase revenue from the consumption of these services. Investment in these new innovations and value added services not only guarantee more revenues but also boost loyalty among their customer base especially if the products introduced are “sticky” in nature. Among the various notable innovations in the telecommunication industry in Kenya are Mobile money transfer services, Mobile banking, Text based educational programs like M-Health and M-Farming, Ring back tones, Mobile applications stores, cloud computing amongst others.

1.1.2 Competitive Advantage

Competitive advantage is essentially a position of superiority on the part of the firm in relation to its competition in any of the multitude of functions/activities performed by the firm. It means that a firm can gain a competitive advantage in several ways. For example, some firms may be superior in production, some in Research and Development and some others in marketing. Firm have to figure out how they can perform a particular function or group of functions, either, in a superior way, or in a distinctive way, relative to competition. The superiority or distinction has to be of value to the customer and should be perceived by him as such.

The most widespread theory explaining sources of competitive advantage is the “resource-based view” (RBV). According to this theory, the two main sources of sustainable competitive advantage are assets and capabilities. Assets are the resource endowments the business has accumulated, and capabilities are the glue that keeps these assets together and enables them to be deployed advantageously. Capabilities differ from assets in that they cannot be given a monetary value, as can tangible plant and equipment, and are so deeply embedded in the organizational routines and practices that they cannot be traded or imitated (Day, 1993). According to Porter (1980), competitive advantage can be viewed as the ability gained through attributes and resources to perform at a higher level than others in the same industry. He postulated that a firm must decide whether to attempt to gain competitive advantage by producing at a lower cost than its rivals or differentiate its products and services and sell them at a premium price.

Competitive advantage occurs when an organization acquires or develops an attribute or combination of attributes that allows it to outperform its competitors. In a service oriented business, competitive edge is well achieved through innovation strategies which are value creating and are not simultaneously being implemented by any current or potential player. Clulow et al. (2003), reckons that successfully implemented innovation strategies will lift a firm to superior performance by facilitating the firm with competitive advantage to outperform current or potential players. To gain competitive advantage through innovativeness and value addition, the business strategy of a firm has to be formulated in a way that optimally manipulates the various resources over which it has direct control. Over time, companies have invested considerable time and effort in developing innovative products and services that work for their consumers. They often consider adopting innovative strategic tools to address the challenge of improving service quality, increasing productivity and competitive advantage (Kamakura et al., 2003).

In the telecommunication industry globally, voice revenues have been the most significant segment of most telecom operators in the telecommunication industry. Conversely, with increasing saturation of voice and falling revenues, operators have embraced innovations and value added services to counter this impact and improve their competitive advantage position in the market. The telecommunication industry in Kenya on the other hand is entering a new transition period. This has been brought about by the market for voice component in the mobile telecommunications almost reaching maturity, existing price wars and the introduction of mobile number portability. In response, the industry is shifting its strategic focus not only in attracting new customers, but is also gearing towards retaining existing customers through innovative strategies that enhance their competitive advantage.

1.1.3 Telecommunication Industry in Kenya

The dynamism in the industry has not only led to Kenya being taunted as the 'Silicon Valley' of East Africa, but is also playing a key role in the country's growth and transformation in line with the Kenyan Government's Vision 2030. The industry is supporting both the public and private sectors through innovations and value added services that are liberating the economy and transforming social lives of all Kenyans. As the mobile phone market in Kenya becomes increasingly saturated and voice revenues fall, ability to innovate and add value to different services remains a key differentiator between the four network operators.

CCK Quarterly Sector Statistics Report for the period October – December 2012 (CCK website, 2013) reports Safaricom Limited as the leading operator in Kenya, both in the number of subscribers and profitability. As shown in Figure 1.1, Safaricom controls 64.5% of the mobile market as at December 2012 with a total of 19.8 million subscribers. The company is owned 40% by Vodafone plc., 35% by the Government of Kenya and

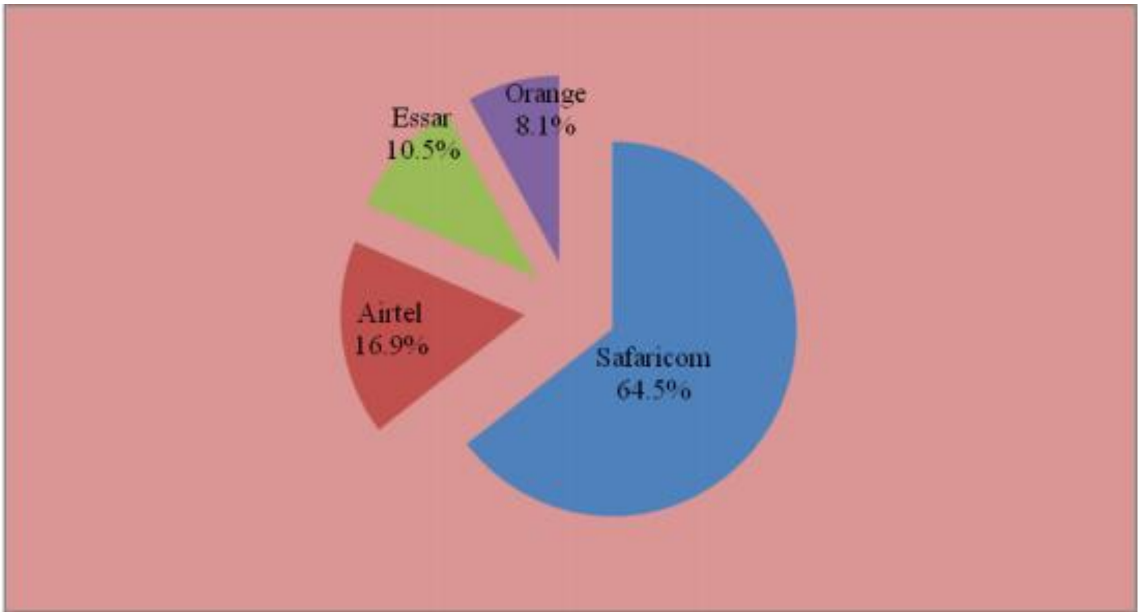
25% by the public and is one of the listed companies in the Nairobi Stocks Exchange (Safaricom Limited website, 2013). Airtel Kenya is second with 16.9% of the market share (5.2 million subscribers). It is owned 95% by Bharti Airtel limited, an Indian multinational telecommunications company. The rest of the ownership stake (5%) is owned by local investors (Airtel Kenya website, 2013). Essar Telecom Kenya operating under the brand name Yu Mobile is the third largest player by market share (10.5%) market share with 3.2 million subscribers as at December 2012. It is 100% owned by Essar Telecoms of India (Essar Telecom Kenya website, 2013). Lastly, there is Telkom Kenya with 8.1% market share (2.4 million subscribers). Telkom Kenya is owned 51% by France Telkom and 49% by the Government of Kenya (Telkom Kenya website, 2013). The industry grew by 1% from September 2012 to December 2012 with Telkom Kenya Limited having the biggest drop in subscription of 19.7%. This is shown in Table 1.1.

