

**EFFECT OF KNOWLEDGE MANAGEMENT PRACTICES ON
PERFORMANCE OF MOBILE TELEPHONE COMPANIES IN
KENYA**

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**RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF
MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF
BUSINESS,**

UNIVERSITY OF NAIROBI

NOVEMBER 2015

DECLARATION

I declare that, this project is my own original work and has not been presented for any award by any institution.

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ACKNOWLEDGEMENTS

I would like to thank the almighty God for His sufficient grace and knowledge that has enabled me to accomplish this research project.

I acknowledge the invaluable guidance from my supervisor Prof. Peter K'Obonyo and the immense contribution by the moderator of this project Dr. Florence Muindi. Their constant guidance and willingness to share their knowledge helped me to complete this task.

This task would not have been possible without the support of my family. My parents and siblings cheered me on and offered the much needed encouragement while my wife Rose Nyambura and son Jayson Kague bore the brunt of my absence during my period of study.

I also sincerely thank my colleagues at Generations Electronics who supported me in various ways and finally the respondents who took their time to participate in the study.

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ABSTRACT

Knowledge management is a concept that comprises a set of strategies and practices in order to capture, create, store and spread knowledge and experience within the organization. One of the major challenges of knowledge management is failure to form and develop a culture that embraces learning, sharing, changing and improving of knowledge in an organization. As mobile telephones improve and become easier to use, the importance of support and customer service departments like call centers, in developing and delivering relevant knowledge efficiently and effectively to meet evolving customer needs is also gaining momentum. The main objective of this study was to examine the effect of knowledge management practices on organizational performance of mobile telephone companies in Kenya. The study employed a descriptive survey as its research design. This design was preferred because very large samples are feasible, making the results statistically significant even when analyzing multiple variables. The study population in this case was all the 21 mobile telephone companies in Kenya. The study adopted census sampling technique to identify the respondents. The study utilized a questionnaire to collect data. The respondents in this study included at least 2 staffs in the management level from each mobile telephone companies. Data was coded, categorized, ordered, manipulated and summarized to obtain answers to the research questions. This was done by entering data into a computer through an excel spreadsheet to enable manipulation of the data before entering the data into SPSS after which analysis was done using the statistical package (SPSS). Descriptive statistics, frequency tables, mean and standard deviation were used to present the research findings. Regression analysis was used to link the relationship between knowledge management practices and performance of mobile telephone companies in Kenya. The study found out that the management of mobile telephone companies in Kenya understand the term 'knowledge management', as an alternative strategy by organizations to improve competitive performance. Knowledge management is used for acquisition, sharing and application of management knowledge in the institution so as to better manage and apply organizations tangible and intangible knowledge assets, especially the professional knowledge, experiences and competencies of staff. The study concluded that knowledge management practices in general influences organization performance in various ways including, knowledgeable employees, better decision making in the organization, improved service offering to clients, reduced operational costs and improved organizational competitiveness. This is mainly so because there is increased awareness of information that is critical to achieving the organization's mission. The order of significance of the effect of knowledge management practices on performance of mobile telephone companies in Kenya starting with the most significant to the least is; knowledge creation, knowledge sharing, knowledge acquisition, knowledge implementation and knowledge storage respectively. Based on the findings, the study recommended that to enhance understanding of knowledge management on perception of staff in performance of organizations, management should undertake in house trainings on knowledge management. This would enable application of staff knowledge in organization so as to better manage and apply organizations' tangible and intangible knowledge assets, especially the professional knowledge, experiences and competencies of staff to improve organization's performance.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Rapid changes in the global business environment demand that companies allocate their resources more efficiently (Ramussen & Nielsen, 2011). Organizations have to perform in an economic environment where value is created through the use of knowledge capabilities. Capitalizing on knowledge by generating revenues through the management of complex knowledge based activities is another challenge that organizations are faced with. This creates constant pressures for companies to perform under very competitive circumstances. The knowledge and experience gained in their area of business are resources left unexplored in many companies. Knowledge as an asset is quite often neglected and as such the value that could be created from this unutilized resource is ignored and is not capitalized upon. Knowledge management (KM) and the capabilities that it creates within companies if utilized correctly should be able to improve business performance and therefore these capabilities should be explored, developed and utilized more frequently.

KM systems refer to a class of information systems applied to managing organizational knowledge (Alavi & Leidner, 2001). They are IT-based systems developed to support and enhance the organizational processes of knowledge creation, storage/retrieval, transfer, and application. While not all knowledge management initiatives involve an implementation of IT, many rely on IT as an important enabler. KM activities, including knowledge acquisition, knowledge storage, knowledge creation, knowledge sharing and knowledge implementation can help the organizations achieve necessary capabilities, such

as problem solving, dynamic learning, strategic planning, decision-making, and improving their organizational performance as a whole (Zack, McKeen. and Singh, 2009). The main goal of KM is the rapid, effective and innovative utilization of the resources and knowledge assets, infrastructures, processes and technologies in order to promote organizational performance (Darroch, 2005). KM relies heavily on social and cultural components, and overlaps with organizational development, innovation, and competitive intelligence (Mayfield, 2008). This explains why organizational culture is important in KM. A culture where knowledge sharing is not encouraged would adversely affect the KM efforts. Lee and Choi (2003) have included culture, structure, people and information technology as knowledge management enablers.

