INNOVATION STRATEGIES ADOPTED BY THE MOBILE TELEPHONY COMPANIES IN KENYA

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A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, OF THE UNIVERSITY OF NAIROBI

OCTOBER, 2012

DECLARATION

This research project is my original work and has not been presented for the award of degree in any other university or institution for any other purpose.

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

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DEDICATION

I dedicate this project to my husband Douglas for putting up with me, even when I was impossible to live with and for his unfailing encouragement and love; and for tremendous financial support. To my family who surrounded me with love and understanding when I could not be there to share fun moments with them.

To my children Muthoni and Njoroge, I hope this serves as an inspiration to you in your quest for knowledge and excellence and that it is a constant reminder that you can achieve anything in this world when you put your mind to it.

ACKNOWLEDGEMENT

I wish to sincerely thank all those whose contributions made this project a success. To my supervisor Catherine Ngahu, I thank for her assistance and advice. To my family and my mother, I thank them for the moral and financial support. Above all, I thank God for the gift of wisdom, strength and resilience to complete this project.

I feel indebted to all my former colleagues in the four telecom companies in Kenya, for taking the time to contribute towards this project. To my classmate Stella Mbari, for encouraging me and offering her guidance; and all other people who in one way or another played part in my entire MBA program.

ABSTRACT

In today's highly competitive environment, companies need an extra edge to enhance their competitiveness. Many organizations are putting more focus on attracting and retaining customers and increasingly human resource professionals are tasked with developing programmes designed to enhance employees' customer service skills. The increasingly competitive global marketplace has compelled organizations to transform themselves in the way they conceptualize and conduct business.

The objective of the study was to determine innovation strategies adopted by the mobile telephony companies in Kenya. The study adopted cross sectional survey design. The population of the study consisted of all the four mobile companies operating in Kenya. The study used primary data which was collected through self-administered structured questionnaires. The data was analyzed and presented using mean, standard deviation and percentages.

The findings of the study was that the companies innovation strategy incorporates sum of knowledge, experience, resources, assets and managerial capabilities and skills in business available or is able to obtain in due time, improvement of climate for innovation, innovation which include an organized, systematic, and continual search for new opportunities, innovation strategy which has been linked to available resources, the corporate strategy, the marketing function and the information technology functions and finally, that organization approach to innovation is comprehensive or rather all inclusive. The application of innovation strategy in the companies was supported by organizational structure, culture and management risk aversion. Resource constraint was found an hindrance to innovation strategies in the companies.

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ABBREVIATIONS

CCK	Communication Commission of Kenya
CDMA	Code Division Multiple Access
GSM	Global System for Mobile Communications
MNOs	Mobile Network Operators

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

In today's highly competitive environment, companies need an extra edge to enhance their competitiveness. .Many organizations are putting more focus on attracting and retaining customers and increasingly human resource professionals are tasked with developing programmes designed to enhance employees' customer service skills. The increasingly competitive global marketplace has compelled organizations to transform themselves in the way they conceptualize and conduct business. In an increasingly global business environment, it is becoming apparent that innovation strategy is not only pivotal for an organization to achieve a competitive advantage, but that it is also critical for survival in many industries (Klein *et al.*, 2001). As such, every organization needs to adopt some strategies which will enable it to have a competitive edge over the others. As competition intensifies, many businesses continue to seek profitable ways in which to differentiate themselves from competitors.

In many organizations, the management teams invest a lot of time and effort into analyzing their environment and their capabilities to develop new strategies to cope with increased competition and ever changing business environment and consumer demands. Unfortunately they do not invest the same effort in implementing their strategy and as a consequence nine out of ten organizations fail to implement their strategy. This situation is compounded by the lack of regular strategic review process so that the organization is not only unaware of "how it is doing" in implementing its strategy hence it also misses many strategic opportunities that emerge (Slack and Lewis, 2002). Innovation has experienced a remarkable change in recent years as a consequence of a number of factors including the advance of science and technology and the

increasing globalization of a number of markets and activities. Similarly, the acceleration of innovation at most economic and social levels has increased the necessity for exploiting firms' advantages at international (sometimes world) level and seeking new competitive (technological) assets in a multinational framework. Innovation should, and can lead to improving the performance, efficiency, and quality of any system as well as reducing the impact of the general environment. Innovation is much needed to manage the enormity and complexity of any system.

1.1.1 Concept of Innovation Strategy

Innovation is the implementation of a new or significantly improved product (good or service), or process of coming up with a new marketing method, or a new organizational method in business practices, workplace organization or external relations (Pavitt, 2006). Innovations have been seen principally as the means to turn research results into commercially successful products. Innovations can stem from adopting new technologies or processes from other fields, or from new ways of doing business, or from new ways of marketing products and services. Pilo, Taskinen and Salkari (2007, p. 34) stated that, "there is no one single innovation process that could be replicated from an organization to another". Organizations are different, with different backgrounds, cultures, strategies, missions and visions. Organizations need innovation management to drive the development of the innovation process, define the innovation strategy, and most importantly, to create an innovation culture.

It is becoming obvious that, in order to stay competitive, the organizations across all industries must truly and fully embrace innovation: create innovation policies, strategies, processes and, most importantly, they need to establish a creative culture within the organization. One of the more common debates concerning the definition of innovation asks whether innovation should

be regarded as a process or a discrete event. Those who see innovation as a process focus on the various stages that the potential adopter goes through over the course of an innovation effort. These stages include identifying problems, evaluating alternatives, arriving at a decision, and putting innovation into use (Rogers, 1983). Zhuang *et al.,* (1999) classified innovation as an invention, an improvement on an existing product or process and the diffusion or adoption of a change developed elsewhere. Innovation by invention undoubtedly plays a significant role in gaining competitive advantage through differentiation. However, most innovation falls into an improvement on an existing product or process and the diffusion or adoption of a change developed elsewhere. The diffusion or adoption of a change developed elsewhere though often excluded by narrow treatments of innovation, accounts for a large proportion of innovative activities in many business organizations and is consistent with treatments of innovation as something new to an organizational sub unit (Zhuang *et al.,* 1999).

1.1.2 Applying Innovation Strategies

Companies can achieve competitive advantage through acts of innovation, and they can approach innovation in its broadest sense, including both new technologies and new ways of doing things (Howells and Tether, 2004). Innovation strategy is a summary of the strategic decisions on which are managed and carried out innovative activities in the enterprise. A successful innovation strategy must have variants that reflect past, current and expected future developments. The successful implementation of innovation strategy is dependent on availability of an organization's resources and its link to the corporate strategy and other departments of the company, in this case the marketing and information technology departments. The process of creating an innovation strategy is a complex process that contains six main parts; namely; a defining vision and mission of the enterprise, identifying strategic objectives, detailed analysis of

the business environment (internal and external), formulation of the strategy, its implementation and subsequent evaluation associated with the control. According to Marhdon *et al.*,(2010) preparation of innovative strategies must be purposeful and must be based on analysis of internal and external environment, planning and innovative design. Innovation capacity is formed by the sum of knowledge, experience, resources, assets and managerial capabilities and skills available in the business, or is able to obtain in due time.

Preparation of innovative strategies must be purposeful and must be based on analysis of internal and external environment, planning and innovative design. In the area of strategic analysis and planning it is essential that the company fully uses appropriate methods of strategic management. The subject of strategic analysis is primarily scientific and technical capabilities of the enterprise, competition, the manufacturing company's potential (the potential of human, material and financial resources). Strategic analysis of responses to important questions, such as the existence of their own original research and development enterprise, the existence of new opportunities for the development of innovation, the existence of creative potential for the development of inventions and the like. This information significantly affects the process of innovation strategy (Miles, 2004).

The diversity of approach for creating innovation strategy refers to the fact that the innovation strategy as a system of work with innovation in the enterprise is evolving. Paradoxically, individuals are central to the innovation process within organizations. Yet an innovative culture must, by definition, embrace all members of the organization. In fact it is the way in which particular individuals work together across organizations, sharing their creativity and enthusiasm for new ways of working that leads to organizational innovation. Kirton (1976) suggests that

some individuals are more likely to innovate than others. If these individuals are well placed within the organization hierarchy they are less constrained by others less likely to innovate. In specific situations individual differences will be less important than the interactions between situational and personal characteristics. Clearly there is an important relationship between individual and organizational characteristics affecting the development of a culture of innovation.

Bingham (1976) notes that organization characteristics such as size, structure, and professionalism often affect innovation strategy adoption and when decision-makers identify a performance gap, they perceive the difference between what the organization is doing now and what they believe it should be doing in the future, they are identifying a basis for change. Other factors identified include the degree of formality in the organization, its complexity and the way in which rules and procedures interrelate with this complexity. Centrality in decision making will also stifle innovation. Equally, the higher up the organization decision making takes place the more centralized decision making is and the less likely innovation will occur. The key organization design issue for innovative management is whether or not there is sufficient flexibility within the structure to allow for people to work across the divisions of the organization so they can develop innovative ways of working. After a lifetime of observing entrepreneurs Drucker (1998:149) concluded that 'what all the successful entrepreneurs have met have in common is not a certain kind of personality but a commitment to the systematic practice of innovation'.

