INFLUENCE OF KNOWLEDGE MANAGEMENT ON THE RELATIONSHIP BETWEEN INNOVATION STRATEGY AND COMPETITIVENESS OF MOBILE TELECOMMUNICATION FIRMS IN KENYA

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DECLARATION

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

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

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DEDICATION

This research work is devoted to my family for their motivation, support, comprehension and continuous prayers towards the effective fulfilment of this course.

I pay sparkling tribute and appreciation to the Almighty God who granted me the intelligence to undertake this course.
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God bless you all.
# TABLE OF CONTENTS

DECLARATION ...................................................................................................................... ii  
DEDICATION ...................................................................................................................... iii  
ACKNOWLEDGEMENTS .................................................................................................... iv  
LIST OF TABLES ................................................................................................................ viii  
ABSTRACT .......................................................................................................................... ix  
CHAPTER ONE : INTRODUCTION ....................................................................................... 1  
1.1 Background of the Study ............................................................................................... 1  
   1.1.1 Knowledge Management ......................................................................................... 3  
   1.1.2 Innovation Strategy ................................................................................................. 4  
   1.1.3 Firm Competitiveness .............................................................................................. 7  
1.2 Research Problem ......................................................................................................... 8  
1.3 Research Objective ....................................................................................................... 11  
1.4 Value of the Study ........................................................................................................ 11  
CHAPTER TWO : LITERATURE REVIEW .......................................................................... 13  
2.1 Introduction .................................................................................................................. 13  
2.2 Theoretical Foundation ............................................................................................... 13  
   2.2.1 Resource Based View ............................................................................................ 13  
   2.2.2 Knowledge Based View ......................................................................................... 15  
2.3 Knowledge Management and Firm Competitiveness .................................................. 16  
2.4 Knowledge Management, Innovation Strategy and Firm Competitiveness ............... 18
CHAPTER THREE : RESEARCH DESIGN AND METHODOLOGY ........21

3.1 Introduction .................................................................................................................. 21

3.2 Research Design ......................................................................................................... 21

3.3 Target Population ....................................................................................................... 22

3.4 Data Collection Instruments .................................................................................... 22

CHAPTER FOUR : DATA ANALYSIS, RESULTS AND DISCUSSION ........24

4.1 Introduction ................................................................................................................ 24

4.2 Response Rate ............................................................................................................ 24

4.3 Demographic Profile ................................................................................................. 24

4.4 Background Information .......................................................................................... 25

4.5 Knowledge Management ......................................................................................... 27

4.6 Innovation Strategy .................................................................................................. 29

4.7 Firm Competitiveness ............................................................................................... 30

4.8 Regression Analysis ................................................................................................. 31

  4.8.1 Model Summary .................................................................................................. 31

  4.8.2 ANOVA ............................................................................................................... 33

  4.8.3 Coefficients of Correlation ............................................................................... 34

4.9 Discussion of the Findings ......................................................................................... 35

CHAPTER FIVE : SUMMARY OF FINDINGS, CONCLUSION AND
LIMITATION .................................................................................................................. 38

5.1 Introduction ................................................................................................................. 38

5.2 Summary of the Findings ......................................................................................... 38
5.3 Conclusion ............................................................................................................. 39
5.4 Limitation of the Study ........................................................................................ 40
5.5 Recommendation of the Study on Policy/Practice and Theory ....................... 40
5.6 Suggestion for Further Research ........................................................................ 41
APPENDICES .............................................................................................................. 45
APPENDIX I: LETTER OF INTRODUCTION FROM UNIVERSITY ............. 45
APPENDIX II: LETTER OF INTRODUCTION ...................................................... 46
APPENDIX III: QUESTIONNAIRE ........................................................................... 47
LIST OF TABLES

Table 4.1: Background Information ..................................................................................25
Table 4.2: Knowledge Management ..................................................................................28
Table 4.3: Innovation Strategy ..........................................................................................29
Table 4.4: Firm Performance .............................................................................................30
Table 4.5: Model Summary ...............................................................................................32
Table 4.6: ANOVA\(^a\) ........................................................................................................33
Table 4.7: Coefficients .......................................................................................................34
ABSTRACT

The present day market condition is characterized by intense level of completion, a condition that is forcing organizations to seek innovative strategies that will enhance their performance. Increasing the performance of a firm requires that multiple features be already entrenched in a firm one of these being an efficient knowledge management. The objective of the study was to determine the influence of knowledge management on the relationship between innovation strategy and firm competitiveness of telecommunication firms in Kenya. Towards the realization of the research objective, the study adopted a cross-sectional survey design whereby all the four telecommunication firms formed the population of the study. The research employed a semi-structured questionnaire as the main data collection instrument while for analysis descriptive measures of mean and standard deviation was employed. The study results show organizational knowledge management takes different forms with an aim to facilitating effective innovation process and consequently improvement firm competitiveness. Further, the study reveals that the telecommunication firms recognize customers as important source of innovation knowledge, based on the high results that show that the managers agreed to customers being a critical source of innovation knowledge. Similarly, the innovation capacity resulting from firm knowledge management capabilities was manifested through actions such as the ability of the telecommunication firms to design products that match specific competitive needs available in the market and introduction of products and services that cannot easily be imitated. The research concluded that effective KM has a significant impact on innovative capabilities of a firm to bring about competitive advantage. The study recommends that the telecommunication firms invest in unique knowledge and capacities of its organizations that cannot be easily transferable because the uniqueness of a resource is likely to result in increased level of competitive advantage.
CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

This section introduces the research subject area. It covers the background of the study, discussion of the research topic variables as well as states the research problem that was investigated. In addition, the objectives of the study as well as the value that the study adds were discussed.

In the current market situation, competition is ever increasing forcing organizations to seek innovative strategies that will enhance their performance. Increasing the performance of a firm needs multiple features be already entrenched in a firm one of these is an efficient knowledge management. Different firm abilities are anchored upon the existence of effective knowledge management in an organization. Cohen and Levinthal (2010), argue that the outputs as a result of innovation be subject to the prior knowledge gained that enabled scientists to integrate and utilize new knowledge acquired. Yosefi, Jaafar and Soliamani, (2011) is of the view that technological approaches repeatedly fail to progress, and successful innovators face a lot of obstacles in maintaining the level of their performance which calls upon the firm to come up with system that will support continuously innovation process. They argue that the reason why firms are unable to sustain their innovation goes deeper than the commonly cited cause of failure to execute. Peet (2012) suggest that an effective knowledge management might be the reason that business entities that operate in competitive environment require to maintain innovation process.
The study was anchored on the Knowledge-based View (KBV) and Resource-based view (RBV) having been applied extensively in explaining the concept of business performance. The Resource Based View (Barney, 1991) explains why an organization can outperform others and explains that greater performance and high degree of competitive advantage can only be acquired by companies with particular capacities to influence the market and amount of resources. The distinctiveness of an internal resource will depend on its durability, rarity, value, non-substitutability, appropriability and inimitability of rents generated. Conversely, the Knowledge Based View (Grant, 1996) suggests that the major valuable resource amongst companies is the knowledge of the workforce. It postulates that the long term competitive advantage determines the capacity of a firm to undergo reformation and to continuously renovate its idiosyncratic and valuable resource supply and abilities to enhance adoption of new technology (Winter, 2000). Thus, the suggestions of KBV are that the basic value that a company should have is knowledge and that if a company is to foster creation of value, then accumulation of knowledge should be the approach to adopt (Hsu and Sabherwal, 2011). However, a significant way to resourcefully and successfully create, maintain, and convey knowledge, is regarded as a foundation of competence strategy associated with knowledge, hence contributing to improved performance of organizations and its asset base.