The mobile phone industry sector contributes approximately 5% of Gross Domestic Product (GDP) in Kenya worth 33.62 billion US dollars in 2011 (World Bank Report, 2012). During the past two decades, Kenya mobile phone sector has undergone drastic changes, resulting in a market place which is characterized by intense competition and relatively low switching costs. Kenya mobile phone firms are specifically vulnerable to customer switching. Since the loss of customers also means loss of revenue, Kenya mobile phones firms must retain current customers and attract new customers on an ongoing basis to survive in the long-term (Egan 2004). It is therefore very important for managers to know what influence the provision of mobile phone services to enhance performance in order to take appropriate strategies to initiate them. According to Mayfield (2008) organizations services provided through the use of tangible resources are a function of the firm's knowledge through combination of different resources. This knowledge exists in

multiple entities in the organization including culture and identity, routines, policies, systems, and documents, as well as individual employees. This study seeks to assess how KM helps the mobile telephone companies to have a proper understanding of and insight into their internal experiences and external resources (customers, suppliers, and competitors) and its effects on performance.

The study was guided by two theories; the theory of organizational epistemology by von Krogh and Roos (1995) which posits that knowledge resides in both the individuals of an organization; and at the social level, in the relations between individuals. The second theory was the knowledge spiral theory by Nonaka and Takeuchi (1995). This theory focuses on knowledge spirals that explain the transformation of tacit knowledge into explicit knowledge and then back again as a basis for individual, group, and organizational innovation and learning.

1.1.1 Knowledge Management

Knowledge management (KM) is the process of capturing, developing, sharing, and effectively using organizational knowledge. It refers to a multi-disciplined approach to achieving organisational objectives by making the best use of knowledge (Karadsheh et al 2009). Knowledge management is a very wide subject with probably as many definitions as there are companies that have tried to or are investigating if they should consider it. Knowledge management consists of different strategies and practices for communicating and saving experience, opinions or insights within an organization. Depending on the strategy, techniques, and methods of knowledge management, the result will vary from organization to organization (Darroch, 2005).

Ibrahim and Reid (2009) postulate that, knowledge management is critical for organisations to create a sustainable competitive advantage. Moreso, knowledge management initiatives help to improve business processes. Organisations can reduce business-processing time simply because they can share best practices. Business processes can also improve through conversations and discussions that can generate valuable knowledge for forecast saving and cost reduction. Argote and Ingram (2000) propounds that knowledge management addresses business challenges and enhances customer responsiveness. This can be achieved through the production of innovative products or services and managing or enhancing relationships with existing and new customers, partners, and suppliers.

O'Dell and Grayson (1998) indicate that knowledge management results in less-frustration. Staff members can access information themselves and there is no need to rely on the availability of other people through document libraries. Work processes are documented so that when an employee leaves the organization or department, others can easily pick up those tasks without confusion. Research by Moffet and Hinds (2010) revealed that, successful knowledge management implementation emancipates employees. Knowledge workers have flexibility and freedom to conduct their work according to their own intelligence, experience, and initiative. They support each other as well as by technology and information infrastructure, which resultantly benefits both themselves and the organization.

1.1.2 Organization Performance

Organizational performance is described as an organization's ability to acquire and utilize its scarce resources and valuables as expeditiously as possible in the pursuit of its operational goals (Griffins, 2006). Organizational performance could be considered as the most important criterion for testing the success of organizations. Past studies have conceptualized organizations performance with measures of return on assets, sales growth, new product success (Narver and Slater, 2006), market share and overall performance, sales growth, market share and profitability (Jaworski and Kohli, 2011), overall performance, new product success, change in relative market share, profitability, sales growth, and overall customer satisfaction (Baker and Sinkula, 2009). In this field, Venkatraman and Ramanujam (1986) found that financial measures (return on equity, return on investment) and operational measures (market share, sales growth, and, profit growth) were frequently employed to measure organizational performance.

Johnsen and McMahon (2005) considered return on assets, return on shareholders' salary, and return on investment and dividend as the performance indices of organizations. Koh et al., (2007) used three criteria to measure organizational performance, including organizational effectiveness (the relative quality of the products, success in the provision of new products, and the ability of the organization to keep the customers), share and growth of market (sales levels, sales growth, and relative market share), and profitability (capital return rate and profit margin). In addition, Huang (2001) considered the indices of effectiveness, efficiency, productivity, life quality, innovation, and profitability for measuring the organizational performance. Since the considered indices for measuring

performance of the organizations are different, some of the most important indices applied in previous researches have been selected for this study. The indices which are considered here for measuring the performance of these companies include productivity, return on assets, staff performance, innovation, work relationships and customer satisfaction.