1.1.3 Mobile Telephony Companies in Kenya

The mobile telephony companies were a little known phenomenon in Kenya before the turn of the 21st century. The introduction of the mobile phone in Kenya saw only a handful of Kenyans

owning a mobile handset. The few who had the mobile handset had to pay a high monthly premium and the high cost of acquiring the handset, yet the technology only offered a handful of services.

Since inception, mobile penetration in Kenya has grown dramatically and stood at 74% as at 31st March 2012 (CCK quarterly sector statistical report January-March 2012 Pg. 6). Much of the growth has come from the expansion of a single company Safaricom, which began as part of the state owned telecommunications monopoly Telkom Kenya but was partially privatized in 1997 and became a public company in 2002 (World Development indicators. The World Bank Group, 2009). Kenya had over 29.2 million subscribers as at 31st March 2012, with Safaricom enjoying 65.3% market share, followed by Airtel Networks Kenya Limited's 15.3%, while Telkom Kenya, under the brand name Orange, and who formerly gained entry into the market with CDMA technology, but later adopted the GSM technology due to changing technology and market demand, share stood at 10.6%. Econet Wireless, formerly owner of the brand name Yu, and who was the last GSM entrant stood at 8.7% market share. Yu now operates under the umbrella of Essar Group (CCK quarterly sector statistical report January-March 2012 Pg. 10).

The Mobile Network Operators have developed new products and services and changed the lives of Kenyans and the rest of the world in leaps and bounds. At some point opportunities were lost through inefficiencies and sheer malpractices and neglect. For instance in 1999 Telkom Kenya Limited had a subscriber base of only 260,000 out of a population of 28,000,000 (a penetration rate of 1%). Demand for the services existed but was simply ignored or neglected as evidenced by the entry of the mobile telephone companies at the turn of the 21stCentury. Mobile telephony has improved the face of communication and changed the basic role of mere communication to

include making contacts, interaction and exchange of ideas, mobile money transfer, and internet access among other forms of transmission of business and social information and services.

Kenya's mobile market has changed significantly over the last few years with the entry of the third and fourth Mobile Network Operators (MNOs), Yu and Orange. MNOs' networks coverage now stands at 96%, and intense price competition has seen prices fall by over 70% in the last four years, leading to a significant increase in usage levels in the recent past. Another recent positive development was the government's policy on the partial reduction of mobile specific taxation. Recognizing that handset prices represented a barrier to development of the sector, the Kenyan government exempted mobile handsets from VAT as of June 2009. Consumers are now increasingly benefiting from high value mobile service offerings such as Mobile banking and mobile money transfer services, which have opened up opportunities for previously unbanked Kenyans.

1.2 Research Problem

While striving to stay cost-competitive is a sound and prudent business practice, breakthrough innovation is the single best way to leapfrog competition, move ahead of the companies pack, and, most important, create new ways to bolster profit margins and fuel future earnings streams. If it is done right, innovation can be an organizations most powerful competitive weapon. Many organizations experience problems in the gap between making a decision to introduce a new idea or technology and putting the decision into practice. Before the potential benefits of implementing the new idea, practice or technology can be realized, management faces the challenge of ensuring organization members accept the innovation. One consequence of a limited understanding about how to manage innovation implementation is that many organizations

abandon some adopted innovations during the implementation stage. About 15% of the adoptions of the technological innovations are cancelled before completion, with devastating consequences for some companies (Iacovoc and Dexter, 2005). These include loss of sunk and opportunity costs, loss of potential benefits of an otherwise successful innovation, disruption of operational systems, unwelcome publicity and associated negative impacts on company image and reputation, and loss of managers' credibility. These risks can only be reduced by increased understanding of how to effectively manage innovation implementation.

The Kenyan mobile sector has witnessed stiff competition in terms of the number of mobile operators and also the types of products and services being offered by the players. From the single fixed line operator in 1995, in a period of just fifteen years, the number of operators has increased to the current four. Given this growth, the option available to these firms is limited to continuously stay innovative in product and service offerings for each to claim differentiation and to stay relevant to consumers.

In 2006, Celtel Kenya now Airtel Networks Kenya Limited would easily have claimed the first innovation of mobile money transfer under the brand name 'Sokotele'. The implementation of the money transfer process was such that it required its agents to use special mobile transfer units to carry out the transactions. Agents had to be affiliated to one particular bank and the money transfer process could only be achieved by customers visiting these agents for them to carry out any transaction. The process was limiting, proved tedious and complicated and the innovation failed miserably at its implementation stage, leading to the emergence and successful implementation of the same product, the now popular 'M-pesa' from then Celtel's rival company.

Several studies on the importance and application of innovation have been undertaken locally. Gathai (2009) undertook a research on the Innovation strategies adopted by Equity bank ltd and found out that in order for a firm to embrace innovation, the top management should be involved and direct resources to the team involved in the innovation processes. The firm should also put in place mechanism to compensate adequately the knowledge and also manage the same. Odhiambo (2008) studied Innovation strategies at the Standard Chartered (K) Limited and found out that for firms to be innovative they should encourage creativity in its learning process and this will lead to a higher platform of quality and innovation: creative quality and value innovation. Mwikali (2011) undertook a research on innovation processes within insurance companies in Kenya and found out that the insurance companies have a common understanding in the innovation process which involves the whole organization and as they adopt both incremental and radical innovation and in order to be innovative the companies have put forward principles for managing innovation. The continuous innovation of products requires an understanding of the challenges which inhibit application of innovation strategies in the mobile telephony companies. This study therefore aimed at answering the questions; what innovation strategies have been adopted by mobile companies, and what challenges have they faced in applying the innovation strategies?

1.3 Research Objectives

i. To establish the innovation strategies adopted by mobile telephony companies in Kenya.

ii. To determine the application of innovation strategies in mobile telephony companies in Kenya.

1.4 Value of the study

The management of the mobile telephony companies will be able to know the challenges that affect the application of innovation strategies and come up with measures to counter them and thus maintain their competitive advantage over competition. The mobile companies will also be able to reinforce innovation-based competitive strategies and capabilities, which in turn will enable such firms to outperform their competitors by creating superior value to their customers.

The study will be justified since it will be of academic value to those interested in mobile telephony studies with an aim of establishing a business in the industry as they will have a better understanding of the best innovation strategies and how best to apply them in order to succeed in their business. They will also be in a position to relate happenings in the market with the challenges identified in this project. The study will be of value to the government as it will form an invaluable source of reference especially to the ministry of information and communication, when coming up with policies to guide the telecommunication sector in the development of new products. This study is expected to increase the body of knowledge to the scholars in the service companies and give them insight on how to overcome implementation of innovation strategies.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter is concerned with the review of literature related to the study. An overview of innovation strategies, innovation models, and in addition this chapter contains the conceptual framework.

2.2 Innovation Strategies

Innovation can be described as the introduction or implementation of a new product, service or policy. Rogers (1983) defines an innovation in the same vein as an idea, practice or object according to that is perceived as new by an individual or other unit of adoption. It matters little whether or not the idea is objectively new as measured by the lapse of time since its first use or discovery. If the idea seems new to the individual, it is an innovation. Innovation strategy determines long-term fundamental business objectives and determines the activities and resources for achieving these goals. Orientation objectives are focused on timely response to changes in signaling of need of innovations (Marhdon *et al.*, 2010). According to him the innovation strategy must be based on variation, long term, systematic, the time factor and the concentration of resources and activities. Gunderson and Holling, (2001) on the other hand defined an innovation strategy as an instrumentalist, functional, predetermined plan governing the allocation of resource to different types of innovations in order to achieve a company's overall corporate strategic objectives and, a decision framework guiding a company about when and how it should selectively abandon the past and/or change its corporate strategy and objectives in order to focus on the business of the future.

Sabadka and Kovac (2004) consider innovation strategy as an integral part of an overall strategy that promotes innovation objectives. They highlighted the need to consider a range of factors. According to her the aim of creating innovative strategies is to find a balance between the potential for innovation, enterprise and all relevant factors of the internal environment. Innovation strategy is a summary of the strategic decisions on which are managed and carried out innovative activities in the enterprise. A successful innovation strategy must have variants, i.e. is processed in the variants that reflect past, current and expected future developments, long term effects, taking into account all relevant factors acting on the business, as well as the time factor. Hence the need to link the innovation strategy to the available resources, the corporate strategy, the marketing function and the information technology functions. The company must have secured an effective system for collection, sharing of information and knowledge to support the innovation strategy for business managers to be familiar with the details of the strategy.