The telecommunication industry in Kenya is considered one of the vibrant industries with far high rate of innovation products with a short life cycle. The innovation rate during the current digital age requires that the telecommunication firms develop and manage well their knowledge capital because it is through the existing knowledge base that a firm is able to innovate products that meet customer demands and in the process become more competitive in the market place.
According to Ndungu and Sakwa (2016), in comparison with the other mobile telecommunication firms in Kenya, Safaricom has managed to maintain its competitive edge due to its innovativeness. However, the success of a firm to innovate new products is dependent on its capacity to have adequate knowledge repository in the organization. Therefore, the current research will be seeking to establish the influence of knowledge management on the relationship between innovation capacity and competitiveness of telecommunication firms in Kenya.

1.1.1 Knowledge Management

Knowledge Management (KM) is often viewed as multidisciplinary and multi-dimension concept that has given rise to many definitions. Davenport (1994) asserts that knowledge management is the procedure of acquiring, disseminating, and efficiently applying knowledge in the firm operations. Couple of years later, the Gartner Group progressed another version of KM definition that is frequently cited, thus that KM is a subject that enhances an integrated dimension to identify, capture, evaluate, retrieve, and distribute all information relating to assets of an enterprise. The information will constitute procedures, databases, policies, documents, and earlier un-captured experience and expertise in each and every worker (Small, 2006). On their part, Meihami and Meihami (2014) posit that knowledge administration relates to operations involving activities such as identification, acquisition, distribution and application of knowledge with the goal of improving the state of cost-effective measures that fosters achievement of business objective.
From the above definitions, knowledge management can be considered as the procedure in which performance of organizations is enhanced via better organization of corporate knowledge by all available information essential for making corporate policies. Liao and Wu (2010) highlight that for a firm to achieve long-term competitiveness; it needs to use the available knowledge, such as innovation, to sustain the foundations of distinctive activities. Alegre et al. (2011) add that efficient KMP enhances the advancement of customs and competence, provided that thought the company is capacitated to acquire various resources, there is still an urgency of an efficient KMP that will exploit these resources economically. The popular knowledge management dimensions in a firm consist of storage and distribution of knowledge and measures that currently entails the way organizational knowledge is applied and further, provide means of retrieving knowledge that is significant to the organization.

1.1.2 Innovation Strategy

Innovation strategy is a set of activities and techniques that interrelated with each other that determines the manner in which a firm seeks for new ways of dealing with emerging problems by providing a guide into establishment of effective solutions, identification of appropriate projects and later a selection procedure of projects that will receive funding (Cohen & Klepper, 2006). An organizations innovation process has become a critical component to realising competitive advantage. Francis and Bessant (2015) cite that innovation is the adoption or creation of behaviour or an idea in an organization with an aim of creating a business value through development of ideas that are worthwhile into a customer-centric vendible authenticity.
Every organization need to come up with a customised innovation strategy to its operations and the business environment that it’s operates in. This is because aping another organizations strategy will not lead into persistent solution due to inability of single innovation strategy that will effectively apply among all companies in the same measure under all circumstances. Hamel (2009) however noted that, it is not wrong to learn from others, but it is wrong to believe that what works for a competitor will efficiently yield the same results if applied in your firm. A clear strategy of innovation will enable a firm to design a system to match your specific competitive needs. Consequently, Venkatraman (1989) advises that an effective innovation strategy must comply and adhere with the company’s objectives, vision, mission and the long term strategic plan.

Different innovation strategies have been developed to aid organizations come up with more appropriate innovation that respond to the market demands. Ansoff and Stewart (1967) first developed an innovation framework that categorises the stages of innovation to suit the market trend, meet the market demand and manufacture similar products. On their part, Snow and Miles (1978) categorized the various innovation strategies to analyser, defender reactor and Prospector while Porter (1980) topology had differentiation of products and services and management of cost with regards to innovations. Similarly, for firms in the international business, Saarenketo, Jantunen, Tuppura, Puumalainen, and Kylaheiko (2011) topology had the strategies categorised into global and local innovator, local and global replicator. In order for a firm to generate a strategy that will outperform its competitors, different innovations need to be initiated and implemented.
Porter (1985) suggests that firms that operate aggressively in the market will always operate uniquely by reforming and being innovative enough in terms of manufacturing designs and channels of product distribution. Venkatraman (1989) opines that if a company gains a lion’s share market proportion by setting high targets and putting up measures that will ensure the set targets are achieved, such company will flourish against its competitors. Damanpour and Aravind (2011) suggest that strategies that spearheads value-creation tend to draw attention of imitators very fast similar with the manner in which customers will get attracted as because individual scholarly property will not guarantee competitive advantage over competitors from aping once innovation.

Martínez-Ros and Labeaga (2009) give an example whereby immediately after Apple’s iPad, many imitators entered the market, resulting in price changes which has the potential of reducing the reputation captured by the initial innovator. However, when other companies, distributors and suppliers are expected to come up with an innovative strategy, they are expected to have a higher bargaining power and a dominant perception that will lure innovators. Consequently, companies should enhance product quality that will facilitate retention of loyal customers and enhance customer satisfaction to prevent losing customers to potential competitors.
1.1.3 Firm Competitiveness

Organization of Economic Cooperation and Development (OECD, 2012) defines competitiveness of a firm as the capacity of an organization to compete effectively, improve profitability and to develop in accordance with price and costs strategy. For a firm to realize its competitiveness, it needs to recognize the need of firms to use their technology, quality and networking capacity to increase their level of competitiveness. Firms’ innovation capacity, advanced technology, efficient control of company resources, brand name, high quality products and services, and human capital are currently identified as the basic factors that facilitates competitiveness for business units (Johnson & Scholes, 2002). Further, Nonaka and Teece (2001) opine that firms should focus on ways of harnessing available knowledge that will, as a result, bolster competitive advantage rather than emphasizing on outdoing competitors basing on other factors.

Other scholarly works have also suggested that one way of enhancing global competition is to adopt a strategic management that encourages adoption and implementation of acquired external knowledge via international networks and relationships among firms (Child & Faulkner, 2008). Organizations sustained competitive operation must always be anchored on a continuous renewal of the organization’s structure; direction that informs of strategy and ability to have the capacity that will facilitate effective and satisfactory service delivery to both foreign and domestic customers (Moran & Brightman, 2009). Recent changes in technology and economics, as well as increased competitiveness in many industries, are leading to further growth in the number, variety, and scope of strategies that are required by a firm to remain competitive in its product offerings.
In the same way, the perception that the competitiveness ability of a firm can be attained through economically utilizing the company’s human capital and effective development strategies, has been echoed by various economists (Peters, 2009). Human resource development should involve substantial training investment, adopting a mechanism that will promote provision of motivating services in order to capture and implement the innovative knowledge of employees and attracting more creative minds to work in the company through good employer reputation. In the current study, the Mobile telecommunication firms in Kenya level of competitiveness will be measured by their capacity to defeat competitors in the market place, capacity to provide high quality goods and services to the clients contrasted with the competitors’, ability to recognize market changes compared to the main competitors and also capacity to act accordingly towards the demands of dynamic market in comparison to the other competitors in the market place.