1.1.3 Knowledge Management and Organization Performance

Knowledge Management consists of making sure that the teams and individuals have the know-how they need, to make their task easier and to improve their performance (Lee & Choi, 2003). Knowledge therefore feeds performance, and knowledge is also derived from performance. Performance and Learning can form a closed loop (Darroch, 2005). The knowledge/performance loop describes the close link between these two elements, and it is fairly obvious that Knowledge Management and Performance will also be strongly linked. The more you know, the better you perform. If you learn from performance, you increase knowledge, if you increase knowledge, you improve performance (Bueren et al., 2004).

In order for organizations to be more successful and survive in a competitive market, they need to consider adaptive and intelligent strategies, including KM processes and best practices. Ibrahim and Reid (2009) indicate that knowledge management practices improve organization's operational activities in a variety of ways, such as reducing the design cycle time, lead time, cost, reducing time product-to-market and improving the quality of the product. In addition, sharing best practices allows the organization to improve its quality and reduce lead-time and cost, since new ways and techniques of

process improvement through knowledge creation and sharing processes would have been found.

Knowledge management helps in the improvement of organisational culture. Organizational culture can change towards a knowledge sharing culture where employees are driven to generate and share knowledge for the purpose of organisational improvement. Employees are motivated to share their knowledge because they feel more valued for their intellectual capabilities and skills when they can see their contribution towards improvements in the organization (Khalifa and Liu, 2003). Knowledge can be an organization's most competitive advantage. Wealth results when an organization uses its knowledge to create customer value by addressing business problems. A firm's competitive advantage depends more on its knowledge; that is what the organization knows and how fast it can know something new (Porter, 1985).

Knowledge management results in better customer service. Staff members know where to find information that the customer needs at a particular time since the flow of information is managed effectively in an organization. Moreover, there is increased competitiveness which results when a company utilizes knowledge management. Management can see at a glance where the business is weaker or stronger (O'Dell and Grayson, 1998).

1.1.4 Mobile Telephone Companies in Kenya

Mobile Phones were introduced in Kenyan market in 1992 and diffusion of mobile technology of affordable services started in 1999 when the Government of Kenya (GoK) established a regulator Communication Commission of Kenya (CCK) and National

Commission Authority (NCA) and the newly privatized company Safaricom Kenya Limited and Airtel Networks Kenya, Telkom Kenya (Orange) and Essar (YU) Kenya were licensed to provide mobile phone services (Economic Survey, 2012).

The introduction of the 1st generation of mobile handsets and networks in the early 1980s started a gradual but irreversible process that has fundamentally changed the way people communicate. What was originally seen as a complementary and later substitute means to fixed-line telephony has over the 2nd, 3rd and now 4th generation of mobile communications transformed into an irreplaceable part of people's lives in every continent with close to 4,6 billion worldwide users (ITU, 2010) and global annual unit sales exceeding 1,1 billion in 2009. According to Nokia (2010c), unlike in the past where calling and basic messaging dominated mobile phones use, phones are now used in many professional and personal contexts including, for example, exchange of emails, photography, Internet and social media. This tremendous change has been enabled by technological advances in areas such as electronics and telecommunications produced by hundreds of universities and companies around the world, but still much of the credit should be directed to those companies involved in the very business.

When the history of Smartphones in Kenya will be written, Huawei Ideos would definitely take some special mentions as the phone which introduced majority of Kenyans to the World of Smartphones. Before introduction of Ideos, Kenya was predominantly for Nokia with its series 40 phones and Motorola. Unfortunately Huawei paved the way but was not able to keep up the momentum after taking the market by storm. The other Manufacturers quickly learned the secret and soon enough the market had numerous entry point Android

smartphones (Kenya Association of Mobile phone Handset Manufacturers, 2014). In 2012, Kenya was firmly in the hands of Samsung. Samsung ended the year both as the world's top Mobile vendor and the leading manufacturer in Kenya. Nokia problem was not compounded by Samsung alone but other new entrants like Tecno, Itel, Huawei, Lenovo, Infinix, LG, Oppo, Obi & Wiko are also having a field day. The main player for the feature phones in Kenya now is Tecno. Tecno is not restricting its business to feature phones only. Late last year they launched Android based Tecno M3 which so far has been gaining traction (Kenya Association of Mobile phone Handset Manufacturers, 2014).

In part due to the transformation of the mobile phone industry, the competition in handset manufacturing has become increasingly intensive and aggressive. The increased software focus has lowered barriers to entry related to hardware expertise and attracted several new entrants such as HTC, Apple and Google to the market. Simultaneously, the mobile phone business has moved towards competition of mobile eco systems comprising phones, mobile operating systems, application stores, cloud services, etc further increasing the complexity and dynamic nature of the industry (Fernández & Usero, 2009). Mobile Service provider Safaricom projected that the mobile phone market in Kenya would reach three million subscribers by 2020.