2.3 Innovation models

According to Klein *et al.*, (2001) theory of innovation implementation, there are four key factors affecting implementation effectiveness. The model proposes direct and indirect relationships between management support for innovation, availability of financial resources, implementation climate (shared employee perceptions of the importance of innovation implementation), and implementation policies and practices (training and benchmarking) as drivers of implementation effectiveness. Technology diffusion agencies actions may include building technical knowledge, providing financial subsidies, education services, absorbing risks, providing training, and setting standards or regulations for innovation use (Brown, 1981). Through actions such as these, technology diffusion agencies have a unique opportunity to enhance the process of innovation

implementation in organizations. They are likely to have their greatest impact through an organization's implementation policies and practices. Indeed, enlisting external assistance can be seen as a proactive implementation practice in its own right. Working with many clients, Technology diffusion agencies gain experience in implementation across different technologies, organizations, and industries. This experience provides insights and process skills that are unattainable for many organizations. Furthermore, as independent, external agents, technology diffusion agencies have the opportunity to provide a fresh perspective on organizational attitudes, culture, systems, and processes.

Hage and Aiken (1970) suggested a four-stage model for organization decision making process. Although the end of one stage is not distinguishable from the beginning of the other, this analytical categories help in understanding the process. The stages are: the evaluation which studies the assessment of the need for the innovation. Decision makers consider the alternative ways of correcting the problems of the organization, the initiation stage which is the set of activities starts after the innovation decision, the implementation stage which is where the innovation has become a reality and the routinization stage which involves organizations attempting to stabilize the effects of the innovation. Because each innovation can be taken up as a project for every organization, the success of these projects not only depends on the system it belongs but also the development of the people and the organization (Andersen, 1995). The model proposed incorporated people, system and organization (P-S-O) approach at a balancing scale. The factors have been classified into four categories which are the organization, innovation, environment, and decision-maker. The innovation and environment in this model refer to the system dimension. All variables studied were thought of importance in affecting the diffusion of or adoption to the innovations.

2.4 Applying Innovation Strategies

Whether the innovation is incremental, radical, or disruptive, the new product or process will have to overcome major hurdles of becoming accepted as the new way of doing business. Different types of innovation face different obstacles, but the more radical or disruptive an innovation is, the more challenges will accompany its acceptance and implementation. According to Jones and Hill (1997), implementation of strategy is a way in which a company creates the organizational arrangement that allows it to pursue its strategy most effectively. Ancona and Caldwell (1992), observed that competitive innovations processes have been found to yield: improved product quality; creation of new markets; extension of the product range; reduced labor costs; improved production processes; reduced materials; reduced environmental damage; replacement of products/services; reduced energy consumption; and conformance to regulations.

Innovation made by firms are driven and determined by various factors in the environment including customer-supplier relations, market conditions, network studies, market conditions and external knowledge infrastructures (Nelson, 1995). Each of these is a potential source of "ideas, practices, and material artifacts" for innovation. For network relationships to contribute positively to innovativeness, therefore, it may be necessary to emphasis weak ties (as opposed to strong ties) because weak ties provide more diverse and rich links to the kind of novel and unique information that may be needed to generate innovative activity (Granovetter, 1973). Apart from the external factors, internal factors such as cultural factors, structural links, internal competencies and maintaining an internal awareness of the importance of newness to innovation may aid a firm's innovation efforts. No innovation is possible without the creative processes, which mark the front end of the process and include the identification of important problems and

opportunities, information gathering, generation of new ideas and exploration of the validity of those ideas (Dyckand Allen, 2006).

Telecommunication innovation is characterized by being under pressure to innovate and to be cost-effective at the same time. As product development becomes more risky and costly, (Herson, 2005) the front end innovation represented by the research/discovery departments of telecommunication companies are increasingly being compelled to provide strong product candidates for efficient product development and quick market launches. This challenges the organization and structures of telecommunication front end innovations emphasizing the need to support and enable the front end activities in a targeted manner. In an industry where a newly discovered product with blockbuster potential still faces more than a ninety percent change of failure during the development phase and knowing that the fully loaded cost for the development of the product becomes clear that enhancing the 'predictability' of the discovery process ought to be an immediate priority area of investment (Duyck, 2003).

The organizational strategy reflects the priorities and values of the organization, which consequently has an impact on creativity and innovation, but an organizational strategy is not enough to support innovation, an explicit innovation strategy is required. An innovation strategy should define the aims and objectives of the innovation efforts in relation to the organization's overall strategy. It should specify market niches as targets to focus on and formalize the necessary structures for implementation. An innovation strategy should also focus and integrate team effort and permit delegation and support innovation through concrete activities (Igartua et al., 2010).

2.4.1 Organizational Structure

In turbulent environments where change can happen at any level in any dimension, a rigid structure can represent a major handicap in the quest for innovation. Innovation strategies implementation can take place only with the environment rarely against it. The process of interaction between the different entities creates the structure of the system. Interaction is essential for organizing because organizational systems are something that individuals are always accomplishing through their interaction and interdependence. Organizational systems are in a constant dynamic of organizing to attain their objective and goals through a fine balance between several interacting elements and forces. This dynamic equilibrium pushes the organizational system between order and chaos. Thus the structure of the system, although well-defined at any one point, is in constant shaping through the interactions of the different elements. On the spectrum between order and chaos, an organizational system structure can be in a zone described in the literature as the edge of chaos. Complex adaptive systems exhibit particular properties at the edge of chaos such as continuously producing novel activity patterns which are one source of their flexibility and capacity of adaptation (Sole and Goodwin, 2000).

The division of labor, the ever increasing tendency towards specialization and the identification and growing of new core competences (Hamel and Prahalad, 1994), are reinforcing the propensity of organizational systems towards outsourcing some of their functions to trusted partners which have a direct impact on the fuzziness of the organizational system's boundaries. Even though this fuzziness seems to be a weakness, it can be turned into an advantage in the light of the edge of chaos principle. The increased interactions with different partners can allow an organizational system at the edge of chaos to develop specific structures and a specific order at the point of influence of the environments (internal and external). If innovation is ultimately

done at the level of the individuals in an organizational system, the organizational system's structure should be designed towards facilitating individuals' activities to enhance their innovativeness. In this sense, loose coupling and weak ties are great in terms of their easy detachment and flexibility, allowing new information sources to be rapidly detected and probed for relevance by the most appropriate entities. Additionally, weak ties, although deemed inefficient, are essential to reach impartial and objective conclusions. It is in this light that the inefficiency of weak ties in the short term are shown to be rather efficient in the long term since they can reduce the risk for organizational systems of making the wrong conclusions and hence going down a path of wrong adaptation.

Organizational systems can, on the other hand, through negative feedback processes, be in a homeostatic mode around a stable structure. In stable environments, feedback structures can allow the emergence of a stable pattern of organizational behavior. The development of strong ties is ideal to develop trust between individuals and different organizational entities. Trust, a vital social lubricant, affects the willingness to cooperate between individuals and the respect needed to get things done (Fukuyama, 2005). However, strong ties can also hinder change and acceptance of new ideas, and can induce organizational systems to develop a strongly egocentric view of the world. Organizational systems have a tendency to define their boundaries in a very narrow manner and then focus on serving the needs of this restricted domain. Restricting the domain of action to such a narrow view can be dangerous to the organizational system, even in relatively stable environments, since it could lead to an erroneous identification of its stakeholders and a misalignment where turbulence can emerge destroying the relative stability of the environment. In turbulent and stable environments, the organizational system's stakeholder can be a major source of information and as such, relationships with them should be managed

with an extended definition of the organizational boundary. Deep and quality relationships with stakeholders will maximize cooperation and the ability to co-evolve with the environment (since a larger chunk of the environment is now within and hence stable) (Kofman and Senge, 1993).

2.4.2 Organizational Culture

Organizational culture can be cited as a key factor contributing to the success of or the failure of organizations. Organizational culture can be defined as a pattern of beliefs, norms or social expectations shared by individuals in organizational systems (Pavitt, 2006). These beliefs and expectations, although produced by the interaction between individuals and groups in organizational systems, influence back (through a retroactive feedback loop) the behavior of these same individuals and groups and nothing more than a representation of a socially constructed reality in which individuals and groups know what is important, what is acceptable and how to behave in specific situations.

Culture should be seen as a medium that permeates the organizational system, influencing its other elements and being influenced by them. All organizational systems have a system wide organizational culture, and most of them also have sub-cultures typical to groups, functional departments or business divisions due to different local ecosystem characteristics. Although culture can influence the whole organizational system, it is important to realize that some aspects are more sensible to culture than others (Bendell, 2000). To clarify this, it is useful to distinguish between two elements of organizational systems, the social systems (leadership, human resource management, and negotiations) and the technical systems (financial models, systems of process control, and manufacturing systems). Since technical systems do not involve interactions among individuals (only technical-human or technical-technical interaction) they can be slightly affected by culture. By contrast, socials systems may be strongly affected by culture.