1.2 Research Problem

In the present day dynamic business environment, Subramanian and Youndt (2005) opine that, for firms to survive, they need to come up with an appropriate knowledge-based process and be able to develop appropriate intangible resources and competencies. Indeed the knowledge-based view (KBV) suggest that in the current business environment, resources that are knowledge-based, unlike tangible assets, have the potential of firing a company towards attainment of greater performance (Bogner & Bansal, 2014). However, as a result of uneven distribution of knowledge in a firm, it is imperative that an appropriate knowledge sharing system among units, teams and individuals to be established in companies in order to recognize, harness, generate, and cultivate their knowledge to enhance the process of capacity building and resource structuring.
Therefore, one of the areas in which knowledge management has played an important role in organizations is coming up with an effective technological strategy. The mobile telephony industry in Kenya has been undergoing rapid changes over the last 15 years with the Communications Authority of Kenya having licensed four mobile operators in Kenya over the same period; Safaricom, Airtel and Essar (Yu) and Orange, though in 2013, Essar (Yu) exited the market in 2013, and a number of internet based service providers like Wananchi and Jamii Telkom have come into operation. With such a number of mobile operators serving a market of around 30M Kenyans with mobile phones, the level of competition is high in both the voice and data service provision (Oteri, Kibet & Ndungu, 2015).

The firms need to continuously come up with new innovations that meet customer needs and at the same time to differentiate itself from the rest of the players in the market. This is because coming up with a new service or product is not an end in itself because it will be imitated very soon than later and there is need to always come up with differentiated products. For the organization to effectively come up with appropriate innovation, it needs at the same time synchronise the available organizational knowledge through establishment of appropriate knowledge management system. The role of innovation strategy as a source of organization competitiveness has attracted the interest of various scholars and practitioners. Noruzy, Dalfard, Azhdari and Shirkouhi (2013) investigated the associations between organizational performance, organizational learning, transformational leadership, knowledge management and organizational innovation amongst manufacturing companies in Iran by adopting structural equation modelling. The results were that knowledge management and organizational learning has a direct impact on innovation capacity of a firm.
In the Chinese market, Wang, Wang and Liang (2014) researched on the link between distribution of knowledge, intellectual capital and firm performance among technology firms in China. They study findings was that knowledge sharing significantly contribute to relational, human and structural capital, while unambiguous knowledge sharing significantly influence structural and human capital. Karabulut (2015) sought after establishing the impact of technological strategy on firm performance among the Turkish manufacturing companies. The study found that strategic innovation influence financial performance of a firm more than other instruments of development, in addition, technological strategies enhances customer retention and facilitates efficient performance of internal business operation.

Kombo (2015) investigated the nexus between knowledge strategy, organizational characteristics, innovation and performance of Kenyan manufacturing firms. From the integrated model, the results reveal that the effect of knowledge strategy on organizational and individual performance is contingent on interaction of organizational characteristics and innovation; which means that there is need to align knowledge strategy with the situational factors to enhance performance. Mutinda (2017) ought to define the connection between knowledge management and innovation among the Kenyan Commercial banks. The findings were in line with the theory in that knowledge management was found to enhance innovation among commercial banks. Based on the above more related studies and other literature, it is evident that there have been limited studies that investigate the role that knowledge management has on the connection between firm performance and innovation strategy. Further, the scholarly works that have focused on the impact of technology on performance of a firm were within commercial banks industry and not in the telecommunication industry.
Furthermore, the intermediating starring role of KM on the connection between innovation strategy and competitiveness of telecommunication firms in developing country, like Kenya has not been addressed. The study unlike the above stated ones will adopt stepwise regression analysis which differs with the earlier studies that used simple regression analysis. This gap leads to the quest to provide an appropriate answer to the question; what is the influence of knowledge management on the relationship between innovation strategy and competitiveness of mobile telecommunication firms in Kenya?

1.3 Research Objective
The objective of the study was to establish the influence of knowledge management on the relationship between innovation strategy and competitiveness of mobile telecommunication firms in Kenya.

1.4 Value of the Study
This study could make three important contributions for both policy and practice. To the policy makers, the understanding of how knowledge management moderates the relationship between a firm innovation strategy and competitiveness will facilitate development of appropriate incentives and training to telecommunication firms employees. The expected contribution of the study is to provide new insight into understanding the function of knowledge management infrastructure in innovation and eventually in enhancing organizational competitiveness. Regulatory authorities might be able to develop appropriate tax incentive systems for cost incurred in the process of managing organizational knowledge and at the same time offer training opportunities on the importance of innovation strategy to a firm.
Thus the study will help in coming up with appropriate policies to guide the organization innovation strategy and identification of staff to guide the process. The regulators might gain suggestions on how to improve the performance of the telecommunication firms through the use knowledge management as an organization strategy and also develop ways in which the telecommunication firms can be leveraged to get rebates on their costs incurred in training. Finally, the study could add value to the KBV literature by investigating the existence of inter-connections between knowledge management, innovation strategy and firm competitiveness. The study findings will harmonize and expound previous research in these areas and also on its recommendation form a basis for further research. Scholars might gain how effective knowledge management can increase firm innovativeness and therefore performance.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
In this chapter, the main points of discussion are the literature related to the role of knowledge management on the relationship between innovation strategy and competitiveness. Furthermore, the chapter discusses also the theories supporting the study. The chapter ends with a conceptual framework that shows how the variables relate with one another.

2.2 Theoretical Foundation
In this section, the core point of discussion was based on relevant theories that underpinned the study topic. Therefore the two theories, Resource Based View (RBV) and the Knowledge Based View (KBV) will provide a genuine guide towards the achievement of the study objective. The relevance of each of the theories to the research is further discussed in the context of each of the theory.

2.2.1 Resource Based View
The Resource-Based View (RBV) was advanced by Barney (1991) and recognizes that the fundamental drivers to firms’ superior performance are attributes to the resources and capabilities which reside in the organization and are valuable and costly-to-copy (Peteraf & Bergen, 2003). The RBV further explain how companies attain and uphold a competitive advantage by bearing in mind a firm as a bundle of capitals that are exclusive to the company, and which, likened with the packages of other companies, may transform into a competitive advantage.
According to Barney (1991), for a resource residing in a firm to be a source of competitiveness, then it needs to be unique and the combination of different organization uniqueness through formation of an alliance will create much higher level of performance. The RBV assert that an actively operating firm is characterised by availability of capacity to progress and resources to facilitate growth proposing that when firms have similar pool of resources and capacities, then there is a potential of harnessing superior performance shall be available in the industry (Wilden, et al., 2013).

The capacity of an organization management, as one form of internal organization resource, to develop and manage knowledge residing in a firm has the capacity to influences the firm ability to be competitive in the future. Internal knowledge that reside, say among employees, has the capacity of the firm being innovative and develop new products that will be appealing to consumers and therefore increase the firms competitiveness. Hence the system of knowledge management enhances the process of establishing, disseminating and implementing knowledge in organizations (Alavi & Leidner, 2011). Knowledge management systems are able to collect internal abilities andthe know-how sustaining the foundations of distinctive activities within an organization. Rohrbeck (2010) further assert that the capacity of an organizations’ management to see future opportunities and challenging challenges enables it to prepare in advance by tailoring the organization activities to capturing the opportunities that present it. Thus, RBV provides an opportunity to appreciate the internal resources in a firm as a source of competitiveness. Further, RBV provide an explanation why a firm need to have a long term strategic horizon in their planning process.
2.2.2 Knowledge Based View

The Knowledge Based View (KBV) was improved by Grant (1996) and is an advanced format of the resource-based view (RBV). KBV suggests that the potential resources that a company may acquire may not perform well without establishing its knowledge foundation which is a key element towards achieving sustainable uniqueness in the market resulting into long term competitive advantage. Resources categorized as Knowledge-based are resources that are protected from imitation by competitors and are rare to be re-produced due to its unique feature of being hard to identify its impact towards a particular result because it is a resource that involves individuals’ talents. Hence, KBV recognizes that as a result of significance importance of knowledge in competitiveness of a firm, the higher the investment and management in knowledge by a firm, the greater the benefits will be for the firm. Organization’s knowledge can be embedded in different repositories that include, individual’s mind (Cross and Baird, 2000), and perception toward the daily activities, procedures or the set-up of an organization, or on external social networks established with institutions or companies.