The kind of knowledge that could be gained by mobile telephone through the interaction with customer are; *Knowledge for customers* is required in CRM processes to satisfy knowledge needs of customers. Examples include knowledge about products, markets and suppliers. *Knowledge about customers* is accumulated to understand motivations of customers and to address them in a personalized way. This includes customer histories,

connections, requirements, expectations, and purchasing activity. *Knowledge from customers* is knowledge of customers about products, suppliers and markets.

1.2 Research Problem

Knowledge management is a concept that comprises a set of strategies and practices in order to capture, create, store and spread knowledge and experience within the organization (Alvesson et al., 2004). When the leaders of an organization want to consider the concept of knowledge management, they develop their specific strategies from the vision of knowledge management. The leaders may develop strategies for knowledge management and provide the employees with sufficient resources needed (Alvesson et al. 2004). One of the major challenges of knowledge management is failure to form and develop a culture that embraces learning, sharing, changing and improving of knowledge in an organization. Beckham (1999) argues that many companies have attempted to implement knowledge management efforts but have failed due to the lack of an appropriate cultural context that creates and nurtures reciprocal trust, openness and cooperation. Culture of sharing (social interaction) is another challenge in knowledge management. Sharing is viewed as reducing production as time is believed to be lost through such socialization hence this is not allowed by managers.

Mobile telephones have become a necessity for many people throughout Kenya. The ability to keep in touch with family, business associates, and access to email are only a few of the reasons for the increasing importance of mobile telephones (Ling, 1996). Today's technically advanced mobile telephones are capable of not only receiving and placing telephone calls, but storing data, capturing and sharing photos as well as videos,

and can even be used as walkie talkies, to name just a few of the available options. In addition mobile telephone reception has improved greatly due to the use of satellites and wireless services (Rothman et al., 1996). As mobile telephones improve and become easier to use, the importance of support and customer service departments like call centers, in developing and delivering relevant knowledge efficiently and effectively to meet evolving customer needs is also gaining momentum.

Mobile telephone companies staff need to understand the issue or problem before they can deliver an accurate answer, they not only need access to answers, they need the right information to understand the questions that are being asked and the issues which are being posed. A knowledge management system, which is built upon knowledge contributed by skilled agents and based upon actual experience, will facilitate efficient responses to customer inquiries by experienced and inexperienced agents alike. With such a system, a "new" agent has immediate access to all of the knowledge of even the most experienced agent. Also, in case experienced agents churn out of the contact center, legacy knowledge has been captured in a readily usable and accessible form.

Prior research has explored which factors are essential for managing knowledge effectively. Most studies of them have examined the relationships of knowledge management capabilities, processes, and performance. Some research has focused on the relationship between capabilities and processes (Hansen, 1999; Szulanski, 1996; Zander & Kogut, 1995); the other studies have focused on the relationship between capabilities and organizational performance (Becerra-Fernandez & Sabherwal, 2001; Gold et al., 2001; Simonin, 1997).

Wanjiru (2010) conducted a study to investigate knowledge management as a strategic tool in Barclays bank of Kenya. The study found out that the bank uses knowledge to leverage implicit knowledge and at the same time retaining knowledge of employees as they exit the bank. Wanjiku (2010) study aimed at determining the how Kingsway Tyres has utilized knowledge management as a competitive tool and found that introduction of the knowledge management process, has enhanced competency of the employees. Kemboi (2011) conducted a study on institutionalization of knowledge management in manufacturing enterprises in kenya. Njeri (2013) examined the effect of knowledge management practices and firm's competitive advantage in Insurance Companies in Kenya.

Based on the previous studies, there existed a knowledge gap as they had been conducted in different contexts and do not fully depict the relationship between knowledge management and performance. The aim of this research was thus to determine whether mobile telephone companies are using knowledge management principles as a performance strategy. Therefore, underlying question of this study was posed as follows: what is the effect of knowledge management practices on performance of mobile telephone companies in Kenya?

1.3 Research Objective

The main objective of this study was to examine the effect of knowledge management practices on organizational performance of mobile telephone companies in Kenya.

1.4 Value of the study

This study maybe beneficial in a number of ways. Firstly because of the practical relevance of finding efficient solution of managing knowledge in organisations, it is anticipated that results of this study could help the organizations to identify its strengths and weaknesses in relation to knowledge management practices in order to take advantage of the prevailing opportunities and minimize threats facing them.

Secondly, it may assist the mobile telephone companies management in formulation of policies, standards, guidance and procedures for tackling knowledge management that positively relates to company or organization performance in the business operations.

Other organizations in different sectors could use the information to enhance understanding of the power of knowledge management and hence, the companies can consider a formal implementation of KM strategies in order to maximise organisational performance.