Though organizational systems' individuals were relatively homogeneous and impregnated by common civic and religious values in the past, the workplace of today is growing more diverse and more heterogeneous. Globalization, by bringing down national barriers, is one key factor in increasing this diversity. As Ravani and Ortolano (2006) point out, the evolving societies are also producing new values and beliefs systems. Individuals are increasingly morphing from national identity holders to transnational identity holders, most developed countries have moved to a post industrialist society which is essentially a service society, and more and more extremes are meeting. This increasing diversity in individuals is necessarily reflected in organizational systems' culture where values such as tolerance that could be deemed irrelevant in the past are necessary for survival today. Hence, culture should not only be an unconscious emergence of common values through individuals' interactions but sometimes requires a conscious process of making the underlying values explicit and consciously adopting some values that are not salient in any one individual. It is then important for individuals, groups and organizational systems to develop a culture that will allow them to guide individual and collective actions and hence help them determine their own future by appreciating different viewpoints that can be as valid as their own.

Increased individual diversity, increased societal diversity and increased values diversity are important sources of change in the overall environment of organizational systems (internal and external). The increasing rate of change is making predictions about future parameters less and less precise and reliable, hence planning becomes less valuable. In the absence of reliable plans, learning becomes crucial for an organizational system capacity to change, adapt and survive. For culture to promote change and increase the capacity of individuals, groups and organizational

systems to innovate, it needs to ingrain in individuals the capacity to continually question their assumptions to reflect on the appropriateness of their actions in the light if unfolding events. Such a culture will be in a continual construction through learning, more specifically double loop learning (Argyris, 1976). As Kofman and Senge (1993 pg. 67) stated that "Those contexts that display their precarious nature, those contexts that invite revision and recreation are inherently better than those which hide their precarious nature and fight revisionist attempts. They will be in a continual state of becoming." Even culture will need to be in a continual state of becoming to evolve with the organizational system, its individuals, its structure and other elements. Organizational systems fostering such cultures can become learning organizations where interdependence, capacity for feedback, balance and adaptation are valued. In such systems, what individuals know is not as crucial as what they could know through learning and answers are always less important than questions.

2.4.3 Risk aversion

According to Tidd, Bessant and Pavitt (2006), 72% of product innovations are failures. This statistic underlines the fact that the majority of the innovative activities conducted by organizations fail. Any activity with such a poor rate of success is necessarily regarded as very risky, and the organizations keen to implement are likely to be influenced by the general principal of risk aversion. In other words, it would be normal to assume that organizations would avoid some of these risky activities in order to ensure their survival. Uncertainty is a major feature of innovations strategies, and concepts such as trial and error, search and learning are used to integrate it. However several scholars underline at the same time that because of a pro innovation bias much innovation research tends to stress that innovation benefits its producers

and users, and simultaneously ignores the risks of the associated change processes (Meeus and Oerlemans, 2000, p. 42).

Organizations face changes in the environment by adopting adaptation strategies. Organizations are able to adapt to new contexts by acting on their strengths and weaknesses in satisfying ways. Adaptation strategies are always the result of a change in organization's routines, and can be achieved in three main ways. An organization may change when it reorganizes existing routines in a new way, or imitates the routines of other organizations or when it creates new routines based on search. Because these three ways to change help the organization to face changes in its environment, the adaptation perspective assumes that adaptation strategies reduce organizational mortality (Schwarz and Shulman, 2007). As mentioned by Meeus and Oerlemans (2000, p. 42) "Due to its pro-innovation bias and its adaptations perspective much innovation research tends to stress that innovation benefits its producers and users, and simultaneously ignores the risks of the associated change processes". According to Carroll and Teo (1996, p. 620), in this perspective "change is assumed frictionless, relatively cost free and without major risk". This situation can be viewed from several angles. The adaptation perspective links innovation to progress (Nelson, 1995) and in the long term, the outcome of innovation is assumed to be higher than the global cost of the errors incurred during the innovation process.

According to Rosenberg (2008), there is an increase in the uncertainty related to the performances of technical systems when organizations innovate because it is difficult to anticipate the impact of the novelty on the entire system, and because there is a lack of knowledge regarding the properties of the new technologies. The risk aversion principle implies that among equivalent technologies in relation to their technical performance, cost, delivery time,

and so forth, the less risky choice is the most reliable technology. This formulation of the risk aversion principle is not totally appropriate to the topic of innovation because organizations do not know whether they are facing equivalent technologies. Because the technology is new, organizations tend to lack knowledge about effective technical performance. This may lead the organization to choose a less reliable technology because it claims to offer higher technical performance. Thus, we will assume that the level of technological risk varies.

2.4.4 Lack of resources

Some strategies fail because not enough resources were allocated to successfully implement them. Lack of resources is generally a bigger threat to capital-intensive strategies. Kubinski (2002) observed this failing in both fast-growth, new companies that feel understaffed due to growth demands and companies under heavy competitive pressure who felt they could not spare resources to drive strategic innovation.

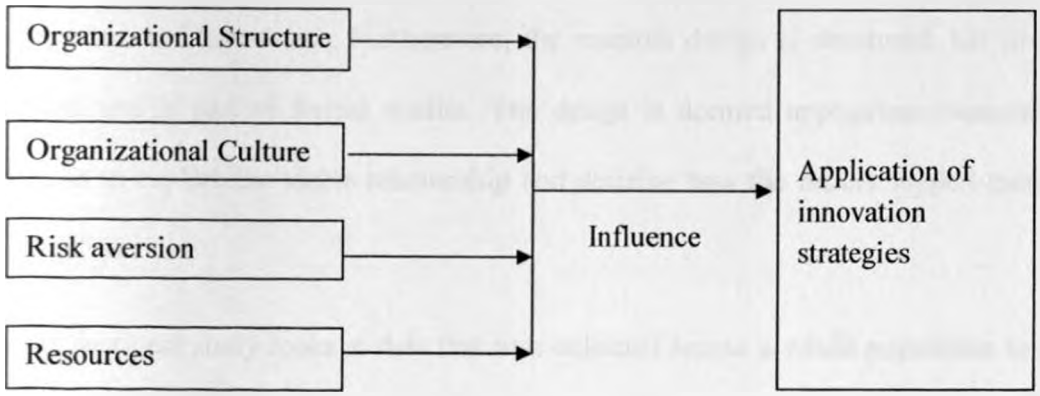
It is generally a good idea to include financial evaluation of a (draft) strategic plan in the process – in part to ensure the strategy does not inadvertently destroy shareholder value and in part to ensure that sufficient resources (especially capital dollars) will be available to achieve implementation. The process can be relatively simple – crafting a base case financial model and layering the impact of strategies on top of that base case. Alternatively, the process can be highly sophisticated, including an analysis of alternative funding sources, the impact of merger synergies on financial performance, and other considerations. Regardless of the degree of modeling sophistication employed, the management can expect to make smarter strategic choices up-front and to deploy limited resources more effectively as a result, (Lynch, 2003).

2.5 Conceptual Framework

The schematic diagram below on conceptual framework shows the variables relationship between innovation strategy in mobile companies being influenced by organizational structure, organizational culture, risk aversion and lack of resources.

Variables

Independent Variable **Dependent Variable**



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the proposed research design, the target population, data collection instruments and the techniques for data analysis.

3.2 Research Design

The research design to be adopted was a cross sectional survey design. According to Cooper and Schindler (2000), a descriptive research design is concerned with finding out the; who, what, where, when and how much. Furthermore, the research design is structured, has investigative questions and is part of formal studies. The design is deemed appropriate because the main interest is to explore the viable relationship and describe how the factors support matters under investigation.

A cross sectional study looks at data that was collected across a whole population to provide a snapshot of that population at a single point in time. This kind of study was used for the study as it enabled the researcher to have an insight of the challenges facing mobile telephony companies in applying innovation strategy. Descriptive design method provided quantitative data from cross section of the chosen population. This design provided further insight into research problem by describing the variables of interest. According to Hopkins (2000), quantitative research is about quantifying relationships between variables, expressing the relationships between variables using statistics such as correlations, relative frequencies, or difference between means or medians.

3.3 Population of the Study

This consisted of all the mobile telephony companies operating in Kenya. There are currently four mobile companies (Safaricom, Airtel, Yu and Orange), hence the study was a census. The population of the study consisted of cross functional team members, including the section heads and line management team who form part of the planning teams.

3.4 Data Collection

The study used primary data which was collected through self-administered questionnaires. The questionnaire consisted of both open and closed ended questions designed to elicit specific responses for qualitative and quantitative analysis respectively. The questionnaire was administered through "drop and pick later" method. The respondents for the study were planning managers and members of the cross functional teams in all the four mobile companies operating in Kenya.