Table 1.1: Mobile Subscriptions per Operator

Name of operator	Dec-12			Sep-12			Quarterly Variation (%)
	Pre-paid	Post-paid	Total	Pre-paid	Post-paid	Total	
Safaricom Limited	19,621,431	192,814	19,814,245	19,045,713	175,496	19,221,209	3.1
Airtel Networks Kenya Limited	5,101,480	103,799	5,205,279	4,997,807	116,189	5,113,996	1.8
Essar Telecom Kenya Limited	3,225,753	1,519	3,227,272	3,001,808	1,490	3,003,298	7.5
Telkom Kenya Limited (Orange)	2,480,687	4,271	2,484,958	3,089,814	4,465	3,094,279	-19.7
Total	**30,429,351**	**302,403**	**30,731,754**	**30,135,142**	**297,640**	**30,432,782**	**1.0**

Source: CCK, Operators' Returns (Oct 2012-Dec 2012)

Figure 1.1: Percentage Subscription Market Share per Operator



Source: CCK, Operators' Returns (Oct-Dec 2012)

1.2 Research Problem

Firms innovate to defend their existing competitive position as well as to seek new competitive advantages. For a firm to gain a strategic market position, relative to its competitors, it must take a proactive approach to enforce higher technical standards for the products it produces, have a sense for identifying opportunities to access new external resources, seize these external resources, and reconfigure them internally. For firms, the way to achieve competitive advantage is to create a competitive strategy that is consistent with trends in the firm's industry and appropriate to the firm's resources and capabilities which can be achieved through innovation (Porter and Kramer, 2006).

The telecommunication industry in Kenya has been characterized by declining voice revenues, increased regulations, technological advancements and changing consumer needs. This has led to industry players formulating sound innovations strategies to ensure they create a competitive advantage over their competitors in order to survive and grow in the ever competitive market. The firms have aimed at creating competitive advantage in terms of customer subscription, customer loyalty, revenue growth and brand recognition.

Barnes (1993) provides empirical evidence that shows improving the quality of value addition is crucial to achieving a strategic advantage, realizing that a good product is necessary, but not sufficient to compete in today's competitive marketplace. In a study of the Indian bulk drug industry, Gupta (2008) established that innovations have a positive impact on not just the bottom lines, but also is vital for survival in this industry. Research also seems to indicate that firms that are innovative in several ways receive the highest scores in terms of financial performance (Deshpande & Webster, 1989).

Otori (2011) found that Safaricom Limited, one of the players in the telecommunication industry, has over the years used innovation and value addition services to solve strategy problems. Mobil based financial, loyalty programs, data packages, airtime credit services, ring back tones among others are some of the major value addition and innovation strategies the company has adopted. Kimani (2007) found that small scale telecommunication firms in Nairobi have adopted three major strategies, namely: giving customers more value, being low cost producers, and selling differentiated products to gain competitive advantage amongst price-conscious customers. This he found applied both in the rural and urban areas. Karanja (2011) in her study concluded that innovation enabled United Bank of Africa achieve competitive advantage by increasing its return on investment and customer base.

Most studies have focused on individual players in the various industries and not on an industry as a whole. The researcher has not found any study on innovation strategies and competitive advantage in the telecommunication industry in Kenya, presenting a research gap that this study seeks to fill. This, then, leads to the research question: how have innovations strategies enhanced, if at all, the competitive advantage of the different players in the Kenyan telecommunication industry in Kenya?

1.3 Research Objective

The objective of this study was to determine the innovation strategies employed by the telecommunication industry in Kenya to attain competitive advantage**.**

1.4 Value of the Study

This study is invaluable to researchers and scholars, as it forms a basis for further research. The students and academics will use this study as a basis for discussions on innovation strategies and firms' performance. The study will be a source of reference material for future researchers on other related topics and would greatly aid other academicians who undertake similar topics in their studies.

Secondly, the research is of great use to potential entrants in the telecommunication industry in Kenya. It provides invaluable insights into the industry and its operating environment. They will be able to acquire skills on how, when and where to apply their innovation strategies in their endeavor to attain a competitive advantage in the industry. They will be able to proactively set up systems that will be able to resolve challenges that emanates from implementation of innovation strategies to attain competitive advantage.

This study is timely and important to the companies in the telecommunication industry as it assists the top telecommunication managers in charge of policy formulation and implementation, to fully grasp the relationship between innovation strategies and competitive advantage. It provides fresh acumens into possible ways they can fully take advantage of their Research and Development department to attain and sustain competitive advantage. The study will assist existing players to realign their innovation strategies in the most optimal way to fully tap in to and acquire competitive advantage.

Barney (1991) in his Resource Based View indicated that sustainable competitive advantage is tied to how firms use their rare, valuable and non-substitutable resources. This study adds to that theory by portraying instances where firms have similar strengths and potential in terms on resources and skills, but competitive advantage varies mostly because of how the firms execute and utilize these resources.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this section, the paper discusses innovation strategies and the consequent competitive advantages that emanate from formulation and implementation of such strategies. The innovation imperative and different strategies of innovation are also analyzed in the section. A review of past studies and established theories about competitive advantages and innovation strategies will also be discussed. The factors of competitive advantage discussed include customer loyalty, revenue growth and brand recognition.

2.2 Theoretical Framework

Innovation refers to the outcome as well as to the practice of converting knowledge and ideas into novel entities that are valued by individuals and communities. Innovation outcomes may be broadly classified into two major types: product and process innovation. Innovations may also be classified according to their intensity, or the extent of novelty introduced. They may be incremental (evolutionary) or radical (revolutionary) (Sircar et al., 2001). The practical concerns and demands of managers have often driven research into organizational innovation. Consequently, normative theories have been advanced offering prescriptions for improving the innovation outcomes of firms.

The resource-based view (RBV) has emerged as one of the substantial theories of strategic management. Theoretically, the central premise of RBV addresses the fundamental question of why firms are different and how firms achieve and sustain competitive advantage by deploying their resources. Barney (1991) presented a more concrete and comprehensive framework to identify the needed characteristics of firm resources in order to generate sustainable competitive advantage. These characteristics include whether resources are: valuable, rare among a firm's current and potential competitors, inimitable, and non-substitutable.

Teece & Pisano (1994) further developed the area proposing dynamic capabilities theory as the "subset of the competences/capabilities which allow the firm to create new products and processes and respond to changing market circumstances". Competitive advantage, therefore, rests on distinctive processes, shaped by the firm's asset positions and the evolutionary paths followed. Dynamic capabilities emphasize management capabilities and inimitable combinations of resources that cut across all functions, including Research and Development, product and process development, manufacturing, human resources and organizational learning.

Despite the strong application to innovation, resource-based view and dynamic capabilities theory have a number of weaknesses. First, it is often difficult to identify within a firm which of the many resources, individually or collectively, account for effective performance. The tracing of the general processes on which capabilities are based is still in formative stages (Leonard-Barton, 1995; Teece & Pisano, 1994). Without an understanding of the specific activities underlying capabilities, study replication and knowledge development in the area is difficult (Peteraf, 1993). Finally, the value of resources may change over time becoming a core rigidity of the organization, even though the resource itself has not changed form (Leonard-Barton, 1995).