Finally it may assist academicians and scholars interested in issues pertaining to knowledge management practices and its relationship to firm's/organization's performance in mobile telephone companies, especially in the developing Countries.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents the past or previous studies that have been done on knowledge management practices. This review explores the two parent disciplines of performance and Knowledge Management, and includes key knowledge management practices, as well as the importance of Knowledge Management in organization context.

2.2 Theoretical Foundation of the Study

Because knowledge management can have such a profound impact on the success or failure of an organization, it is critical that knowledge management policies and procedures are developed based on a solid theoretical foundation. Dalkir (2011) provides a useful overview of The most significant theoretical models of knowledge management which are discussed here in.

2.2.1 Theory of Organizational Epistemology

The first described is the von Krogh and Roos' theory of Organizational Epistemology (1995). This model is important because it was among the first to clearly distinguish between individual knowledge and social knowledge. For von Krogh and Roos (1995) Knowledge resides in both the individuals of an organization; and at the social level, in the relations between individuals. Knowledge is characterized as "embodied" that is, "everything known is known by somebody. Unlike the cognitive perspective where knowledge is viewed as an abstract entity, (their connectionist approach) maintains that there cannot be knowledge without a knower. This fits nicely with the concept that tacit

knowledge is very difficult to abstract out of someone and make more concrete. It also reinforces the strong need to maintain links between knowledge objects and those who are knowledgeable about them – authors, subject matter experts, and experienced users who have applied the knowledge, successfully and unsuccessfully.

Based on their work, it can be said that knowledge management requires a connection between the knowledge and the knower, between the knowledge and those that wish or need to know, and knowers and the need or wish to know.

2.2.2 Knowledge Spiral Theory

The second theory examined is the Nonaka and Takeuchi (1995) knowledge spiral theory. This theory focuses on knowledge spirals that explain the transformation of tacit knowledge into explicit knowledge and then back again as a basis for individual, group, and organizational innovation and learning (Dalkir, 2011). Nonaka and Takeuchi describe four modes of this knowledge conversion: From tacit knowledge to tacit knowledge: process of socialization. From tacit knowledge to explicit knowledge: process of externalization. From explicit knowledge to explicit knowledge: process of combination. From explicit knowledge to tacit knowledge: process of internalization (Dalkir, 2011). Understanding the different forms of conversion provides a critical understanding of how both tacit and explicit knowledge interact within an organization and allows knowledge managers to reflect on their practices to ensure all forms of conversion are being adequately supported and developed.

From all of these theoretical explorations, the growing understanding of how knowledge management can be an important component in the success of an organization can be

observed. Discoveries of the different forms of knowledge, the different relationships between knowledge types and objects, the processes of knowledge transformation and integration, and the importance of sense-making, all lead to a greater understanding of organizational knowledge and knowledge management. Without this evolving theoretical lens, significant mistakes can be made that will impede the goals of the organization and the advancement of knowledge management as a critical factor in innovation and success.

2.3 Knowledge Management Practices

In order for organizations to be more successful and survive in a competitive market, they need to consider adaptive and intelligent strategies, including KM processes and best practices (Davenport and Prusak, 2010). Some scholars have developed conceptual models based on knowledge-based theory which contain critical KM practices. On the other hand, KM practices could be defined in various forms and utilized in different configuration. For example, the life cycle model by Nissen, Kamel and Sengupta (2009) divided a knowledge flow into six phases. These six phases are creation, organization, formalization, distribution, application or implementation, and evolution.

Moreover, Wiig, DeHoog and Vander Spek (2007) described KM as including eight practices: reviewing, analyzing the KM processes, analyzing the application risks, executing the proposed plans, developing knowledge, consolidating knowledge, sharing knowledge, and combining knowledge. Therefore different models are considered to describe KM practices in various ways. In this study five main practices are adapted from the models of Dahiya Gupta, and Jain (2012). These practices encompass knowledge

creation, acquisition, sharing, storage, and implementation, which have been frequently applied in evaluation of KM practices.

2.3.1 Knowledge Creation

Knowledge creation involves the utilization of internal and external resources of an organization to generate new knowledge for achieving the organizational goals. Brainstorming methods and conducting research to make the best use of the knowledge assets of customers, suppliers and staffs are strategies applied in many prosperous organizations for creating knowledge (Moodysson, 2008). In addition to identifying explicit knowledge, knowledge creation includes grasping tacit knowledge and insights, intuitions and hunches of individual employees (Nonaka, 1994).

2.3.2 Knowledge Acquisition

This practice encompass the process of acquiring and learning appropriate knowledge from various internal and external resources, such as experiences, experts, relevant documents, plans and so forth. Interviewing, laddering, process mapping, concept mapping, observing, educating and training are the most familiar techniques for knowledge acquisition (Lettieri, Borga & Savoldelli, 2004). Zack (1999) notes that acquisition, capturing or gathering is bringing knowledge into the organisation, either through the generation of new knowledge through internal sources such as day-to-day experiences or staff expertise, or accessing valuable knowledge from external information sources and other organisations.