Alavi and Leidner (2011) argue that incorporating the KM scheme not only needs availability of large amounts of knowledge-based resources, it also requires a smooth flow of knowledge across the entire system of operation resulting into proper circulation of knowledge accumulated. According to Palacios and Garrigos (2014) strategic KM implementation can provide a foundation of significant results in various business dimensions which include implementation of appropriate projects and policies, sustainable solution to the persisting challenges and enhanced functional business operations leading to greater organizational performance.
Further, creation of a new product is more likely to be achieved with a better management of knowledge (Ettlie & Pavlou, 2010). Similarly, employee knowledge is considered important resources in service firms, more so in conducting business activities that needs collaboration and interaction with clients. However, it is always important in knowledge management to establish a strategy that facilitate investment of existing knowledge into organizational innovative structures and routine operations to avoid the risk of losing essential knowledge as a result of employees turnover (Argote & Ingram, 2010).

Thus, organizations should come with ideas of harnessing individuals’ knowledge into its strategic plans in order to create a corporate knowledge base that will be long-lasting dynamic at the same time. This form of knowledge should be a characteristic of the firm as an entity and should not signify the aggregation of the various capabilities and competences held by employees that will be lost of the said employee leave organization. This collective knowledge is an important factor that fosters competitive advantage due to its firm-specific characteristics unlike individualized property or attributes (Ebbers & Wijnberg, 2009).

2.3 Knowledge Management and Firm Competitiveness

The KBV acknowledges that knowledge is the primary source of an organization value that will depend on its capacity to store and apply knowledge (Hsu & Sabherwal, 2011). Further, with respect to the Intellectual Capital (IC) theory, the assets in terms of knowledge and skills are part of a firm’s intellectual capital and forms part of the internal resources that create firms competitiveness. A firm’s competitiveness has been found to significantly be affected by the capacity of a firm to configure appropriately its internal resources, including knowledge.
For example, Chen et al. (2010) claim that the process of technological innovation of a company is shown by a sequence of important characteristics that includes exhaustive and constant interaction and co-operation between organizations that are specialist both professionally and functionally and also it comprises of a chain of operations whose status basing on the outcomes is unpredictable. This action can best be achieved if the organization has come up with proper knowledge acquisition and dissemination system. Thus it implies that effective KM is a precursor of successful innovation process.

Amundsen, et al. (2014) while attempting to find out the impacts of structure and the norm of an organization on management of knowledge, established that knowledge management has a positive relationship with innovativeness of a company. The study also established that the innovativeness impact of knowledge management is positively affected by encouraging culture and a structure that is decentralized and less dignified. Laforet (2011) suggest that a firm’s innovation capacity is associated with enhancement of image and reputation, an improvement in efficiency of operations and benefits relating to reduced operational cost resulting in a greater financial performance of the company. Further, effective innovation capacity of a firm is linked to a more experienced workforce, and superior in house proficiency leading to more innovation. Thus, innovation is an important weapon to compete in the market and Okatan (2012) assert that organizations that are incapable to provide innovative products and services, could be wiped out from the industry by other competitors.
However, Grant (1996) warns that though for a firm to establish competitive advantages, it needs to come up with the vibrant strategy of implementing knowledge along the lines and domains of experts; to maintain the created competitiveness, a company must shield its proprietary knowledge from imitation and expropriation by rivals. In addition, though it is acknowledged that the starring role of KM in the course of innovation is very important, effective KM implementation on its own is not enough to attain enhanced innovative performance on a constant basis, but rather for limited period of time. This is because, sooner than later, competitors will find it easy to dilute the competitiveness of a firm by emulating similar operational strategies. Similarly, new technology in the market environment can subject a particular KM strategy inconvenient or useless (Jiménez-Jiménez, et al. 2014). This therefore implies that an organization knowledge management practices should continuously be adapted to the changing business environment for it to contribute more effectively to the organization innovation process.

2.4 Knowledge Management, Innovation Strategy and Firm Competitiveness

The effect of knowledge management on organizational outcomes has implied that, apart from the influence of knowledge management on performance of organization, other organizational outcomes have been shown to be affected by knowledge management strategies (Huang & Li, 2009). Indeed, Porter (1990) established that innovation was the potential outcome of continuous competitive advantage. Innovation has been considered as duplicable knowledge in the circumstance it is applied and verified useful in practical nature. However, Jiménez-Jiménez, et al. (2014) elaborate that knowledge management not only emphasizes on creation of new ideas but rather it provides an ample background that facilitates creation of innovative strategies.
In addition, innovation is regarded as a process that basically requires an intense pool of knowledge and therefore companies should establish an approach that promotes harnessing of existing knowledge recourses to investigate on new ideas that will lead into creation of new knowledge. Therefore, the major role of an innovative firm is to put together knowledge assets and resources with the aim of exploring new ideas. Indeed, Kashif et al. (2011) pose it that organizational knowledge resources are the centre point of innovation due to its ability to enhance the knowledge capacity of the organization that result into innovation.

Kianto (2011) suggests that organizational performance rely upon the ability of an organization to incorporate knowledge to establish a competitive strategy and a scheme for value creation. Hence, in order for a firm to continuously registering an outstanding performance, it must set up a mechanism for generating, advancing, and implementing knowledge. Noruzy et al. (2012) in an attempt to institute the influence of KM on organizational performance sampled a total of 106 companies in which the findings was that KM has a positive impact on the performance of firms in manufacturing industry. However, Garcia-Morales et al. (2014), opine that the knowledge strategic variables for example knowledge slack, absorptive tastiness and ability imply a positive interceding role between organizational performance and transformational leadership. Kiessling et al. (2008) suggested that KM significantly influence organizational financial performance, including innovation capacity of a firm, employee development and upgrading of product quality. Similarly, KM directly and positively affects the performance of SMEs’.
In addition, Marques and Simon (2006) discovered that KM leads into a long term competitive advantage that finally results into growth, profitability of capital, financial and operational effectiveness, satisfaction of stakeholders, and enhanced competitive situation. Thus, projects laid out on a KM based strategy are perceived to possess positive impact on improving the performance of an organization. This therefore explains why companies are championing for implementation of the best KM strategy to avoid losing the potential. Similarly, Ong (2003) found that the advanced the nature of organizational knowledge creation and protection, the higher the effectiveness level of organization.
CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter highlighted the research methodology that was used. The section discusses the research design, the study variables, the study area and the study population. In addition, the data collection procedures as well as data analysing and presentation tools that were applied are further discussed.

3.2 Research Design

A research design is characterised as a blueprint that is strategically planned that guides the researcher in the process of data collection, evaluation and analysis in which the choice of selection is dependent upon the phase of knowledge regarding the topic of research as progressed (Tromp, 2008). An appropriate survey is one that allows the researcher to gather information by inquiring about opinions, beliefs, behaviours, answers or attitudes from the chosen population sample in order to comprehend the cluster or represented population (Kothari, 2004).