2.3 The Innovation Imperative

For a firm to grow in business and compete favorably with others, innovation is important. Innovation should be in the heart of any business executive who plans to move his organization to great success. According to a report written by Guan & Ma (2003), it is clear that there are seven innovation capability dimensions. They include marketing, resource allocation, strategy planning, manufacturing, learning, research and development and organizational planning. The importance of innovative strategies was discussed in the report done by the authors, detailing performance of 213 Chinese industrial firms. The results of the study show that the export growth of the studied firms improved with improvement in innovation capability.

Sawhney et al (2011) contributed to knowledge about innovation strategies by listing a number of innovation drivers that an organization should adopt in order to be successful in competition. The drivers include a sense of shared understanding, alignment of innovation activities with the organizational major goals, availability of necessary tools for innovation and availability of interaction forums that help in sharing of knowledge. Dittrich & Duysters (2007) conducted an investigation to understand how innovation networks could be used to deal with the technological environment that is always changing. The research looked at issues and concepts relating to research and development collaboration strategies. From the study, it is deduced that when a firm opts to use research and development collaboration as an innovation strategy, it can do so as either exploitation or an exploration avenue.

Faems et al (2005) shares in 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.

2.4 Relationship between Innovation Strategies and Competitive Advantage

Innovation represents today's competitive advantage, supported by strong mainstream capabilities in quality, efficiency, speed and flexibility. High performing innovators are able to maintain a giant juggling act of capabilities, and consistently bring new high quality products to the market faster, more frequently and at a lower cost than competitors. Moreover, these firms use process and systems innovation as a way of further improving their products and adding value to customers. This combination creates a dynamic and sustainable strategic position making the organization a constantly moving target to competitors (Kiernan, 1996).

In reviewing the use of the term competitive advantage in the strategy literature, the common theme is value creation through innovation. Barney (1991) says that "a firm experiences competitive advantages when its actions in an industry or market create economic value and when few competing firms are engaging in similar actions." Barney goes on to tie competitive advantage to performance, arguing that “a firm obtains above-normal performance when it generates greater-than-expected value from the resources it employs. This positive difference between expected value and actual value is known as an economic profit or an economic rent.” In addition to positive organizational performance, some of the other factors of competitive advantage accrued by an innovative firm include customer loyalty, revenue growth and brand recognition.

2.4.1 Customer Loyalty

The ultimate goal for existence of commercial enterprises is to sell products and services to customers. One of the ways of succeeding is by developing customer loyalty among the consumers by offering innovative and value added products. Srinivasan et al (2002) postulates that when customer loyalty has been cultivated, a firm benefits in two ways. One, the customer is willing to pay for the product. Two, the customer helps in advertising and promotion of the products and service through the word of mouth. Convenience, cultivation, choice, character, care, contact interactivity and customization are useful in improving customer loyalty. Customer loyalty offers a firm a competitive advantage over others.

Reinartz & Kumar (2002) state that firms should know the link between customer loyalty and profits. The best customers are those who are loyal because they are easy to serve and they are willing to buy more. Competitive advantage is therefore reinforced when a company cultivates a broad base of loyal customers. Corporate expenditure on cultivating loyalties has been going up. They include coming up with innovation strategies that help companies retain customers. In 2000, top retailers in Europe spent collectively $1 billion on activities meant to cultivate loyalty among their customers. Among other things, this money was spent on coming up with innovation which improves their competitive advantage, consequently improving profits.

2.4.2 Brand Recognition

Brand awareness is an integral part of market competitiveness. A brand recall is closely associated with brand recognition in that, it is the ability of the customers to remember a brand with reference to the services and products being offered by the company. Brand development should therefore emphasize on brand awareness and recognition that is driven by the uniqueness of a firms' products and services. This shows that brand development requires innovation in the organization (Aaker, 2009).

Huang & Sarigöllü (2012) did an investigation where the relationship between brand recognition and market outcome were evaluated. They also looked at the relationship between brand awareness and brand equity. In the results, the study showed that the brand usage experience had a direct relationship with brand awareness. It was concluded that experience preceded awareness. There is a direct relationship between brand awareness and brand equity. Innovation can contribute to brand awareness, which will in turn improve the competitive advantage of a firm in market.

2.4.3 Revenue Growth

A company that experiences growth in its revenue is at a better position to compete well in the market. With revenue growth, a company can venture into new technologies thus improving the quality of its products and services. Christensen & Gordon (1999) sought to relate revenue growth with organizational culture in 76 firms in 6 types of industries. The results showed that there was a relation between the cultural practices and revenue growth.

Thornhill (2006) revealed that innovation and revenue growth were related aspects in running of firms. A study of 845 Canadian manufacturing firms showed that industries that had greater aggregate levels of research and development intensity had high rate of innovation. The firms enjoyed revenue growth. The study further revealed firm knowledge, innovation and industry dynamism are intertwined and that a highly skilled workforce is important for innovation and revenue growth.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the various research tools that were used in gathering information, procedures that were adopted in conducting the research, and the techniques which were used in analyzing the data collected. It discusses the research design, target population, data collection instruments and the methods of data analysis.

3.2 Research Design

This study used descriptive survey research design which was administered through questionnaires. Hopkins (2000) suggested that descriptive studies' aim is to determine the relationship between an independent variable and a dependent or outcome variable in a population, establishing the associations and causality between variables. This research design as used in this study had the ability to accommodate large sample sizes; ability to distinguish small differences between diverse samples groups; ease of administering and recording questions and answers; increased capabilities of using advanced statistical analysis; and abilities of tapping into latent factors and relationships.

This research design was found most suitable to meet the objective of this study, which was, to investigate the innovation strategies employed by the telecommunication industry in Kenya to attain competitive advantage. Innovation levels, research and development, products and market intelligence, technology intelligence and strategic alliance intelligence practices were explored as the independent variables that influenced the dependent/outcome variable of competitive advantage.

3.3 Population of the Study

In the past decade, technological advancement and regulatory restructuring have transformed the industry. Markets that were formerly distinct, discrete and vertical have coalesced across their old boundaries with a massive investment of capital, much of it originating from private sector participants. The result is new markets, new players, and new challenges.

The target population for this study was all the mobile telecommunication firms in Kenya. These firms include Essar Telecom Kenya, Airtel Kenya, Telkom Kenya and Safaricom Limited. This study constituted a census as all the four telecommunication companies in the industry were targeted.

3.4 Data Collection

This study used questionnaires as a form of data collection tool. A questionnaire is a data collection instrument that consists of a series of questions and other prompts whose purpose is to gather information from respondents. The researcher preferred questionnaires to other data collection instruments because they are practical and help in collection of a large amount of data from many people within a very short period in a cost effective way. It was also found to be easy to quantify the results of a questionnaire.

Top management and senior managers of these four telecommunication companies were targeted for data collection. The questionnaires were tested by a group of peers to eliminate any discrepancies and ambiguity and also presented to the supervisor to ensure its conformity to scholarly structure and form. After designing the questionnaires, 28 questionnaires, 6 in each company, were distributed and left with the respondents to fill them at their convenient time and collected later as agreed between the researcher and the respondent. With constant follow up, the researcher was able to collect back 20 questionnaires for this study.

3.5 Data Analysis

Questionnaires were checked for completeness and consistency. Thereafter, the data was coded and a database developed in statistical software. Analysis was done using descriptive statistics that included frequency distributions, mean and mode as the measures of central tendency and bar charts to describe the data into simple summaries. Standard deviation was used as the preferred measure of statistical dispersion to compliment the measures of central tendency in analyzing the data.