2.3.3 Knowledge Sharing

Knowledge sharing is a process through which personal and organizational knowledge is exchanged. In the other words, knowledge sharing refers to the process by which knowledge is conveyed from one person to another, from persons to groups, or from one organization to other organization (Frappaolo, 2006). Knowledge sharing will not be successful unless the receiver absorbs and applies the knowledge by using it as a basis for action. Absorption of new knowledge depends on the source being respected, a trustworthy environment, the relevance of the knowledge and its insight into better ways of performing (Holste & Fields 2010). The interactions between organisational technology, procedures and people have a direct bearing on the effectiveness of knowledge sharing (Bhatt 2001). Presentation refers to making knowledge accessible to whoever can use it in an easy, usable format suited to the user, providing flexibility for arranging, selecting and integrating knowledge content (Lettieri, Borga & Savoldelli, 2004).

2.3.4 Knowledge Storage

Knowledge storage involves both the soft or hard style recording and retention of both individual and organizational knowledge in a way so as to be easily retrieved. Knowledge storage utilizes technical systems such as modern informational hardware and software and human processes to identify the knowledge in an organization, then to code and index the knowledge for later retrieval (Karadsheh, 2009). In the other words, organizing and retrieving organizational knowledge means knowledge storage by providing the ability to retrieve and use the information by the individuals. It is vital that people know where to

find the information they require. Early KM practitioners focussed on using technology such as intranets, document repositories and collaborative software, but many of these systems failed as they overlooked people and process issues (Davenport & Prusak, 2000). The storage and retrieval stage bridges upstream repository creation and downstream knowledge distribution (Zack, 1999).

2.3.5 Knowledge Implementation

This means the application of knowledge and the use of the existing knowledge for decision-making, improving performance and achieving goals (Chong & Choi, 2005). Knowledge is transformed into action by embedding, using and exploiting it in the organisation's processes, procedures, products, services, problem solving, decision making and training (Zack, 1999). New knowledge is developed from the application of existing knowledge. Reviewing is crucial in ensuring that knowledge remains current and useful, and is updated (Debowski, 2006). Organizational knowledge should be implemented in the services, processes and products of the organization.

2.4 Measures of Organization Performance

Organizational performance as a concept in modern management has suffered from both definition and conceptual clarity problem in a number of areas, Hefferman and Flood (2000). According to Richard (2009), performance and productivity are different. Hence, from the above literature review, the term performance should be broader based which include effectiveness, efficiency, economy, quality, consistency behavior and normative measures.

Organizations have struggled for many years with the inadequacies of accounting performance measures. Using both financial and nonfinancial measures together is an attempt to solve the problems that arise from emphasizing traditional financial measures. There are three main reasons for the use of nonfinancial performance measures: (1) perceived limitations in the use of traditional financial measures, (2) increased competitive pressure, and (3) implementation of other programs like Total Quality Management which call for the use of nonfinancial measures (Ittner and Larcker 1998). Ittner and Larcker (1998) cite various limitations of traditional financial measures. Specifically, financial measure; are too historical and backward looking, lack predictive ability, reward short-term or incorrect behavior, are not actionable, do not capture key business changes until too late, are too aggregated and summarized to guide management action, are too departmentalized instead of cross-functional and do not effectively consider intangibles. Because of these problems, some firms, in recent years, have made changes to their financial measures. The new measures focus more on cash flow and value creation. Measures like EVA[®] (Economic Value Added) and CFROI (Cash Flow Return on Investment) have become more popular.

Other firms have emphasized “forward-looking” non-financial measures to counter the problems mentioned above. Examples of these “forward-looking” nonfinancial measures include measures of customer satisfaction, employee satisfaction, product and process innovation, community involvement, and defect rates. Many firms have utilized the Balanced Scorecard (BSC), another type of dashboard measurement system similar to the TdB, to incorporate non-financial measures into an overall set of measures. A survey

conducted by Renaissance Worldwide, Inc. estimated 60% of Fortune 1000 companies have implemented or are experimenting with the BSC (Silk 1998).

2.5 Knowledge Management and Organization Performance

The essence of knowledge management is to improve organizational performance by approaching to the processes such as acquiring knowledge, converting knowledge into useful form, applying or using knowledge, protecting knowledge by intentional and systematic method, and knowledge management can be understood by innovation process of organization with individual to search for creative problem solving method. The dynamic nature of the new marketplace today has created a competitive incentive among many companies to consolidate and reconcile their knowledge assets as a means of creating value that is sustainable over time. To achieve competitive sustainability, many companies are launching extensive knowledge management efforts (Gold, Malhotra, & Segars, 2001).