The study adopted a cross-sectional descriptive research design. The design was considered suitable since the key interest was to discover the feasible relationship and designate how the knowledge management influences the relationship between innovation strategies on organizational performance. Since all the telecommunication firms in Kenya were involved in the study, then a cross-sectional survey was deemed appropriate.
3.3 Target Population

A population of study is a complete group of persons or corporate bodies that the researcher has shown interest to examine some characteristics (Sekaran & Bougie, 2010). The clear definition of a target population is dependent upon several factors including, time frame, availability of elements, topic of interest and geographical boundaries. The population of the study comprised of 4 telecommunication companies registered in Kenya. Since the number of firms is small, the research was census.

3.4 Data Collection Instruments

The study used primary data that was collected by use of structured questionnaire and an interview guide. The questionnaire comprised of both open and closed ended questions. The close ended questions facilitated capturing of opinions that can be quantified during analysis. The open ended questions helped in eliciting responses that can be qualitatively analyzed and capture factors relevant to the study but cannot be set by structured questions. The questionnaire was structured into three sections. Part A sought to capture the respondents’ and telecommunication firms’ demographic information while Part B sought to establish knowledge management and innovation strategy. Part C sought to determine the influence of the knowledge management on the relationship between innovation strategy and performance of the telecommunication firms. Before the commencement of analysis procedures, the data collected was assessed to ensure completeness. The correctly filled questionnaires were coded for ease of identity. Descriptive statistics that was computed standard deviations, percentages and mean scores.
These descriptive has been presented on tables for convenient interpretation. The study used Baron and Kenny (1986) moderation model to establish the moderating role of knowledge management on the relationship between innovation and performance of the firms.

To test the relationship, stepwise regression analysis was used with three models as shown below:

\[
Y = \alpha + \beta_1 X_1 + \epsilon \quad \text{.........................................................} (1)
\]

\[
Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \epsilon \quad \text{.........................................................} (2)
\]

\[
Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_1 X_1 \cdot X_2 + \epsilon \quad \text{.........................................................} (3)
\]

**Where,**

\( Y \) - Organizational Performance

\( \beta_1 - \beta_2 \) - Regression Coefficients

\( X_1 \) - Knowledge management

\( X_2 \) - Innovation strategy

\( \epsilon \) - Error Term
CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The main objective of the present study was to examine the influence of knowledge management on the relationship between innovation strategy and competitiveness of mobile telecommunication firms in Kenya. The study outcomes are presented in standard deviations, mean, tables and frequency distributions.

4.2 Response Rate

In the present study, the researcher distributed 75 questionnaires. From the questionnaires distributed, 60 questionnaires were duly filled and collected back which represented 80.0% of the sample size. Majority of the respondents held the middle level management position. This response rate is regarded suitable to draw inferences and make conclusions on the study topic. According Mugenda and Mugenda (2008), a 50% of rate response is sufficient, 60% is regarded as good and whereas 70% is rated very well. In conjunction, Bailey (2000) ascertains that a response rate of 50% is deemed sufficient, whilst greater than 70% response rate is very good. With regard to the recommendations above, the response rate of 80.0% is very good.

4.3 Demographic Profile

The population of the study comprised of 4 telecommunication companies registered in Kenya. The respondents’ demographic information considered in this study included the highest level of education, years worked in the company and the management level that the respondent is whereas organizations demographic include organizational ownership structure and the number of employees in the organization.
In this section, demographic characteristics of the respondents are discussed. The length of service, experience level and ownership structure provides an oversight on the extent at which a respondent is conversant with the company activities regarding innovation strategies adopted by the firm. In addition, results are presented in conjunction with objectives of the study. The findings on the demographic information of the respondents and company are presented in Table 4.1.

### 4.4 Background Information

**Table 4.1: Background Information**

<table>
<thead>
<tr>
<th>Level of education</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary</td>
<td>3</td>
<td>5.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Tertiary college</td>
<td>13</td>
<td>21.67</td>
<td>26.67</td>
</tr>
<tr>
<td>undergraduate</td>
<td>25</td>
<td>41.67</td>
<td>68.33</td>
</tr>
<tr>
<td>post graduate</td>
<td>19</td>
<td>31.67</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>100.0</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Length of service</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 5 years</td>
<td>9</td>
<td>15.00</td>
<td>15.00</td>
</tr>
<tr>
<td>5-10 years</td>
<td>33</td>
<td>55.00</td>
<td>70.00</td>
</tr>
<tr>
<td>Valid 10-15 years</td>
<td>15</td>
<td>25.00</td>
<td>95.00</td>
</tr>
<tr>
<td>over 15 years</td>
<td>3</td>
<td>5.00</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management level</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>lower level</td>
<td>18</td>
<td>30.00</td>
<td>30.00</td>
</tr>
<tr>
<td>Middle level</td>
<td>34</td>
<td>56.67</td>
<td>86.67</td>
</tr>
<tr>
<td>Valid Top level</td>
<td>8</td>
<td>13.33</td>
<td>100.00</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of employees</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 300</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>300-600</td>
<td>20</td>
<td>33.33</td>
<td>33.33</td>
</tr>
<tr>
<td>Valid 600-1000</td>
<td>34</td>
<td>56.67</td>
<td>90.00</td>
</tr>
<tr>
<td>over 1000</td>
<td>6</td>
<td>10.00</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ownership structure</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privately owned</td>
<td>50</td>
<td>83.33</td>
<td>83.33</td>
</tr>
<tr>
<td>Government owned</td>
<td>0</td>
<td>0</td>
<td>83.33</td>
</tr>
<tr>
<td>Both government and</td>
<td>10</td>
<td>16.67</td>
<td>100.00</td>
</tr>
<tr>
<td>privately owned</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Role play</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid yes</td>
<td>31</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>0</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>31</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Data (2018)
From the results in Table 4.1, majority (41.67%) of the respondents had an undergraduate degree while 31.67% had attained post-graduate level of education. From the findings, it is clear that majority of employees have attained at least undergraduate level and therefore they can be assumed to be knowledgeable on the research subject area and generally innovation strategies. In relation to the length of continuous service that the respondents had worked in the telecommunication company, the results reveal that majority (55.00%) of them had worked in the telecommunication company for between 5-10 years while 25.00% indicated that they had worked in the telecommunication firm for between 10-15 years. Generally over 80% of the respondent had worked in their respective firms for over five years and characteristics that make them, ceteris paribus, knowledgeable on matters relating to organizational innovative strategies and knowledge management.

The researcher also sought to determine the management level that the respondents held. The findings show that 56.67% of them held middle level while 30.00% were in the lower management level. This implies that majority of the respondents have been involved either directly or indirectly in implementation of innovation and knowledge management strategies. In regard to the size of telecommunication company as measured by number of employees, the results reveal that most (56.67%) of the firms had between 600-1000 employees while 33.33% had between 300-600 employees. Similarly, the findings indicate that the firms with more than 1000 employees was represented by 10.00%. The research findings indicate that majority of the telecommunication have more than 600 employees.
In addition, on organization’s ownership structure, the study found that majority of the telecommunication firms, (83.33%) are privately owned while 16.67% are owned by both private investors and government. In order to assess the level of participation of the respondents in organization decision making process precisely with regard to innovation and knowledge management strategies, the researcher sought to determine whether the respondents play a role in developing organizational strategy. From the results, all the respondents actively participate in developing knowledge management and innovation strategies from the first phase, implementation until conclusion.