Interpretation of data was of benefit in describing the state of affairs as it exists (Kombo and Tromp, 2006). With the help of Statistical Package for Social Scientists (SPSS), the researcher qualitatively and quantitatively analyzed and interpreted the data obtained from the field. Report and findings presentation were done in tables and charts with explanations on all the parameters used.

CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

This chapter covers data analysis, findings and discussions of the research. Data was collected from top management and senior managers of the four telecommunication companies in Kenya. Out the 28 questionnaires distributed, 20 were completed and returned representing a response rate of 71.43 % which was considered satisfactory for subsequent analysis. The response rate conformed to Mugenda and Mugenda (2003) that for generalization, a response rate of 50% is adequate for analysis and reporting, 60% is good and a response rate of 70% and over is excellent. The data was analyzed using descriptive statistics tools. The analysis and study findings were then summarized into mean scores, standard deviations, percentages and frequencies. These were subsequently presented in tables, graphs and charts.

4.2 Respondents Profile

The respondents were asked to indicate the name of their company. From the research findings, it was established that 30.0 percent were from Essar Telecom Kenya and 20.0 percent were from Safaricom Limited. It was noted that Airtel Kenya and Telkom Kenya accounted for 25.0 percent of the respondents as shown in Table 4.1. This suggested Essar Telecom Kenya senior managers were more readily available to provide research data than other companies.

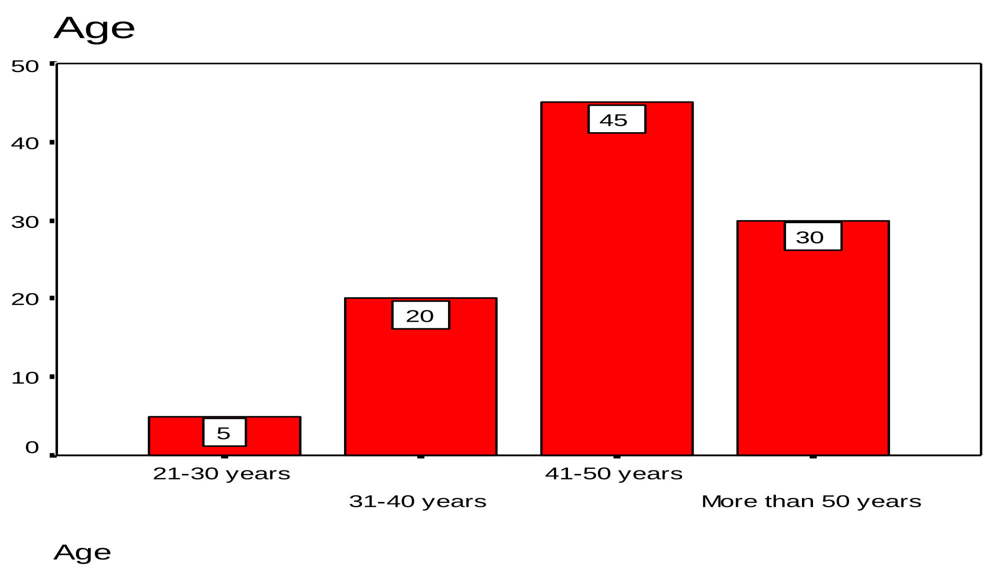
Table 4.1: Response Rate

Company	Frequency	Percentage
Essar Telecom Kenya	6	30.0 %
Airtel Kenya	5	25.0 %
Telkom Kenya	5	25.0 %
Safaricom Limited	4	20.0 %

4.2.1 Age of Respondents

The study sought to establish the age of the respondents. From the research findings, it was established that 45.0 percent were between 41 to 50 years, 30.0 percent were more than 50 years and 5.0 percent were between 21 to 30 years as shown in Figure 4.1. This implied that most top and senior managers were between 41 to 50 years.

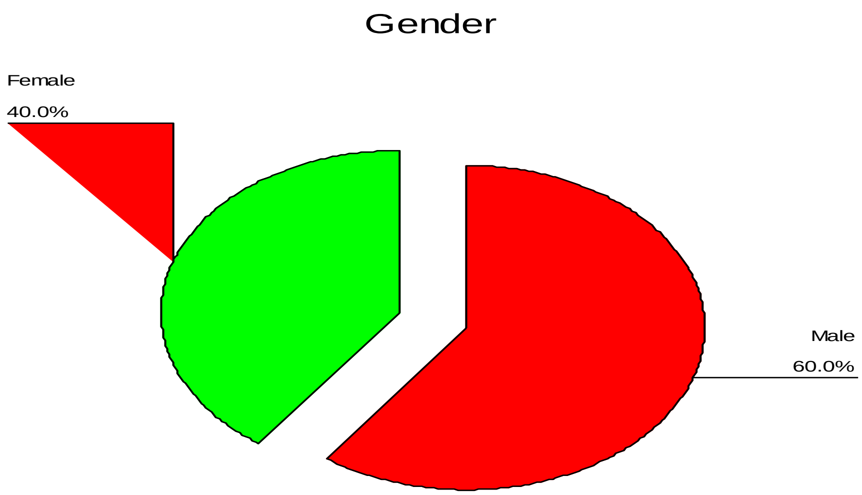
Figure 4.1: Age of Respondents



4.2.2 Gender of Respondents

The respondents were asked to indicate their gender. From the research findings, it was established that 60.0 percent were male while 40.0 percent were female as shown in Figure 4.2. This suggested that most top and senior managers were male.

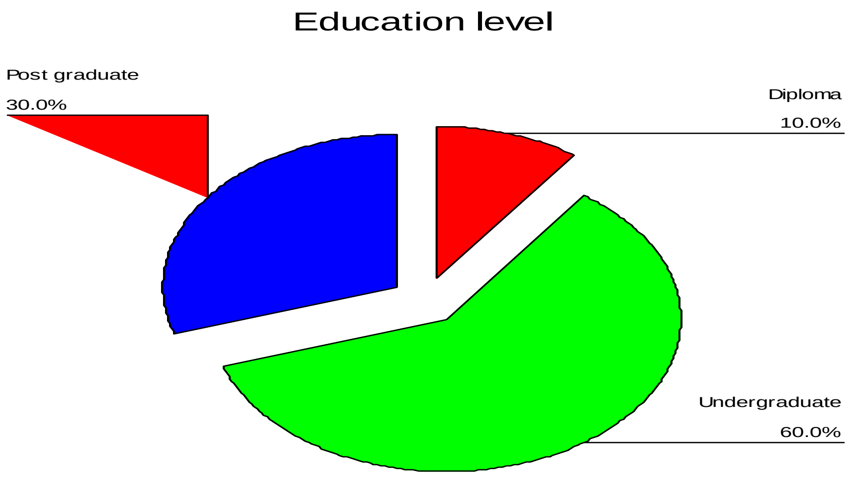
Figure 4.2: Respondents Gender



4.2.3 Level of Education of Respondents

The respondents were asked to indicate their level of education. From the study, it was established that 60.0 percent had undergraduate education, 30.0 percent had postgraduate education and 10.0 percent had diploma education as shown in Figure 4.3. This showed that most top and senior managers were academically qualified as they had undergraduate education.