3.5 Data Analysis

The data collected was analyzed using descriptive statistics such as percentage, mean scores, standard deviation and frequency distribution. Once the data is collected, the questionnaires were edited for accuracy, consistency and completeness. However, before final analysis was performed, data was cleaned to eliminate discrepancies. Data was analyzed using SPSS.

Descriptive statistics covered all response variables as well as the demographic characteristics of the respondents. Descriptive statistics provided the basic features of the data collected on the variables and provide the impetus for conducting further analyses on the data (Ezirim and Nwokah, 2009). The results from the study were presented in tables and pie charts.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The research objective was to establish the innovation strategies adopted by the mobile telephony companies in Kenya. This chapter presents the analysis, findings and discussion of the same. The findings are presented in percentages and frequency distributions, mean and standard deviations. A total of eight questionnaires were issued out. The completed questionnaires were edited for completeness and consistency. All the eight questionnaires issued out were returned and this represented a response rate of 100%.

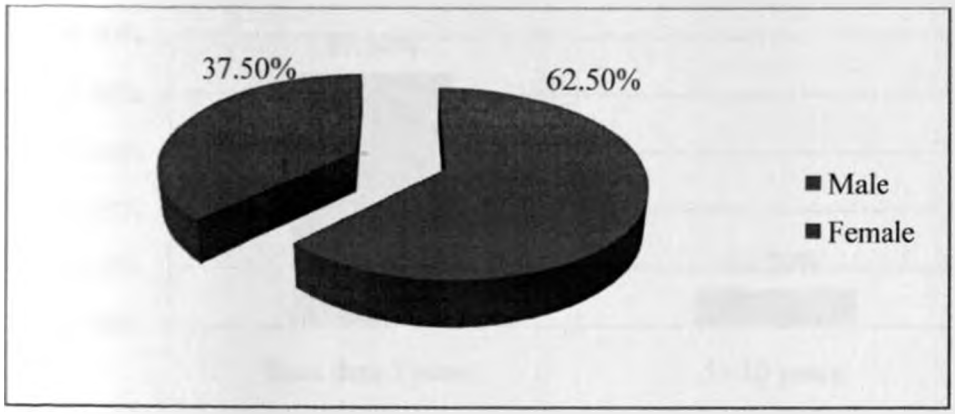
4.2 Organizational and Respondents profile

The demographic information considered in this study included gender of the respondents, number of employees in the company, length of continuous service with the company, company ownership and the duration the company has been in existence.

4.2.1 Respondents Gender

The respondents were asked to indicate their gender and of the 8 respondents, 62.5 percent were female while 37.5% were male. This is represented in figure 4.1.

Figure 4.1: Respondents Gender



4.2.2 Number of employees

The question sought to establish the number of employees in the company. The results are presented in Table 4.1.

Table 4.1: Number of employees

Number of employees	Frequency	Percent	Cumulative Percent
101-499	2	25.0	25.5
1000-4999	6	75.0	100.0
Total	8	100.0	

The findings in Table 4.1 indicates that 75% of the companies had between 1000 and 4999 employees while 25% of the companies had between 101 and 499 employees. Majority of the companies have more than 1000 employees and therefore the companies have to be innovative in order to sustain and grow their market share in order to maintain and increase the number of its employees.

4.2.3 Length of continuous service with the company

The length of respondent's continuous service with the company is presented in Figure 4.2.

Figure 4.2: Length of continuous service with the company

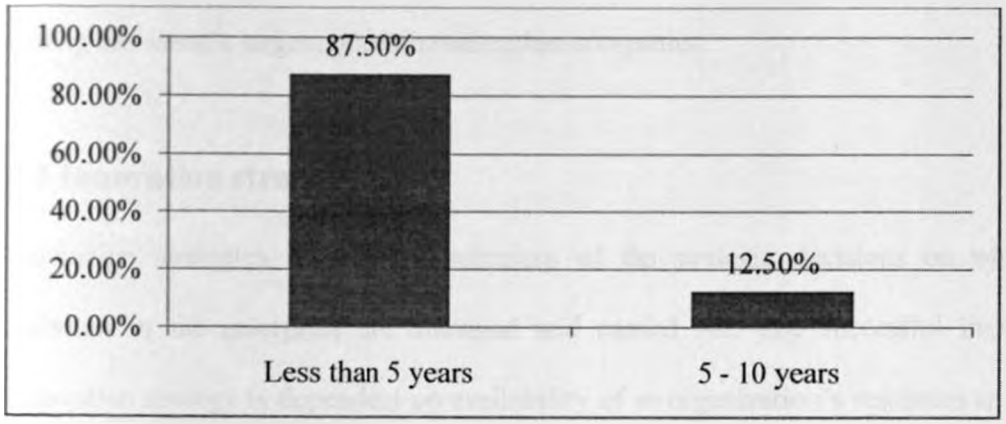


Figure 4.2 indicates that 87.5% of the respondents have worked in their respective companies for a period of less than 5 years while 12.5% indicated that they have worked in the company for 5 to 10 years. The results indicates that

4.2.4 Companies profile

Company profile was analyzed in terms of ownership; the results are presented in Table 4.2.

Table 4.2: Companies profile

Name of company	Ownership	Duration of mobile company existence
Safaricom	Both local and foreign	Over 10 years
Orange	Both local and foreign	Less than 5 years
Yu	Foreign	Less than 5 years
Airtel	Foreign	Over 10 years

Table 4.2 indicate that Safaricom Company is both locally and foreign owned and it has been in existence for over 10 years, Orange on its part is also both locally and foreign owned and it has been in existence for less than 5 years while Yu is foreign owned and its duration of existence locally is less than 5 years. Airtel is a foreign company and it has been in operation for over 1 years. The results indicate that all the companies have a foreign ownership and these increases

innovation competition in the industry as the holding companies of the local companies are among the world's largest telecommunication companies.

4.3 Innovation strategy

Innovation strategies represent a summary of the strategic decisions on which innovative activities in the enterprise are managed and carried out. The successful implementation of innovation strategy is dependent on availability of an organization's resources and its link to the corporate strategy and other departments of the company, in this case the marketing and information technology departments. The respondents were in agreement that the firms' capacity to innovate depends on both internal and external influences and hence the need to link the innovation strategy to the available resources, the corporate strategy, the marketing function and the information technology functions.

4.3.1 Successful Implementation of Innovation Strategy

The respondents were requested to indicate the extent to which the mobile telephony companies applied the principles to ensure successful implementation of organization innovation strategy in a five point Likert scale. The range was 'very low extent (1)' to 'very great extent' (5). The scores of not at all and little extent have been taken to represent a variable which had a mean score of 0 to 2.5 on the continuous Likert scale; ($0 \leq$ S.E <2.4). The scores of 'moderate extent' have been taken to represent a variable with a mean score of 2.5 to 3.4 on the continuous Likert scale: ($2.5 \leq$M.E. <3.4) and the score of both great extent and very great extent have been taken to represent a variable which had a mean score of 3.5 to 5.0 on a continuous likert scale; ($3.5 \leq$ L.E. <5.0). A standard deviation of >0.9 implies a significant difference on the impact of the variable among respondents. The results are shown in Table 4.3.

Table 4.3 :Successful Implementation of Innovation Strategy

Successful Implementation of Innovation Strategy	Mean	Std. Deviation
The organization innovation strategy have variants that reflect past, current and expected future developments	4.1278	.7071
The organization innovation capacity is formed by the sum of knowledge, experience, resources, assets and managerial capabilities and skills in business available, or is able to obtain in due time	4.3750	.5175
The organization innovation strategy is based on variation, long term, systematic, the time factor and the concentration of resources and activities	4.0142	.8258
The organization innovation strategy has been linked to available resources, the corporate strategy, the marketing function and the information technology functions	3.6250	.5175
An organizations' approach to innovation must be comprehensive/all inclusive	3.5254	.8931
Innovation must include an organized, systematic, and continual search for new opportunities	3.8750	.8099
Organizations must involve everyone in the innovation process	3.9046	.8910
An organization must work constantly on improving its climate for innovation	4.2672	.8864

The results in table 4.3 indicate that successful implementation of innovation strategy in the mobile telephony industry was achieved through sum of knowledge, experience, resources, assets and managerial capabilities and skills in business available, or is able to obtain in due time (mean 4.3750), improvement of climate for innovation (mean 4.2672), innovation strategy have variants that reflect past, current and expected future developments (mean 4.1278), innovation

strategy is based on variation, long term, systematic, the time factor and the concentration of resources and activities (mean 4.0142).