Although a company's value is generated by intangible assets like knowledge or brand, financial measurement that is developed depending on industrial society taking a serious view, external growth is still much used to measure a company's performance in knowledge management and knowledge worker's performance. Performance measurement is one of most important management activities "what you measure is what you get." Performance measurement becomes the basis of strategy establishment and achievement in the future because it can definitely bring a company's vision and strategic target to all organization members as well as CEOs, and performs a role that makes efficient internal

business processes possible. Of course, it is true that conventional performance measurement based on financial reporting provides comparative objective performance outcome in companies. Nevertheless, short-term and past-oriented financial indicators cannot become unique indicators that can evaluate company's performance any more.

Now intangible assets such as knowledge rather than tangible financial assets are a measure of a company's value. Therefore, various attempts to measure organizational performance in knowledge management have been conducted accordingly (Arora, 2002; Drew, 2007; Kaplan & Norton, 2000; Ulrich, 1998). Sveiby (2007) developed an intangible asset monitor (IAM) to measure the performance of intangible assets such as human capital, structural capital, and market capital. The intangible asset monitor presents performance indicators as they relate to intangible assets as plain and simple; categorizes intellectual capital by employee capability, internal structure, external structure; and uses three performance indicators of growth/innovation (change), efficiency, and stability, respectively, in these categories.

Kaplan and Norton (1996, 2000) proposed the BSC as a strategic performance measurement framework including financial indicators as well as nonfinancial indicators. The BSC is a strategic learning system that can amend business theory and organizational strategy through monitoring a company's performance from its knowledge management activities. On the other hand, Arora (2002) found three knowledge management purposes: the improvement of organization knowledge, the creation of new knowledge or innovation, and improved employee job based on extended collaboration. Construction of a knowledge repository and activations of communities of practice (CoP) has been

suggested to support overall knowledge management. Arora further notes that although knowledge management activities can achieve the objectives (or purposes) of knowledge management, knowledge management does not actually contribute greatly to the organizational performance. The BCA takes a serious view of a specific target set and provides feedback by organizational strategy to knowledge management; the BCA can practice knowledge management effectively in an organization by enabling the development and utilization of a knowledge management index. Gooijer (2000) also suggested the BCA to measure knowledge management performance. Specifically, he defines knowledge management as practice activities that support employees' cooperation and integration, and proposes a knowledge management scorecard (KMSC) model to measure performance in knowledge management.

In their conceptualization of market knowledge competence as being the processes that generate and integrate market knowledge, Calantone and Li (2008) found that each of the three processes of market knowledge competence; namely, customer knowledge process, marketing-R&D interface, and competitor knowledge process, exerts a positive influence on new product advantage. The results also reveal a positive association between new product advantage and market performance.

In a study which utilized the balanced score card approach to investigate the effects of introduction of KM systems on operating performance, 560 managers from major Taiwanese hi-tech companies completed a specially designed questionnaire. The results showed that after introducing KM, there was 5% to 10% improvement on performance in the customer, financial and internal business process areas and a 10 to 15% improvement

in performance in the learning and growth area, suggesting that the KM systems that were introduced had a positive effect on operating performance (Liu and Tsai, 2007).

By applying a view of organizations as knowledge systems in a study of Norwegian and Australian law firms on their use of IT to support their knowledge management practice, Khandelwal and Gottschalk (2003) found that the extent of knowledge cooperation had a significant impact on the use of IT to support inter-organizational knowledge management. This has implications for KM process, specifically knowledge application, which deals with how knowledge resources are used to generate value for firms after application.

Knowledge embedded in the organization's business processes and employees' skills provide the firm with unique capabilities to deliver customers with products or services. Knowledge is therefore a unique resource which, if well managed, can confer an organization with competitive advantages. In a case study of a Danish knowledge-intensive business service firm, Larsen (2001) found that knowledge not only resides in the minds of individual employees, but is also constructed in the social interactions between members of teams.

Birkinshaw, Fey and Teigland (2000) found that flow in an MNC appeared to be facilitated by establishing a one-company culture through; incorporating teamwork as a company value, evaluating individual knowledge contribution and assimilation in performance appraisals, implementing a goal that promotes overall company improvement, and facilitating extensive personnel rotation. This finding underscores the

importance of corporate culture in knowledge management with specific emphasis on how knowledge is generated and shared. The implication is that operations on corporate culture should enhance knowledge use.

Senaji and Nyaboga (2011) studied knowledge management process capability: operations strategy perspective in Kenya. The objective of their paper was to document empirical evidence from existing literature on the effect of KM process capability on performance of firms and to identify opportunities for further research which can generate more knowledge to help in the understanding of this relationship leading to the improvement of the contribution of knowledge to performance. An empirical literature survey method was used to collect information regarding KM process capability and its effect on performance. The results suggested that knowledge management process operations positively impact performance.