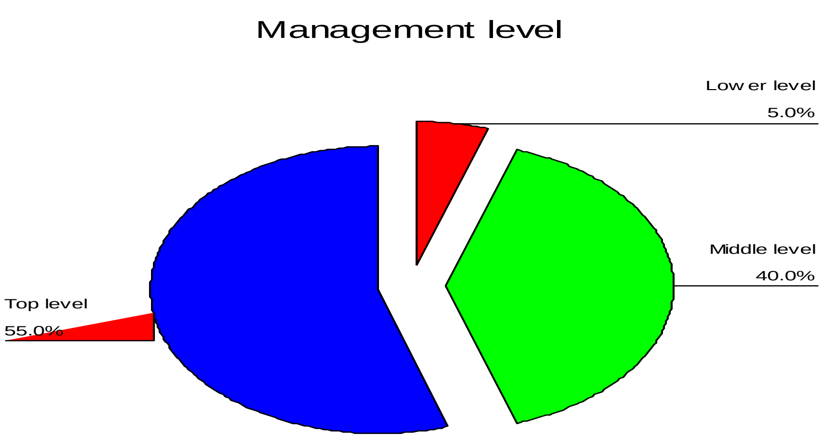
Figure 4.3: Level of Education of Respondents



4.2.4 Level of Management of Respondents

The researcher wanted to establish the level of management of the respondents. From the research findings, it was established that 55.0 percent were at top level management, 40.0 percent were at middle level management and 5.0 percent were from lower level management as shown in Figure 4.4. This implied that most respondents were from the top level management.

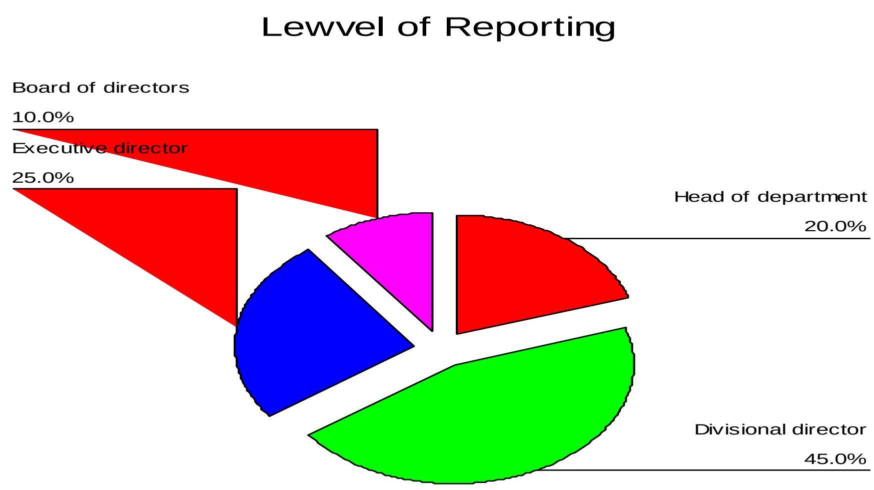
Figure 4.4: Level of Management of Respondents



4.2.5 Level of Direct Reporting

The study sought to establish the level to which reporting was done. From the research findings, it was established that 45.0 percent reported to the divisional director while 10.0 percent reported to the board of directors as shown in Figure 4.5. This implied that strategic innovations management reporting was mostly done to the divisional directors.

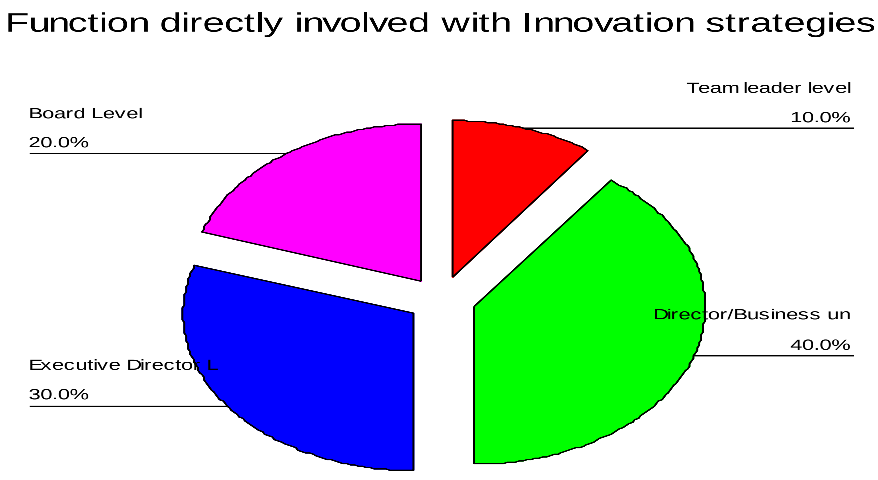
Figure 4.5: Level of Direct Reporting



4.3 Strategic Positioning of the Innovation Function

The respondents were asked to indicate the function of their organizations that was directly involved in innovation strategies. From the research findings, it was established that 40.0 percent of the innovation strategies were directly involved at director/business unit level, 30.0 percent at executive director level and 20.0 percent at board level. It was noted that none of them directly involved innovation strategies at employee level as shown in Figure 4.6. This implied that most organizations directly involved innovation strategies at executive director level.

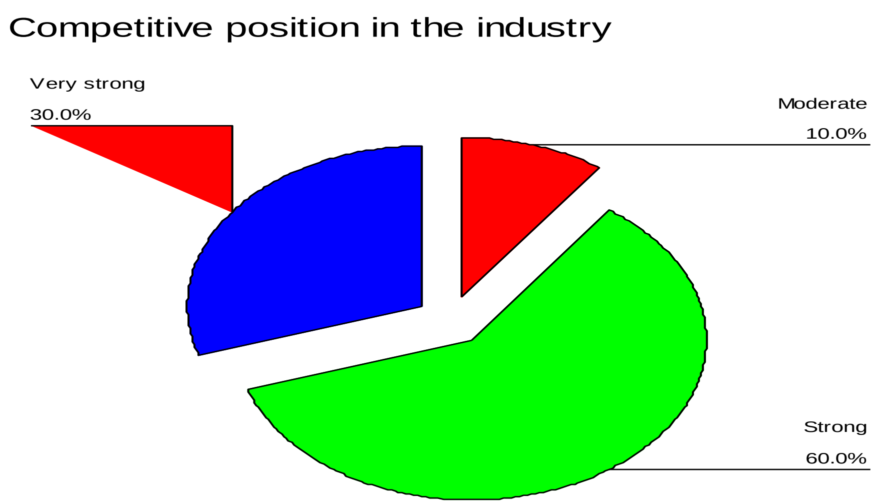
Figure 4.6: Function directly involved with innovation strategies



4.3.1 Competitive Position

The study sought to establish the competitive position of the respondent's. According to the research findings 60.0 percent indicated their competitive position was strong while 10.0 percent indicated their competitive was moderate as shown in Figure 4.7. This showed that the competitive position of most telecommunication companies in Kenya was regarded as strong.