The results further indicate that the companies involve everyone in the innovation process (mean 3.9046), innovation include an organized, systematic, and continual search for new opportunities (mean 3.8750), innovation strategy has been linked to available resources, the corporate strategy, the marketing function and the information technology functions (mean 3.6250) and that organization approach to innovation was comprehensive/all inclusive (mean 3.5254). The low variation of standard deviation indicates that the companies were unanimous on the extent to which they apply the principles to ensure successful implementation of innovation strategy.

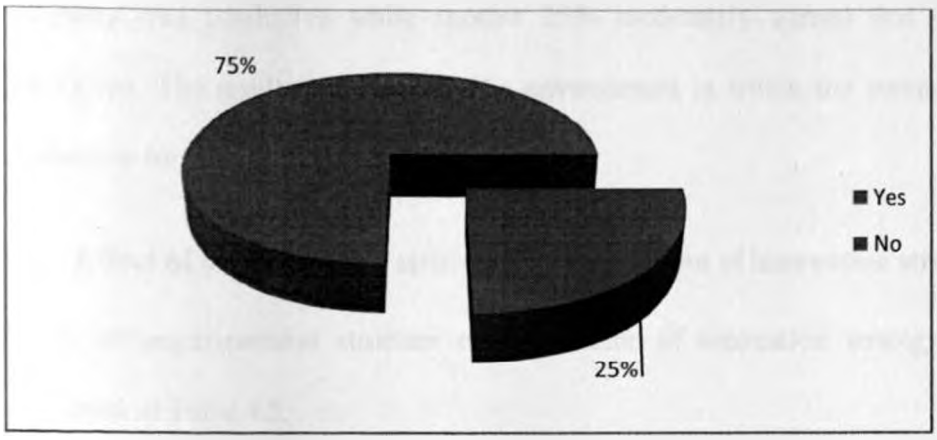
4.4 Application of innovation Strategies

Innovation strategy is a summary of the strategic decisions on which are managed and carried out innovative activities in the enterprise. Preparation of innovative strategies must be purposeful and must be based on analysis of internal and external environment, planning and innovative design. In the area of strategic analysis and planning is essential that the company fully uses appropriate methods of strategic management.

4.4.1 Organizational structure co-evolve with the environment

Organizational structure co-evolves with the environment for innovation to be undertaken. The results are presented in Figure 4.3.

Figure 4.3: Organizational structure co-evolve with the environment



The results in Figure 4.3 indicate that, 75% of the companies said that the organizational structure co-evolve with the environment for innovation to be undertaken while 25% said the structure does not co-evolve. The findings were that co-evolvement of the companies with the environmnet will not limit the scope of the company in its operations. All the companies (100%) noted that organization structure in place was not a hindrance to innovation but rather it gives an opportunity to anyone with innovation ideas to do so thus increasing the number of products being offered by the companies.

4.4.2 Environment being conducive for innovation

In terms of the environment being conducive for strategy innovation implementation to be undertaken; the results are presented in Table 4.4.

Table 4.4: Environment being conducive for innovation

Conducive Environment for innovation	Frequency	Percent	Cumulative Percent
Strongly agree	2	25.0	25.0
Agree	4	50.0	75.0
Moderate agree	2	25.0	100.0
Total	8	100.0	

The results in Table 4.4 indicate that 50% of the respondents agreed that the environment in their company was conducive for innovation, 25% strongly agreed that the environment in their company was conducive while another 25% moderately agreed that the environment was conducive. The results indicate that the environment in which the companies operates in was conducive for innovation.

4.4.3 Effect of organizational structure on application of innovation strategy

Effect of organizational structure on application of innovation strategy and the results are presented in Table 4.5.

Table 4.5: Effect of organizational structure on application of innovation strategy

Effect of organizational structure on innovation strategy	Mean	Std. Deviation
The organization's structure is a flexible process organization	3.5250	1.0606
Cross-functional teams are implementing the development projects	4.0143	.9258
People involved in the innovation process interact continuously	4.1389	1.0690
Project and solution knowledge and know-how is collected and utilized	3.7578	.7071
Innovation strategy belongs to the whole company	3.6250	.9161
The top management is responsible of innovation strategy	3.1250	1.2850
Organization does not limit or set boundaries for creating innovations	3.3750	1.1877
Organization engages actively in open innovation	3.6583	1.1093
Innovation capabilities of the candidate or organization are evaluated when searching for partners	2.7500	1.2817

The results in Table 4.5 indicate that people involved in the innovation process interact continuously (mean 4.1389), cross-functional teams are implementing the development projects

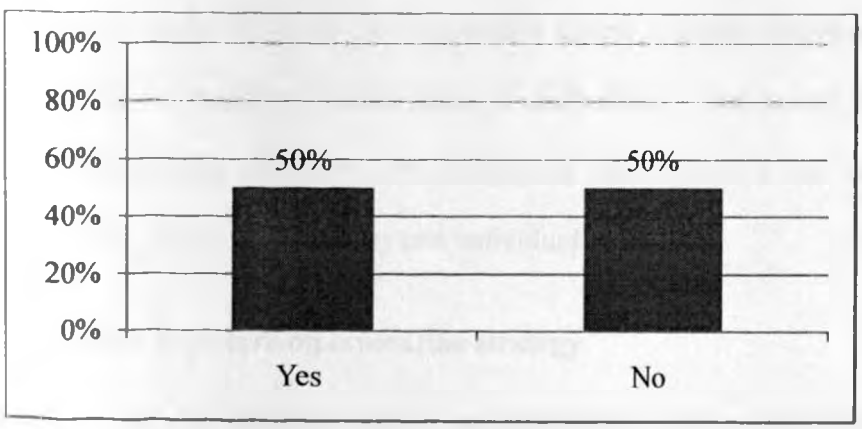
(mean 4.0143), project and solution knowledge and know-how is collected and utilized (mean 3.7578), organization engages actively in open innovation (mean 3.6583), innovation strategy belongs to the whole company (mean 3.6250) and the organization's structure is a flexible process organization (mean 3.5250).

On the other hand the companies moderately agreed that organization does not limit or set boundaries for creating innovations (mean 3.375), top management was responsible of innovation strategy (mean 3.125) and innovation capabilities of the candidate or organization are evaluated when searching for partners (mean 2.750). The high standard deviation variation indicates that effect of organization structure on innovation strategy varied with the company. The respondents noted that the organizational culture of their company contributes to organizational innovation strategy. Culture is a medium that permeates the organizational system, influencing its other elements and being influenced by them.

4.4.4 Effect of organizational culture on innovation

Effect of organizational culture on innovation strategy and the results are presented in Figure 4.4.

Figure 4.4: Effect of organizational culture on innovation



The results indicates that 50% of the respondents said that their organization has not put place measures to ensure that social systems (leadership, human resource management and negotiations) are not strongly affected by culture thus inhibiting innovation while 50% said they have put in place the measures. The results shows that two of the mobile companies social systems are affected by the culture and thus inhibiting the organizations innovation while the other two are not affected.

4.4.5 Development of Organizational Culture

Development of culture that will allow the companies to guide individual and collective actions and the results are presented in Table 4.6.

Table 4.6: Development of Organizational Culture

	Frequency	Percent	Cumulative Percent
Strongly agree	7	87.5	87.5
Agree	1	12.5	100.0
Total	8	100.0	

The findings show that 87.5% of the respondents strongly agreed that the organization should develop culture that will allow them to guide individual and collective actions thus assisting in innovation while 12.5% of the respondents agreed. Culture should not only be an unconscious emergence of common values through individuals' interactions but sometimes requires a conscious process of making the underlying values explicit and consciously adopting some values that are not salient in any one individual.

4.4.6 Effect of culture on innovation strategy

In terms of the effect of culture on innovation strategy implementation, the findings are presented in Table 4.7.