4.5 Knowledge Management

Knowledge Management (KM) is often viewed as multidisciplinary and multi-dimension concept that has given rise to many definitions. Davenport (1994) asserts that knowledge management is the procedure of acquiring, disseminating, and efficiently applying knowledge in the firm operations. The range employed was ‘Not at all (1) to ‘Very great extent’ (5). The tallies of disagreement have been assumed to be represented by a variable with the mean score of between 0 and 2.5 on the Likert scale; (0 ≤ S.D < 2.4) while the ‘Neutral’ position took the variable with a mean point of 2.5 to 3.4 on the Likert scale: (2.5 ≤ M.E. < 3.4). The score of both strongly agree and agree represented the variables whose mean score were between 3.5 and 5.0 on a continuous Likert scale; (3.5 ≤ S.A. < 5.0). A standard deviation that is > 1.0 indicate a significant difference among the respondents on the statement asked by the respondent. The results on knowledge management are contained in Table 4.2.
Table 4.2: Knowledge Management

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>My organization can easily gain knowledge for innovation through consulting</td>
<td>4.102</td>
<td>0.864</td>
</tr>
<tr>
<td>Our firm receives different knowledge forms from customers</td>
<td>3.991</td>
<td>0.916</td>
</tr>
<tr>
<td>Our firm has formal structures for transferring knowledge within the organization</td>
<td>3.831</td>
<td>1.001</td>
</tr>
<tr>
<td>The firm encourages informal dialogue among employees to share ideas</td>
<td>3.715</td>
<td>0.873</td>
</tr>
<tr>
<td>Knowledge is shared in codified form in the organization</td>
<td>3.632</td>
<td>0.797</td>
</tr>
<tr>
<td>Our firm adjusts existing procedures quickly as the need arises</td>
<td>3.543</td>
<td>0.791</td>
</tr>
<tr>
<td>The organization adopts problem solving approach type of reasoning</td>
<td>3.321</td>
<td>0.787</td>
</tr>
<tr>
<td>My organization has alliances with different players towards improvement of organization innovation process</td>
<td>2.938</td>
<td>0.949</td>
</tr>
<tr>
<td>We access knowledge through internal organization sources</td>
<td>2.754</td>
<td>0.678</td>
</tr>
<tr>
<td>Results of discussions is documented</td>
<td>2.351</td>
<td>1.117</td>
</tr>
</tbody>
</table>

**Overall Mean** 3.418

**Source:** Research Data (2018)

The findings in Table 4.2 suggest that bank employees are persuaded that the knowledge management strategies in the organizations can easily be gained through consultation with outside consultants (Mean =4.102, SD =.864) and that customers form important source of knowledge to the organization. In addition, the study show that telecommunication firms have formal structures for transferring knowledge within the organization (Mean=3.831, SD=1.001) though the higher standard deviation that is greater than one indicates a variation on responses. However, the findings further do not reveal that to a lower extent the banks discussions rarely are documented nor do the banks employ the internal organization documents.
4.6 Innovation Strategy

The researcher sought to identify the various innovation strategies adopted by the telecommunication firms. The results are presented in Table 4.3.

<table>
<thead>
<tr>
<th>Table 4.3: Innovation Strategy</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>My organization’s innovation strategy is designed to match specific competitive needs</td>
<td>3.989</td>
<td>0.656</td>
</tr>
<tr>
<td>My firm innovations are tailored to meeting the needs of market</td>
<td>3.802</td>
<td>0.999</td>
</tr>
<tr>
<td>The firm innovation strategy is tailored to recognize the possibility of imitators entering the market</td>
<td>3.638</td>
<td>0.864</td>
</tr>
<tr>
<td>The firm innovation strategy is tailored to recognize the possibility of imitators entering the market</td>
<td>3.255</td>
<td>0.787</td>
</tr>
<tr>
<td>The firm’s innovation strategy is consistent to the organization vision</td>
<td>2.921</td>
<td>1.113</td>
</tr>
<tr>
<td>The innovation strategy is aligned to meeting the goals of the firm</td>
<td>2.753</td>
<td>0.894</td>
</tr>
<tr>
<td>The organization designs complementariness to the main product</td>
<td>2.592</td>
<td>1.119</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>3.279</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Data (2018)

The results in Table 4.3 suggest that the telecommunication firms in Kenya innovation strategy is designed to match specific competitive needs available in the market (Mean = 3.989, SD = 0.656) while being cognizant to the fact that imitators might introduce similar products and therefore the firms come up with products that makes them difficult to be imitated. In addition, the findings in Table 4.3 infer that the innovation process undertaken by the telecommunication firms are undertaken in a way that are aligned to meeting the goals of the firm with regard to its performance (Mean = 2.753 SD = 0.894).
4.7 Firm Competitiveness
The researcher also sought to determine the influence of innovation strategies of the performance of the telecommunication firms. The results are presented in Table 4.4

Table 4.4: Firm Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased revenue</td>
<td>4.112</td>
<td>0.884</td>
</tr>
<tr>
<td>Increased market share</td>
<td>4.013</td>
<td>0.912</td>
</tr>
<tr>
<td>Reduced revenue volatility</td>
<td>3.995</td>
<td>0.846</td>
</tr>
<tr>
<td>The product is perceived by customers as more reliable than competitors’ products</td>
<td>3.735</td>
<td>1.124</td>
</tr>
<tr>
<td>Accelerated cash flows</td>
<td>3.533</td>
<td>0.884</td>
</tr>
<tr>
<td>Reduced risk</td>
<td>3.356</td>
<td>0.676</td>
</tr>
<tr>
<td>Lower working capital</td>
<td>2.983</td>
<td>0.993</td>
</tr>
<tr>
<td>Lower fixed capital</td>
<td>2.763</td>
<td>0.886</td>
</tr>
<tr>
<td>Lower cost</td>
<td>2.642</td>
<td>0.891</td>
</tr>
<tr>
<td>Overall Mean</td>
<td>3.459</td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Data (2018)

From the study findings, it is found that knowledge management has a significant impact on the performance of an organization. In the same context, the study adopted various measurements to measure the extent at which organizational performance has been achieved. The findings further infer that the telecommunication firms had increased their revenue (Mean=4.112, SD=.884) as well as their market share (mean=4.013, SD=.912).
On the lower side of the continuum results, it suggests that to a lower extent the influence of knowledge management on innovation strategy of knowledge management strategies had resulted in lower cost (Mean=2.642, SD=0.891). This will give same minimal effect on the fixed capital investment by the firms. The low standard deviation in the responses indicates that there was concurrence among the respondents on the questions with regard to the innovation and knowledge management strategies in relation to its their effect on organizational performance.

4.8 Regression Analysis

The statistical relationship that lies between innovation strategy, knowledge management and competitiveness was established by use of multiple regression analysis. The researcher utilized statistical package for social sciences (SPSS V 20.0) to input and run the study measurements. Coefficient of determination evaluates the degree at which variations in independent variables explain deviations in the outcome variable or the variation proportion in the outcome variable (organization performance) that is described by all the independent variables. The areas discussed under this section include the overall model summary, the Analysis of Variance results and the regression coefficient results.