Figure 4.7: Competitive Position



4.3.2 Environmental Factors That Determine Innovation Strategies

The study sought to establish how important environmental factors were in determining innovation strategies adopted. From the research findings, it was established that monitoring the external environment had the highest mean of 4.30 followed by assessing new technology innovations with a mean of 4.10. Identifying social and cultural changes had the least mean of 3.35 as shown in Table 4.2. This suggested monitoring the external environment was the most important factor that determined innovation strategies in the industry.

Table 4.2: Environmental Factors That Determine Innovation Strategies

Factor	N	Min.	Max.	Mean	Std. Deviation
Monitor the external environment	20	3	5	4.30	.801
Assess new technology innovations.	20	3	5	4.10	.852
Analyze and understand the competition	20	2	5	3.90	.968
Identify economic trends	20	2	5	3.80	.894
Select relevant markets.	20	2	5	3.45	.945
Identify social and cultural changes	20	2	4	3.35	.813

4.3.3 Sources of Innovation Strategies

The study sought to investigate the various sources of innovation strategies. From the research findings, it was established that 85.0 percent were from stakeholders, followed by 75.0 percent that were from market research. It was noted that only 30.0 percent were from annual/quarterly reports as shown in Table 4.3. This implied that most innovation strategies were derived from the stakeholders, that is, the consumers, employees and suppliers. The second most used source of information used in the formulation of innovation strategies is the market research, that is done both in-house and also through external market research organization.

Table 4.3: Sources of Innovation Strategies

Source	**Frequency**	**Percentage**
Stakeholders	17	85.0 %
Market Research	15	75.0 %
Analysis of Competitive Products	12	60.0 %
Sales/Output	12	60.0 %
Internet/Social Media	11	55.0 %
Public/Community	08	40.0 %
Industry Periodicals	07	35.0 %
Annual/Quarterly Reports	06	30.0 %

4.3.4 Threats/Opportunities Considered in Formulating Innovation Strategies

The study sought to establish how important potential threats/opportunities were considered in formulating innovation strategies. From the research findings, it was established that customers' wishes had the highest mean of 4.25 followed by action/ reaction of competitors with a mean of 4.00. Product development/ design/ technology had the least mean of 3.15 as shown in Table 4.4. This suggested that customer demands were the mostly considered threat/opportunity in formulating innovation strategies.

Table 4.4: Threats/Opportunities Considered in Formulating Innovation Strategies

Threat/Opportunity	N	Min.	Max.	Mean	Std. Deviation
Customers Demand/ Wishes	20	3	5	4.25	.786
The Action/ Reaction Of Competitors	20	3	5	4.00	.852
Potential Substitutes	20	3	5	3.80	.998
New Customers/ Target Audiences	20	2	5	3.70	.865
New Competitors/Entrants	20	2	4	3.60	.598
Suppliers/ Business Partners.	20	2	4	3.45	.605
Product Development/ Design/ Technology	20	2	4	3.15	.715

4.3.5 Factors Affecting Innovation Strategies Formulation and Competitiveness

The respondents were asked to indicate the extent to which some given factors affected innovation strategies formulation and competitiveness. According to the research findings, changing customer needs had the highest mean of 4.05 followed by market unpredictability with a mean of 3.95. It was noted that failure to prioritize on competitive intelligence had the least mean of 3.25 as shown in Table 4.5. This showed that customer needs affected innovation strategies and competitiveness to a high extent.

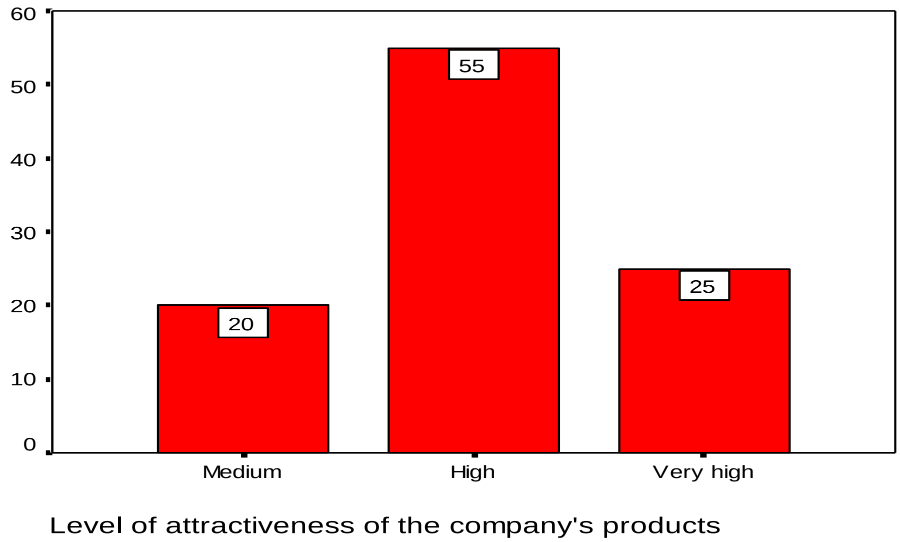
Table 4.5: Factors Affecting Innovation Strategies Formulation and Competitiveness

Factors	N	Min.	Max.	Mean	Std. Deviation
Changing customer needs	20	3	5	4.05	.842
Market unpredictability	20	3	5	3.95	.760
High costs of technology	20	3	5	3.80	.880
Lack of adequately trained personnel	20	2	5	3.55	775
Unfavorable regulatory practices in the industry	20	2	4	3.55	.458
Unequal business playing environment	20	2	4	3.35	.660
Failure to prioritize on competitive intelligence	20	2	5	3.25	.620

4.4 Level of Attractiveness of Company's Products

The respondents were asked to indicate the level of attractiveness of their company's products. According to the research findings 55.0 percent indicated their attractiveness was high while 20.0 percent indicated their attractiveness was moderate as shown in Figure 4.8. This showed that the attractiveness of the products was regarded as high.

Figure 4.8: Level of Attractiveness of Company's Products



4.4.1 Techniques Used To Boost Success Levels of Products in the Market

The study sought to establish the techniques used to boost success levels of products in the market. From the research findings, it was established that customizing products to fit customer needs had the highest mean of 3.85 followed by unique product differentiation with a mean of 3.80. Reviewing and re-launching of products had the least mean of 2.85 as shown in Table 4.6. This suggested that understanding customer needs mostly boosted success levels of products in the market.

Table 4.6: Techniques Used To Boost Success Levels of Products in the Market

Factors	**N**	**Min.**	**Max**	**Mean**	**Std. Deviation**
Customizing Products to Fit Customer Unique Needs	20	3	5	3.85	554
Product Differentiation	20	3	5	3.80	.685
Customer satisfaction surveys	20	3	5	3.75	.690
Customer Involvement in Product Development	20	3	5	3.40	992
Customer Focused Marketing Channels	20	3	4	3.40	.450
Allocation of Adequate Marketing Budget	20	2	4	3.15	.620
Reviewing and Re-launching of Products	20	1	4	2.85	.580

4.5 Technology Intelligence Practices Used To Boost Innovation

The study sought to establish the technology intelligence practices that were used to boost innovation and competitive advantage levels. From the research findings, it was established that technological innovation and research had the highest mean of 4.00 while integration of technology in customer touch had the least mean of 3.20 as shown in Table 4.7. This suggested that technological innovation and research was the most important technology intelligence practice that was used to boost innovation and competitive advantage levels.