Table 4.7: Effect of culture on innovation strategy

Effect of culture on innovation strategy	Mean	Std. Deviation
There is lack of understanding of its business innovation potential and possibilities for its use	2.8750	.6408
There is insufficient development of an innovative program in the organization	2.9025	.6408
Attitude of management affects innovations in the organization	4.3256	.5175
Job satisfaction of employees influence innovation strategies in the organization	4.1751	.8078
Innovativeness is one of the organization's values	3.5582	.8817
Sharing of information and knowledge is encouraged	3.2650	.9910
Changes are seen as possibilities	2.9476	.7952
Communication is active on many levels and in multiple directions	3.0782	.6758
Time is allocated for free innovation	3.0475	.3535
Continuous learning is encouraged	2.7250	.6259
Mistakes are seen as possibilities to learn	4.1250	.6024
Organization wants to provide better solutions for the customer	3.1250	.9910
Incentives and rewards support group work	4.3750	.7440
There is lack of understanding of its business innovation potential and possibilities for its use	3.6250	.8078

The results in Table 4.7 indicate that incentives and rewards support group work (mean 4.375), attitude of management affects innovations in the organization (mean 4.3256), job satisfaction of employees influence innovation strategies in the organization (mean 4.1751), mistakes are seen as possibilities to learn (mean 4.1250), there is lack of understanding of its business innovation

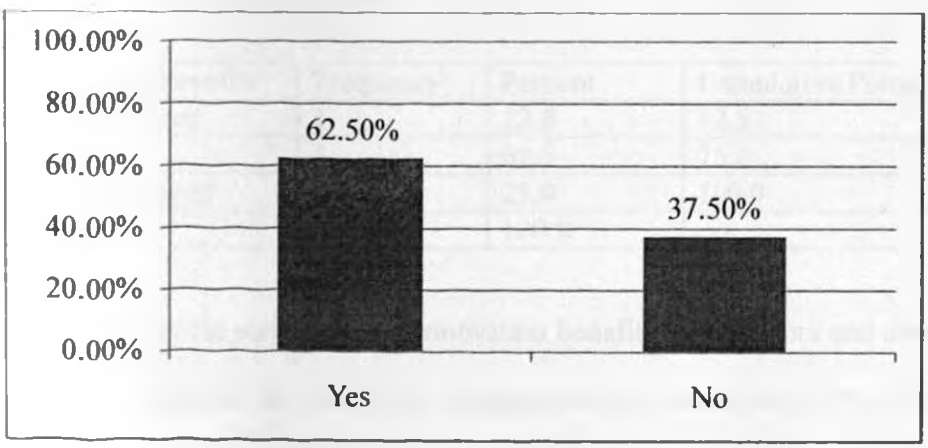
potential and possibilities for its use (mean 3.625) and innovativeness is one of the organization's values (mean 3.5582). The results indicate that culture support application of innovation strategy in the companies.

The companies on the other hand moderately agreed that the sharing of information and knowledge is encouraged (mean 3.265), organization wants to provide better solutions for the customer (mean 3.125), communication is active on many levels and in multiple directions (mean 3.0782), time is allocated for free innovation (mean 3.0475), changes are seen as possibilities (mean 2.9476), there is insufficient development of an innovative program in the organization (mean 2.9025), there is lack of understanding of its business innovation potential and possibilities for its use (mean 2.875), and continuous learning is encouraged (mean 2.725).

4.4.7 Risk averse to innovation strategy

The results presented in Figure 4.5 indicate the extent to which the management of the organization was risk averse to application of innovation strategy.

Figure 4.5: Risk averse to innovation strategy



The respondents were required to indicate whether the organization they work for was risk averse. The results indicate that 62.5% of the respondents said their company was not risk averse while 37.5% said it was risk averse. The finding shows that by not being risk averse, the companies can be able to undertake innovation.

Where use of trial and error, search and learning to integrate innovation in the organization were used, all the companies (100%) indicated that they used trial and error to integrate innovation strategy and these would ensure that the companies adopt innovations that can sustain the companies in the long run. On one hand, respondents indicated that they venture to do risky innovations. 100% of the companies indicated that avoidance of some risky innovation affects companies' survival. The lack of risky innovation by a company would lead to the company relying only on products which other companies have and therefore the saturation of the market would dent a blow to the company's survival in case of customers shifting to new products being offered by other companies.

4.4.8 Innovation benefits

Table 4.8 show the extent of innovation benefits to the companies.

Table 4.8: Innovation benefits

Innovation benefits	Frequency	Percent	Cumulative Percent
Strongly agree	1	12.5	12.5
Agree	5	62.5	75.0
Moderate agree	2	25.0	100.0
Total	8	100.0	

The results on the statement that innovation benefits its producers and users, and simultaneously ignores the risks of the associated change processes were that 62.5% of the respondents agreed

with the statement, 25% of the respondents moderately agrees while 12.5% strongly agreed. The findings indicate that innovation by a company would benefit both the company and the customers.

4.4.9 Factors affecting Innovations

The results in Table 4.9indicate the factors influencing application of innovation strategy.

Table 4.9: Factors affecting Innovations

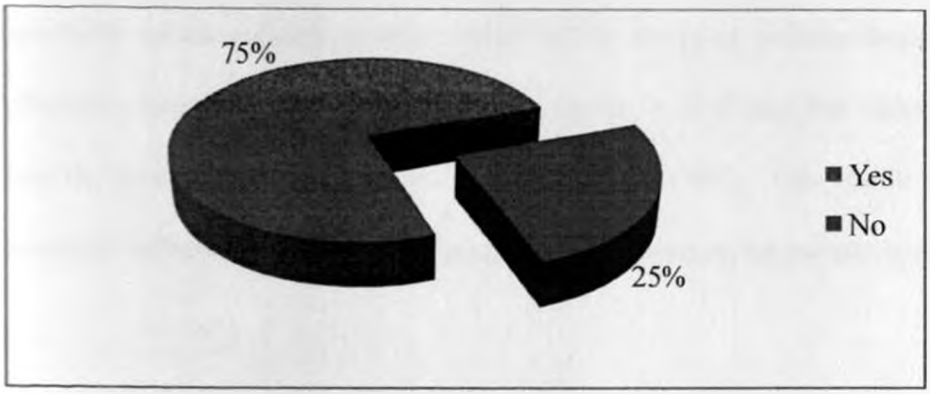
Factors affecting Innovations	Mean	Std. Deviation
It is difficult to anticipate the impact of the novelty on the entire system	2.2360	.9910
There is lack of knowledge regarding the properties of the new technologies	2.1250	1.3562
Organizations tend to lack knowledge about effective technical performance	2.1750	1.8077

From the analysis in table 4.9, the companies noted that it was difficult to anticipate the impact of the novelty on the entire system (mean 2.236), there is lack of knowledge regarding the properties of the new technologies (mean 2.125) and organizations tend to lack knowledge about effective technical performance (mean 2.175). The results indicate that the factors influenced the application of innovation strategy in the companies.

4.4.10 Resource Constraint

The respondents were required to indicate whether resource constraint hinders application of innovation strategy.

Figure 4.6:Resource Constraint



The findings in Figure 4.6 indicate that 75% of the companies were faced by the resource constraint challenges as they innovate while 25% said they do not have resource constraint. The results indicate that the companies have encountered constraints in innovation and these will affect the extent to which the companies innovate.

4.4.11 Lack of resources influence on application strategy innovation

Findings on influence of lack of resources on application of innovation strategy are presented in table 4.2.

Table 4.10: Lack of resources influence on application strategy innovation

Lack of resources influence on application strategy innovation	Mean	Std. Deviation
The management is willing to provide resources for innovation strategy	3.5450	.53452
Slack resources	3.5728	1.59799
Financial position	3.6772	1.59799
Technological capacity	4.2500	.70711
Technological specificity of the existing system	3.8750	.99103
Increase in efficiency	3.6460	1.12599

The findings in Table 4.10 show that technological capacity (mean 4.2500), technological specificity of the existing system (mean 3.875), financial position (mean 3.6772), increase in efficiency (mean 3.6460), slack resources (mean 3.5728) and the management willingness to provide resources for innovation strategy (mean 3.545). The results indicate that lack of resources influences application of innovation strategies by the mobile telephony companies.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1Introduction

This chapter gives the summary, conclusion and recommendations of the study. The suggestions for further research are also highlighted.

5.2 Summary

The study found out that the innovation capacity of the company depends on both internal and external factors and therefore for successful implementation of organizational innovation strategy has to consider sum of knowledge, experience, resources, assets and managerial capabilities and skills in business available, or is able to obtain in due time, improvement of climate for innovation, innovation strategy have variants that reflect past, innovation include an organized, systematic, and continual search for new opportunities, innovation strategy has been linked to available resources, the corporate strategy, the marketing function and the information technology functions and that organization approach to innovation was comprehensive.

The organizational structure which has been adopted by the companies was not an impediment to the adoption of innovation strategy implementation by the companies as people involved in the innovation process interacts continuously and the cross-functional teams are implementing the development projects, project and solution knowledge and know-how is collected and utilized. The organizational culture which is in place in the companies contributes to application of innovation strategy as incentives and rewards support group work), attitude of management affects innovations in the organization, job satisfaction of employees influence innovation

strategies in the organization, mistakes are seen as possibilities to learn, there is lack of understanding of its business innovation potential and possibilities for its use and innovativeness is one of the organization's values.

The companies were not risk averse to the application of innovation strategy as they used trial and error, search, and learning to integrate innovation strategy in the companies', anticipate the impact of the novelty on the entire system, there is lack of knowledge regarding the properties of the new technologies and organizations tend to lack knowledge about effective technical performance. The study established that lack of resources hindered application of innovation strategy in the companies.