4.8.1 Model Summary

The model summary table represents the finding relating to how the predictor variables explain the depending variable. The table explains the nature of the correlation between the variables the level of changes in the dependent variable explained by the independent variable. The deviation of the values from the estimated regression line is also explained.
Table 4.5: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.863&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.745</td>
<td>.736</td>
<td>.543</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), Knowledge management, Innovation strategy

b. Dependent Variable: Firm Competitiveness

**Source: Research Data (2018)**

Table 4.5 shows model summary of regressed study variables resulting from the data. The correlation coefficient (R) value represents the degree and strength of association between predictor variable and the outcome variable. In this model therefore the coefficient of correlation is 0.863 which indicates a positive correlation between knowledge management, innovation strategy and competitiveness. The R Squared is the coefficient of determination which indicates the extent to which the predictor variables explains firm competitiveness. The $R^2$ value of 0.745 = 74.5% implies that, from the data findings, 74.5 % of competitiveness of the telecommunication firms is explained by the knowledge management and innovation strategy adopted by the firms.
### 4.8.2 ANOVA

Table 4.6 displays the ANOVA outcomes that clarify the model fit through the computed F statistic and the probability of F-statistic.

#### Table 4.6: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>49.146</td>
<td>2</td>
<td>24.573</td>
<td>83.433</td>
<td>.000^a</td>
</tr>
<tr>
<td>Residual</td>
<td>16.788</td>
<td>57</td>
<td>.295</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>65.933</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Organizational competitiveness  
b. Predictors: (Constant), Knowledge management, Innovation strategy

**Source:** Research Data (2018)

The results in Table 4.6 show that the F statistic was 83.433. At 5% level of confidence, the critical F statistic value is 252.2 and since the computed F-Value of 83.433 is less that the critical F-value, then it denotes that the model is significant to predict the tested variables. In this case, all the predictor variables (knowledge management and innovation strategy) explain a variation in level of competitiveness of the firms. The P=0.000, which is less than 0.05 imply that, generally the regression model significantly and statistically predicts the dependent variable that is good fit for the data.
4.8.3 Coefficients of Correlation

Table 4.8 shows the coefficient results for the model variables, the t-values of each of the independent variables as well as the significance (p-value).

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>.225</td>
<td>.411</td>
<td>.546</td>
</tr>
<tr>
<td>Innovation strategy</td>
<td>.907</td>
<td>.070</td>
<td>12.916</td>
</tr>
<tr>
<td>Knowledge management</td>
<td>.047</td>
<td>.085</td>
<td>.036</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Organizational Competitiveness

**Source: Research Data (2018)**

The findings in Table 4.7 imply that the overall equation model for predictor and outcome variables take the form.

\[ Y = 0.225 + 0.907X_1 + 0.047X_2. \]

Where \( Y \) = Firm’s Competitiveness

\[ X_1 = \text{Knowledge Management} \]

\[ X_2 = \text{Innovation Strategy} \]

The regression equation mean that, at any given point, the firms organizational competitiveness will be 0.225 units when all the predictor values are zero. The model demonstrates that when innovative strategy is advanced by one unit organizational performance will increase by .907. As depicted in the study findings, it can be concluded that innovative strategy is significantly and statistically related with organizational performance since the coefficient of determination is 0.907 and that the significance is 0.000 which is less than 0.05.
4.9 Discussion of the Findings

The present study was to investigate the influence of knowledge management on the relationship between innovation strategy and competitiveness. The study adopted various measurements in trying to gauge the extent at which knowledge management and innovation strategy have impacted organizational performance. In addition, the study also investigated the benefits that knowledge management has brought in telecommunication companies. The study results show organizational knowledge management takes different forms with an aim to facilitating effective innovation process and consequently improvement firm competitiveness.

Increase in the organizational knowledge originated from the different sources including from outside sources as consultants as well as internally within the organization whereby different departments communicated through different mediums on the state of innovation. The wide spectrum of the knowledge sources and sharing is in line to the findings by Voelpel et al., (2015) who postulate that several firms have implemented KMSs to simplify sharing of knowledge and that KMSs that supports information technology systems aid in documenting, distributing, and transferring tacit and explicit knowledge among employees hence increasing effectiveness of organizational functions and activities. Certainly Babcock (2014) postulate that 60% of world-wide companies have spent more than $4.8 billion on KM structures comprising of electronic bulletin boards, intranets, groupware for instance Lotus Notes, and electronic communication practice which enhances the level of organizational preservation of knowledge.
The study reveals that the telecommunication firms recognize customers are an important source of innovation knowledge, based on the high results that show that the managers agreed to customers being a critical source of innovation knowledge. In line with the findings by Kamasak and Bulutlar (2010) who explored the impact of knowledge distribution on innovation, the results of the study suggest that knowledge collecting process from both internal and external sources had a noteworthy effect on all innovation types. The capacity of a firm to come up with an effective knowledge sharing and storage platform supports the position held by the Knowledge based view theory (Grant, 1996) that posits that the potential resources that a company acquire may not perform well without establishing its knowledge foundation which is a key element towards achieving a sustainable competitiveness in the market. This is expected to result in improved firm competitive advantage.

The innovation capacity resulting from firm knowledge management capabilities was manifested through actions such as the ability of the telecommunication firms to design products that match specific competitive needs available in the market and introduction of services and products that cannot easily be imitated. These are some of the factors that results in improved firm competitiveness. As the Resource Based View (Barney, 1991) suggest, firm competitiveness arise from resources that are exclusive to the company, and that are, associated with the packages of other organizations, cannot be easily imitated. Thus, the result findings reinforce this position by stating that the firms strive to develop products that are not easily imitated by other competitors in the market. Similarly, the findings suggest that the innovation process undertaken by the telecommunication firms are carried out in a way that is aligned to meeting the goals of the firm with regard to its performance.
As established firms in the market, the finds reveal that the telecommunication firms adopt gradual innovation and this position supports Guan, Yam, Tang, and Lau (2009) findings that new entrants gain the most with disruptive strategies, while current incumbents mostly follow incremental or continuous innovation. This is because already they have established their footholds in the local market and hence they need have products that are majorly established. Unlike the new entrants that have to come up with a new disruptive concept, established firms need gradual and continuous innovations. Generally therefore, the findings reveal that knowledge management influences a firm innovative capacity which in turn positively affects the competitiveness of the firms. The literature expound that firms’ innovation capacity, advanced technology, efficient control of company resources, brand name, high quality products and services, and human capital are currently identified as the basic factors that facilitates competitiveness for business units (Johnson & Scholes, 2002).
CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND LIMITATION

5.1 Introduction

This chapter discusses the summary of findings, conclusion, limitations and recommendations corresponding to the study topic which was to investigate the influence of knowledge management on the relationship between innovation strategy and organizational performance of telecommunication companies in Kenya.

5.2 Summary of the Findings

The present study was to examine the impact of knowledge management on the relationship between innovation strategy and competitiveness. Moreover, the study also investigated the benefits that knowledge management has brought in telecommunication companies. The study employed various measurements in trying to gauge the extent at which knowledge management and innovation strategy have impacted organizational performance.

The study findings suggest that the telecommunication firms knowledge management takes different forms that range from consulting outsiders authorities in a particular line, customers, internal consulting among employees, codification of knowledge gained through a process that can be deciphered as well as being robust in altering internal organization procedures to capture relevant knowledge. The findings reveal that the firms adopt knowledge management strategies with an aim to facilitating effective innovation process and consequently improvement firm competitiveness. Indeed the findings suggest that the telecommunication firms, to a large extent recognize their customers as important source of innovation knowledge.
The innovation capacity resulting from firm knowledge management capabilities was manifested through actions such as the ability of the telecommunication firms to design products that match specific competitive needs available in the market and introduction of products and services that cannot easily be imitated. Similarly, the findings suggest that the innovation process undertaken by the telecommunication firms are carried out in a way that is aligned to meeting the goals of the firm with regard to its performance with incremental innovation approach being the dominant approach across the telecommunication firms. This was found to be due to their established state in the local market that discourages them to introduce disruptive innovations. Generally, the findings reveal that knowledge management influences a firm innovative capacity which in turn positively affects the competitiveness of the firms. The findings show that effective implementation of knowledge management enhances a firm’s innovative capacity which consequently increases the telecommunication firms innovative competitiveness.