Table 4.7: Technology Intelligence Practices Used To Boost Innovation

Threat/Opportunity	N	Min.	Max	Mean	Std. Deviation
Technological Innovation and Research	2	2	5	4.00	.860
Technology-driven Products	2	3	5	3.75	.785
Excellent IT systems in all products	2	3	5	3.55	.992
Technology in Product Design	2	2	5	3.55	.785
High class communication systems	2	2	4	3.35	.550
Technology in customer touch points	2	2	3	3.20	.055

4.6 Strategic Practices Used to Boost Competitive Advantage in the Market

The study sought to investigate the strategic practices that were used to boost competitive advantage in the market. From the research findings, it was established that 100 percent of them entered strategic alliances while 60.0 percent used acquisitions as shown in Table 4.8. This implied that strategic alliances were the most common strategic practice that was used to boost competitive advantage in the market.

Table 4.8: Strategic Practices Used to Boost Competitive Advantage in the Market

Strategic practices	Frequency	Percentage
Strategic Alliances With Other Organizations	20	100.0 %
Mergers	16	80.0 %
Joint Ventures	13	65.0 %
Acquisitions	12	60.0 %

4.6.1 Benefits Accrued from Strategic Alliances

The study sought to investigate the benefits that accrued from strategic alliances. From the research findings, it was established that 100 percent of them benefited from inter-organizational synergy while 40.0 percent benefited from reduction in market uncertainty as shown in Table 4.9. This implied that strategic alliances led to inter-organizational synergies.

Table 4.9: Benefits Accrued from Strategic Alliances

Benefits	**Frequency**	**Percentage**
Inter-Organizational Synergy	20	100.0 %
Low cost of investment.	15	75.0 %
Broad range of expertise and skills.	14	70.0 %
Reduction of market uncertainty	08	40.0 %

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This is the final chapter in this study which gives the summary of the findings, the conclusion and recommendations of the study based on the objective of the study. It comes after identifying the background, research problem and the objective in chapter one, literature review in chapter two, research methodology in chapter three and data analysis and interpretation of results in chapter four. This chapter finally presents the suggestions for further studies and the implication of the study on theory, policy and practice.

5.2 Summary

From the research findings, most top managers and senior managers of the four telecommunication companies in Kenya were male who accounted for 60.0 percent of the respondents. 60.0 percent of the respondents had undergraduate qualifications. Mostly they were found at the top level management and many of them were aged between 41 to 50 years. This was interpreted that most top managers and senior managers from the four telecommunication companies in Kenya had good academic qualifications and were well versed and experienced with decision making as they were aged between 41 to 50 years.

It was noted that 40.0 percent of the respondents said that they directly involved innovation strategies at director/business unit level. Moreover, 85.0 percent of the innovation strategies were derived from the stakeholders. Monitoring the external environment was found to be the most important environmental factor that determined innovation strategies. This can be interpreted to mean that good innovation strategies have to respond to environmental needs. Innovations are currently a fundamental prerequisite of competitiveness (Striss et al., 2009). 60.0 percent of the respondents indicated that their competitive position was strong. Customer demands were the most considered threat/opportunity in formulating innovation strategies. Srinivasan et al (2002) postulates that when customer loyalty has been cultivated, a firm benefits in two ways. One, the customer is willing to pay for the product. Two, the customer helps in advertising and promotion of the products and service through the word of mouth.

Additionally, 55.0 percent of the respondents showed that the attractiveness of their products was regarded as high. Understanding customer needs was found to have mostly boosted the success levels of products in the market. Most telecommunication companies in Kenya used technological innovation and research as important technology intelligence practice to boost their innovation and competitive advantage. It was established that 100 percent of telecommunication companies in Kenya used strategic alliances to boost their competitive advantage in the market. Faems et al (2005) agrees that firms must collaborate with others in order to come up with innovation strategies that are superior. These strategic alliances mostly led to inter-organizational synergies.

The study was to establish how innovations strategies had enhanced the competitive advantage of the different players in the Kenyan telecommunication industry. Generally, most top managers and senior managers in the telecommunication industry were male aged between 41 to 50 years of age and had undergraduate education. It was established that most of these top managers and senior managers reported to the divisional directors. Innovation strategies were mostly derived from stakeholders and the business unit level was mostly concerned with innovation strategies.

5.3 Conclusion

The objective of the study to determine the innovation strategies employed by the telecommunication companies in Kenya to attain competitive advantage was compounded by the findings that most of these companies had a strong competitive position in the market. Understanding customer needs was the key in boosting the success levels of products in the market. Apart from developing innovative products, knowing customer needs was crucial for a company to have a competitive advantage. This can be seen from the scenario where Airtel Kenya innovates new products in the telecommunication industry but they are not able to attract enough customers. Safaricom Limited uses the same products by uniquely incorporating customer needs and end up having a competitive advantage. Barnes (1993) found out that improving the quality of value addition was crucial to achieving a strategic advantage, realizing that a good product was necessary, but not sufficient to compete in today's competitive marketplace.

Monitoring the external environment was found to be the most important environmental factor that determined innovation strategies. Moreover, technological innovation and research was an important technology intelligence practice that was used to boost innovation and competitive advantage of telecommunication companies in Kenya. Strategic alliances were also found to mostly lead to inter-organizational synergy.

Sawhney et al (2011) contributed to knowledge about innovation strategies by identifying a number of innovation drivers that an organization should adopt in order to be successful in competition. The drivers include a sense of shared understanding, alignment of innovation activities with the organizational major goals, availability of necessary tools for innovation and availability of interaction forums that help in sharing of knowledge.

From the study findings it can be concluded that innovation strategies in the telecommunication industry were formulated to meet customer needs. This was evident from the way respondents replied to questions and the analysis arising thereof. This study established that in order for a company to have a competitive advantage, technological innovation and research was most important. It could be concluded that this could assist in monitoring the external environment to determine the innovation strategies to be formulated. However, this does not mean that companies with technological innovation and research had a competitive advantage as most companies were found to have a strong competitive position. Having a competitive advantage depended on how the innovation strategies were implemented. This study established that understanding customer needs was the major reason for success levels of products in the market and this can be attributed to lead to a superior competitive advantage.

5.4 Limitations of the Study

The researcher encountered quite a number of challenges related to the research and most particularly during the process of data collection. Due to inadequate resources, the researcher conducted this research under constraints of finances. In addition top management and senior managers of the four telecommunication companies had to be pushed to assist with data. This was done through many calls and visits to remind them. Others thought that the information they were requested to volunteer was confidential.

Time allocated for the study was insufficient while holding a full time job and studying part time. This was encountered during the collection of material as well as the data to see the study success. However the researcher tried to conduct the study within the time frame as specified.

5.5 Recommendation

The top managers in charge of policy formulation and implementation in the four telecommunication companies in Kenya need to understand that technological innovation and research does not guarantee competitive advantage. Understanding customers will mostly determine the competitive advantage of most innovation strategies. Therefore innovation strategies should be aligned with customer needs.

Additionally apart from the the telecommunication companies using this research to improve on their competitive advantage, other business entities can also use these findings as reference material in pursuit of innovative strategies in their organizations. Business intending to break through must also invest in new technology and also seek for strategic partnerships that bring about synergies in their operations. This should be applied in the whole product life cycle to ensure maximum impact in the market.