5.3 Conclusion

The mobile telephony industry is challenged by the emergence of new technologies, products, markets and competitors and these necessitates flexibility and adaptability in order to achieve competitive advantage. Competition determines the appropriateness of a firm's activities that can contribute to its performance, such as innovations, a cohesive culture and good implementation. Innovation helps to search for a favorable competitive position in an industry, aims to establish a profitable and sustainable position against the forces that determine industry competition.

The innovation process in the mobile telephony companies results from common understanding among all the stakeholders in the organization of the need to be innovative so that they can have a competitive edge over their competitors. The structure being adopted by the organization should ensure that it promotes innovation in the whole organization. The same applies with the culture which should be seen as a medium that permeates the organizational system, influencing

its other elements and being influenced by them. The resources were found to be a hindrance to application of innovation strategy by the companies and this could in part inadvertently destroy shareholder value.

5.4 Recommendation

The study found out that application of innovation strategy in the companies faced challenges emanating from resource constraint and it is recommended that the companies should ensure that all the resources needed by the company to innovate is availed so that they can be able to compete effectively with rival companies.

The study established that free time for innovation and sharing of information and knowledge being encouraged was not sufficient. It is therefore established that the companies should ensure that there is sufficient time and information and knowledge sharing is encouraged so that the companies can apply the innovation strategy successfully in its operations.

The study found out that the application of innovation strategy by the mobile telephony companies was being influenced by the operating environment. It is recommended that the policy makers come up with policies that would enable the companies to be innovative so that they offer variety of products to customers.

5.5 Recommendations for further research

The study confined itself to all the mobile telephony companies operating in Kenya and the findings may not be applicable in other sectors as a result of uniqueness of the mobile telephony

companies. It is therefore recommended that the study is replicated in other service sectors to establish the innovation strategies adopted by these sectors.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

University of Nairobi

School of Business

Department of Strategic Management

P. O. Box 30197

Nairobi

30th August, 2012

Dear Respondent,

RE: COLLECTION OF SURVEY DATA

I am a postgraduate student at the University of Nairobi, at the School of Business. In order to fulfill the degree requirement, I am undertaking a management research project on innovation strategies adopted by the mobile telephony companies in Kenya

You have been selected to form part of this study. This is to kindly request you to assist me collect the data by filling out the accompanying questionnaire. The information/ data you provide will be exclusively for academic purposes. My supervisor and I assure you that the information you will give will be treated with strict confidence. At no time will you or your organization's name appear in my report.

Mureithi Julia Wanjiru
D61/P/9056/01

Catherine Ngahu
Supervisor

APPENDIX II: QUESTIONNAIRE

The researcher will appreciate your feedback on innovation strategies adopted by the mobile telephony companies in Kenya. The information is useful for planning for the future innovations by the telecommunication companies. Please give your honest opinion as freely as possible in the spaces provided and tick (√) the box that matches your response to the questions where applicable.

PART A: DEMOGRAPHIC AND RESPONDENTS PROFILE

1. Name of the Mobile company:.....

2. What is your gender? Male ( ) Female ( )

3. How many employees are there in your mobile phone company?
   a) Less than 100 ( )
   b) 101 – 499 ( )
   c) 500 – 999 ( )
   d) 1000 – 4999 ( )
   e) 5000 and above ( )

4. Length of continuous service with the mobile company?
   a) Less than five years ( )
   b) 5-10 years ( )
   c) 10 years and above ( )

5. How is the ownership of mobile company you work for?
   Local ( )
   Foreign ( )

6. For how long has your mobile phone company been in existence?
   a) Under 5 years ( )
   b) 6 – 10 years ( )
   c) 10 years and above ( )

Part B: Innovation Strategy

1. Do you agree with the statement that the firm's capacity to innovate and innovation itself do not depend upon a company's resources and internal environment, but also on external facilitating factors? Yes ( ) No ( ) Other (specify).....

2. To what extent does your organization put forward the following principles to ensure successful implementation of organization innovation strategy? 1 – Very low extent, 2 – Low extent, 3 – Moderate extent, 4 – Great extent, 5 – Very great extent

	1	2	3	4	5
The organization innovation strategy have variants that reflect past, current and expected future developments					
The organization innovation capacity is formed by the sum of knowledge, experience, resources, assets and managerial capabilities and skills in business available, or is able to obtain in due time					
The organization innovation strategy is based on variation, long term, systematic, the time factor and the concentration of resources and activities					
The organization innovation strategy has been linked to available resources, the corporate strategy, the marketing function and the information technology functions					
An organizations' approach to innovation must be comprehensive					
Innovation must include an organized, systematic, and continual search for new opportunities					
Organizations must involve everyone in the innovation process					
An organization must work constantly on improving its climate for innovation					
Other (specify).....					

Part C: Application of Innovation Strategies

a) Organizational Structure

1. Does your organizational structure co-evolve with the environment for innovation strategy to be undertaken? Yes ( ) No ( ) Other (specify).....

2. Does the organizational structure represent a major handicap in the quest for innovation strategy in your organization?

   Yes ( ) No ( ) Other (specify).....

3. Is the environment conducive for innovation strategy implementation in your organization?

   Strongly agree ( )
   Agree ( )
   Moderately agree ( )
   Disagree ( )
   Strongly disagree ( )

3. To what extent do you agree with the following statements regarding the effect of organizations structure on application of innovation strategy? 1 – Very low extent, 2 – Low extent, 3 – Moderate extent, 4 – Great extent, 5 – Very great extent

	1	2	3	4	5
The organization's structure is a flexible process organization					
Cross-functional teams are implementing the development projects					
People involved in the innovation process interact continuously					
Project and solution knowledge and know-how is collected and utilized					
Innovation strategy belongs to the whole company					
The top management is responsible of innovation strategy					
Organization does not limit or set boundaries for creating innovations					
Organization engages actively in open innovation					
When searching for partners, the innovation capabilities of the candidate or organization are evaluated					
Other (specify).....					

b) Organizational Culture

1. Does your organizational culture contribute to the success or the failure of organization's innovation strategy? Yes ( ) No ( ) Other (specify).....

2. Has the organization put in place measures to ensure that social systems are not strongly affected by culture thus inhibiting innovation strategy? Yes ( ) No ( )

3. Do you agree that the organization should develop a culture that will allow them to guide individual and collective actions thus assist in innovation strategy?

Strongly agree	( )
Agree	( )
Moderately agree	( )
Disagree	( )
Strongly disagree	( )

4. To what extent do you agree with the following statements on the effect of culture on innovation strategy in your organization? 1 – Very low extent, 2 – Low extent, 3 – Moderate extent, 4 – Great extent, 5 – Very great extent

	1	2	3	4	5
There is lack of understanding of its business innovation potential and possibilities for its use					
There is insufficient development of an innovative program in the organization					
Attitude of management affects innovations in the organization					
Job satisfaction of employees influence innovation strategies in the organization					
Innovativeness is one of the organization's values					
Sharing of information and knowledge is encouraged					
Changes are seen as possibilities					
Communication is active on many levels and in multiple directions					
Time is allocated for free innovation					
Continuous learning is encouraged					
Mistakes are seen as possibilities to learn					
Organization wants to provide better solutions for the customer					
Incentives and rewards support group work					
Other (specify).....					

c) Risk aversion

1. Is the management of the organization risk averse to application of innovation strategy?

Yes ( ) No ( )

2. Does your organization use concepts such as trial and error, search, and learning to integrate innovation strategy in the organization? Yes ( ) No ( )

3. Does avoidance of some risky innovation strategy by your organization affects its level of competition? Yes ( ) No ( )

4. Do you agree with the statement that 'innovation benefits its producers and users, and simultaneously ignores the risks of the associated change processes'?

Strongly agree	( )
Agree	( )
Moderately agree	( )
Disagree	( )
Strongly disagree	( )

5. To what extent do the following factors influence application of innovation strategy in your organization? 1 – Very low extent, 2 – Low extent, 3 – Moderate extent, 4 – Great extent, 5 – Very great extent

	1	2	3	4	5
It is difficult to anticipate the impact of the novelty on the entire system					
There is lack of knowledge regarding the properties of the new technologies					
Organizations tend to lack knowledge about effective technical performance					

d) Lack of Resources

1. Do you have any resource constraints hindering application of innovation strategy in your organization?

Yes ( ) No ( )

2. What kind of resources in particular?

.....

.....

.....

3. To what extent do the following factors related to lack of resources influence application innovation strategy application in your organization? 1 – Very low extent, 2 – Low extent, 3 – Moderate extent, 4 – Great extent, 5 – Very great extent

	1	2	3	4	5
The management is willing to provide resources for innovation strategy					
Slack resources					
Financial position					
Technological capacity					
Technological specificity of the existing system					
Increase in efficiency					
Decrease in efficiency					
Other (specify).....					

APPENDIX III: LIST OF MOBILE PHONE COMPANIES

1. Safaricom
2. Orange
3. Yu
4. Airtel