5.3 Conclusion

The results of the study are steady with the extant theoretical foundations as advanced by scholars such as Argote and Ingram (2000) as well as Alavi (2001). The result findings suggest that not all knowledge management in the telecommunication firms are developed to the same level though knowledge management came out to positively impact organizational innovation and performance. This means that any development in a system with regard to knowledge management will result in improvement in innovation in the organization, which might result in improved competitiveness.
Investing in organizational knowledge management is therefore expected to result in improvement in organizational competitiveness. Therefore continuous investment in knowledge management is expected to result in sustainable competitiveness of companies, which may result in added value in the foreseeable future. Improved firm performance is expected to result in increased employment, growth of the country GDP and reduced talent attrition.

5.4 Limitation of the Study
The research was conducted on telecommunication firms in Kenya and whether its findings is in line with that of other industries will be able to be verified by future studies. These firms have unique structure and therefore this uniqueness might have influenced the research variables. The second limitation is the heterogeneous nature of the research respondents and it was assumed that all of them were conversant with knowledge management in the organizations. The third limitation of the study relates to the sample such that though the criterion regarding the minimum sample size had been observed, the result was a small sample size that might not be representative of the industry with regard to the study variables.

5.5 Recommendation of the Study on Policy/Practice and Theory
The study findings reveal that by a firm investing in knowledge management, the firm innovative capacity and competitiveness is enhanced. With the understanding that invention is the bedrock of telecommunication firms’ competitiveness, capitalising on knowledge management is investing in the organization competitive advantage, even under intense competition as is witnessed in the country. Therefore organizations’ managers should endeavour to enhance their knowledge management capacities.
5.6 Suggestion for Further Research

Knowledge and technology are concepts that changes with time, yet the present findings are based on a cross-sectional study, a situation that provides only a snapshot of knowledge management effects on firm performance. Therefore, a time series research design can be the next step for further research to fully understand how the knowledge management and innovation strategy affects the performance of a firm. Lastly, the study looked at the effect of knowledge management and innovation at the exclusion of other variables such as market dynamism and situational variables of a technological evolution, a change that can be worth investigating in future studies.
REFERENCES


Yosefi E, Jaafar, F & Soliamani, M (2011), Evaluation of the impact of knowledge management on innovation (Among managers and employees of technology companies based in the University of Science and Technology Park, *Quarterly ingenuity in Humanities, 3.*
APPENDICES

APPENDIX I: LETTER OF INTRODUCTION FROM UNIVERSITY

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS

DATE: 19/11/2018

TO WHOM IT MAY CONCERN

The bearer of this letter, Victoria M. Nyanziga,
Registration No.: D6d18391212/2016,
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 available to the interviewed organization on request.

Thank you.

Prof. James M. Njehia
Dean, School of Business

19 Nov 2018
APPENDIX II: LETTER OF INTRODUCTION

Victoria Mwangangi

P.O. Box 19477 - 00100

Nairobi

Dear Sir/Madam,

REF: RESEARCH PROJECT QUESTIONNAIRE

I am undertaking a Master of Business Administration (MBA) at The University of Nairobi and currently working on the research project which entails data collection. You are kindly requested to facilitate data collection by completing this questionnaire on the Influence of knowledge management on the relationship between innovation strategy and competitiveness of mobile telecommunication firms in Kenya.

Your participation and assistance is highly appreciated. The information provided will be treated with utmost confidentiality and used only for the purpose of this study.

Yours faithfully,

Victoria Mwangangi
APPENDIX III: QUESTIONNAIRE

This questionnaire is designed to gather information on the influence of knowledge management on the relationship between innovation strategy and competitiveness of mobile telecommunication firms in Kenya and is purely for academic purposes only. Kindly provide information to all items in the questionnaire by putting a tick (✓) on one of the options. For questions that require your own opinion, fill in the blanks. (………………………………)

1. Name of the organization (Optional)………………………………………………

2. What is your highest level of education qualification?
   a) Secondary ( )  b) Tertiary College ( )
   c) Post Graduate ( )  d) Secondary ( )

3. For how long have you worked with the organization?
   a) Less than five years ( )  b) 5-10 years ( )
   c) 10 – 15 years ( )  d) Over 15 years ( )

4. At what level of management are you?
   a) Lower Level ( )  b) Middle level ( )
   c) Top Level ( )  d) Others (Specify) ( )

5. How many employees are there in your organization?
   a) Less than 400 ( )  b) 400 – 800 ( )
   c) 800 - 1200 ( )  d) Over 1200 employees ( )

6. Ownership structure of the organization?
   a) Privately owned ( )
   b) Government Owned ( )
   c) Both Government and privately owned ( )
7. Do you play a role in developing the knowledge management and innovation strategies?
   a) Yes ( )  b) No ( )

Section B: Knowledge Management

8. To what extent does the organization pursue the following knowledge management strategy? Use 1-Not at all, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

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<tr>
<th>Statement</th>
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<th>2</th>
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</thead>
<tbody>
<tr>
<td>1  Our firm receives different knowledge forms from customers</td>
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<tr>
<td>2  My organization can easily gain knowledge for innovation through consulting</td>
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<td>3  We access knowledge through internal organization sources</td>
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<td>4  My organization has alliances with different players towards improvement of organization innovation process</td>
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<tr>
<td>5  Our firm has formal structures for transferring knowledge within the organization</td>
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<td>6  The firm encourages informal dialogue among employees to share ideas</td>
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<td>7  Results of discussions is documented</td>
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<td>8  Knowledge is shared in codified form in the organization</td>
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<td>9  Our firm adjusts existing procedures quickly as the need arises</td>
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<td>10 The organization adopts problem solving approach type of reasoning</td>
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</table>
What other knowledge management strategy has been pursued by the firm and that influences its performance?

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Section C: Innovation Strategy

9. To what extent does the organization pursue the following innovation strategy? Use 1-Not at all, 2-Small extent, 3-Moderate extent, 4-Great extent and 5-Very great extent.

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<tr>
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<tbody>
<tr>
<td>1  My organization comes up with innovations that are customised to customer needs</td>
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<td>2  My firm innovations are tailored to meeting the needs of market</td>
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<td>3  The innovation strategy is aligned to meeting the goals of the firm</td>
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<td>4  My organizations innovation strategy is designed to match specific competitive needs</td>
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<td>5  The firms innovation strategy is consistent to the organization vision</td>
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<td>6  The firm innovation strategy is tailored to recognize the possibility of imitators entering the market</td>
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<tr>
<td>7  The organization designs complementariness to the main product</td>
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What other innovation strategy has been pursued by the firm and that influences its performance?

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Section D: Firm Performance

5. Indicate in terms of average percentage the extent to which the following performance measures have changed in your firm as a result of innovation strategy? Where, 1= Not at all; 2 = Remotely; 3 = Moderately; 4 = Considerately; 5 = Greatly
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<tr>
<td>Increased revenue</td>
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<td>Accelerated cash flows</td>
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<td>Reduced revenue volatility</td>
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<td>Lower costs</td>
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<tr>
<td>Lower working capital</td>
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<tr>
<td>Lower fixed capital</td>
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<tr>
<td>Reduced risk</td>
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<tr>
<td>Increased market share</td>
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<td>The product is perceived by customers as more reliable than competitors' products</td>
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THANK YOU FOR YOUR TIME