5.6 Area for Further Research

Arising from the study, the following directions for future research in Strategic Management were recommended: First, this study focused on the general telecommunication industry in Kenya. Therefore, generalisations could not adequately be extended to the specific telecommunication companies as they have varying competitive positions and resources. Based on this fact among others, it is therefore recommended that a narrow based study covering a specific telecommunication company be done to to determine the innovation strategies employed to attain competitive advantage. Similar surveys to this can also be replicated in a few years to come to assess if the the innovation strategies employed by the telecommunication companies in Kenya to attain competitive advantage have changed as the telecommunication industry continues to grow.

Theory in innovation policy analysis is limited and the policy implications derived directly from either conceptual or empirical innovation and competitiveness analysis requires more explicitly policy focused research. This theory development is needed to create a specialized knowledge in the field of innovation and competitiveness in the modern business environment. More research is needed on innovation systems and innovation policy. This will greatly help in understanding the nature of research and innovation activities, business processes, and public policy-making.

5.7 Implication on Theory, Policy and Practice

Resource based view indicated that sustainable competitive advantage is tied to how firms use their rare, valuable and non-substitutable resources. This study adds to that theory by portraying instances may have similar strengths and potential in terms on resources and skills, but competitive advantage will vary mostly because of how the firms execute and utilize these resources.

The major policy implication is that firms have to raise the strategic position of the innovation function in order to give it the impetus needed to make it a competitive factor. Innovation must be coupled with technological cooperation or collaboration where knowledge creation is done through an interactive process with customers and other stakeholders.

In terms of practice, there is a clear demarcation between developing an innovative product and making the product a source of competitive advantage. Firms will need to invest more in introduction and execution of these products in the market in order to assimilate them into the consumers' way of life. Sustained relationships between firms and consumers are important and feedback channels that lead to revamping and re-engineering of products and services a reality.

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APPENDIX I : LETTER OF INTRODUCTION

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA PROGRAMME

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE 31/8/2013

TO WHOM IT MAY CONCERN

The bearer of this letter JAMES KAHIGA MUITA

Registration No. D61/67577/2011

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
31 AUG 2013
MBA OFFICE
P.O. Box 30197 – 00100, NAIROBI

PATRICK NYABUTO
MBA ADMINISTRATOR
SCHOOL OF BUSINESS

APPENDIX II

RESEARCH QUESTIONNAIRE

SECTION A

***Kindly indicate your response in the "Parentheses* [ ]"**

Respondent Profile:

1. Telecommunication Company

   ……………………………………………..

2. Position (Optional)

   ……………………………………………..

3. Age:

   1 = 21-30 **2** = 31-40 **3** = 41-50 **4** = 50 + [ ]

4. Gender:

   1= Male **2**= Female [ ]

5. Education:

   1 = Diploma **2** = Undergraduate **3** = Postgraduate [ ]

6. Management Level

   1 = Lower Level **2 =** Middle Level **3 =** Top Level [ ]

7. Organizational Level You Report To:

   1 = Head of Department **2** = Divisional Director **3** = Executive Director

   4 = Board of Directors [ ]

SECTION B

Company Profile:

8. Which unit or function of the organization is directly involved with Innovation Strategies in your organization?

   1 = Employee Level **2** = Team leader Level **3** = Director/Business unit level

   4 = Executive Director Level **5** = Board Level [ ]

9. What is your competitive position in the industry?

   1 = Very Weak **2** = Weak **3** = Moderate **4** = Strong

   5 = Very Strong [ ]

10. Kindly indicate the level of importance, of the following factors, in your organization.

    *(**1** = Least Important **2** = Less Important **3** = Important **4** = Very Important*

    ***5** = Highly Important)*

	1	**2**	**3**	**4**	**5**
Monitor the external environment					
Analyze and understand the competition					
Identify economic trends					
Assess new technology innovations.					
Select relevant markets.					
Identify social and cultural changes					

11. Kindly indicate the sources of Innovation Strategies in your organization.

(Multiple responses allowed)

1. Sales/Output	
2. Stakeholders	
3. Public/Community	
4. Industry Periodicals	
5. Market Research	
6. Analysis of Competitive Products	
7. Internet/Social Media	
8. Annual/Quarterly Reports	

12. Kindly indicate the level of importance, of the following potential threats/opportunities in formulating innovation strategies in your organization.

*(**1** = Least Important **2** = Less Important **3** = Important **4** = Very Important **5** = Highly Important)*

	1	**2**	**3**	**4**	**5**
The Action/ Reaction Of Competitors					
Potential Substitutes					
New Competitors/Entrants					
Suppliers/ Business Partners.					
Customers Demand/ Wishes					
New Customers/ Target Audiences					
Product Development/ Design/ Technology					

13. To what extent do the following factors affect innovation strategies formulation and competitiveness in your organization?

*(**1** = Very Low **2**= Low **3** = Moderate **4** = High **5** = Very High)*

	1	**2**	**3**	**4**	**5**
1. High costs of technology					
2. Lack of adequately trained personnel					
3. Market unpredictability					
4. Changing customer needs					
5. Unfavorable regulatory practices in the industry					
6. Unequal business playing environment					
7. Failure to prioritize on competitive intelligence					

SECTION C

New Product Intelligence

14. What, in your opinion, is the level of attractiveness of the company's products?

1 = Very low **2** = Low **3** = Medium **4** = High **5** = Very High [ ]

15. Kindly indicate whether your company uses any of the following to boost success levels of your products in the market.

*(**1** = Highly Unlikely **2**= Unlikely **3** = Not Sure **4** = Likely **5** = Highly Likely)*

	1	**2**	**3**	**4**	**5**
Customer involvement in product development					
Customizing products to fit customer needs					
Unique Product Differentiation					
Customer Focused Marketing Channels					
Allocation of Adequate Marketing Budget					
Customer satisfaction surveys					
Reviewing and Re-launching of Products					

Technology Intelligence

16. Kindly indicate whether your company uses any of the following technology intelligence practices to boost innovation and competitive advantage levels for the company.

*(**1** = Highly Unlikely **2**= Unlikely **3** = Not sure **4** = Likely **5** = Highly Likely)*

	1	**2**	**3**	**4**	**5**
Technological Innovation and Research					
Application of technology in Product Design					
Technology-driven Products					
Excellent IT systems in all products					
Integration of Technology in customer touch points					
High class communication systems					

Strategic Alliance Intelligence Practices

17. Which of the following strategic practices has your organization used to boost its competitive advantage in the market?

(Multiple Responses Allowed)

1. Mergers	
2. Acquisitions	
3. Joint Ventures	
4. Strategic Alliances With Other Organizations	

18. Among the benefits listed below that are accrued from strategic alliances, which ones specifically apply to your company?

(Multiple responses allowed)

1. Reduction of market uncertainty.	
2. Inter-Organizational Synergy	
3. Low cost of investment.	
4. Broad range of expertise and skills.	

Thank You for your time.

APPENDIX III

LIST OF ORGANIZATIONS

1. Safaricom Limited
2. Airtel Kenya
3. Essar Kenya
4. Orange Kenya

Source: Communications Commission of Kenya Website, 2013