Bosieri, Ombui and Oeba (2013) looked at the overall teachers agreed that the culture of sharing information on various subjects among staff has enabled their schools to improve in national examination. They also agreed that the culture of openness among teachers, students and parents has enabled their school to excel. Knowledge management therefore needs to be entrenched in schools to improve performance and administration.

2.6 Summary of Chapter

From the literature reviewed above, it is clear that the velocity and dynamic nature of the new marketplace has created a competitive incentive among many companies to consolidate and reconcile knowledge assets as a means of creating value that is sustainable

over time. In order to achieve competitive sustainability, many firms are launching extensive knowledge management efforts. The competence paradigm, with its assertion that firm-specific factors are as important as industry market factors in determining advantage over time, occupies a central part of the broader competitive strategy landscape. Consequently, the key operations of KM practices capability; namely, creation, acquisition, sharing, storage and implementation, need keen attention of all managers. Further, managers should strike a balance on the key dimensions of knowledge; namely, knowledge content and knowledge capability.

Mobile telephone allow a company to build, maintain, and manage customer relationships by solving problems and resolving complaints quickly, having information, answering questions, and being available usually 24 hours a day, seven days a week, 365 days of the year, to keep a long-term relationship with customers. Prerequisite of providing customers with fast and accurate answers is to have access to sources of information and knowledge. However no study has sought to examine the influence of knowledge management practices on performance of mobile telephone companies in Kenya. This study therefore sought to fill this gap by determining the effect of knowledge management practices on performance of mobile telephone companies in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter provided details of the methodology to be employed in the study. It discussed the research design, data collection and analysis and why they are the most preferred ones for the study.

3.2 Research Design

The study employed a descriptive survey as its research design. Surveys are useful in describing the characteristics of a large population. Additionally, high reliability is easy to obtain by presenting all subjects with a standardized stimulus which ensures that observer subjectivity is greatly eliminated (Mugenda and Mugenda, 1999). Surveys according to Robson (2002), is the collection of information from a group through interviews or the application of questionnaires to a representative sample of that group. This design was preferred because very large samples are feasible, making the results statistically significant even when analyzing multiple variables.

3.3 Population

The study population in this case was all the 21 mobile telephone companies in Kenya. The study adopted census sampling technique to identify the respondents. Census sampling technique targets a particular group of people of less than 200 population size, study of organization, community, or some other clearly defined and relatively limited group (Patton, 1990).

3.4 Data Collection

Primary data was collected and used for the study. The study utilized a questionnaire to collect data. The preference for a questionnaire was based on the fact that respondents are able to complete it without help, anonymously, and it is cheaper and quicker than other methods while reaching out to larger sample (Bryman, 2008; Cohen et al., 2007). The respondents in this study included at least 2 staffs in the management level from each mobile telephone companies. A request to answer all questions was made then completed questionnaires collected immediately.

3.5 Data Analysis

Data collected contained both open and closed questions derived from the research objectives with predetermined themes. Data was coded, categorized, ordered, manipulated and summarized to obtain answers to the research questions. This was done by entering data into a computer through an excel spreadsheet to enable manipulation of the data before entering the data into SPSS after which analysis was done using the statistical package (SPSS). Descriptive statistics, frequency tables, mean and standard deviation were used to present the research findings. Descriptive statistics according to Cooper and Schindler (2008) means statistical measures are used to depict the center, spread and shape of distribution when presenting the findings.

Regression analysis was used to link the relationship between knowledge management practices and performance of mobile telephone companies in Kenya. The dependent variable was the performance measured by return on assets (ROA). The independent variable was knowledge management practices which was measured by the given

parameters: knowledge creation, knowledge acquisition, knowledge sharing, knowledge storage and knowledge implementation. The results of the regression analysis was interpreted based on the R square, significance of F statistics and the significance of beta values from the coefficients of the X variables. Significance was tested at 5% level. The regression model was: $(Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \epsilon)$:

Whereby Y = Firm Performance

X₁ = Knowledge Creation

X₂ = Knowledge Acquisition

X₃ = Knowledge Sharing

X₄ = Knowledge Storage

X₅ = Knowledge Implementation

e_t = Error term and β_0 β_1 β_2 β_3 and β_4 are the regression equation coefficients for each of the variables discussed.

3.6 Chapter Summary

This chapter outlined the research design and methodology used in this study. The research method used was descriptive survey research design. The chapter also outlined the population from whom data was collected, this included at least 2 staffs in the management level from each mobile telephone companies. The instruments to used to collect data was a questionnaire and the data analysis methods are also outlined as descriptive and regression analysis. Results from the questionnaires were presented in form of frequency tables, mean and standard deviation were used to present the research findings. The next chapter presents the results and findings of the study.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter contains the results of the analysis of the data on the effect of knowledge management practices on performance of mobile telephone companies in Kenya. From the 42 questionnaires distributed, 36 were collected and used in the study. This shows that the response rate was 85.7%. The findings are based on these responses. First, the sample characteristics are shown followed by a presentation of the results based on the study objective.

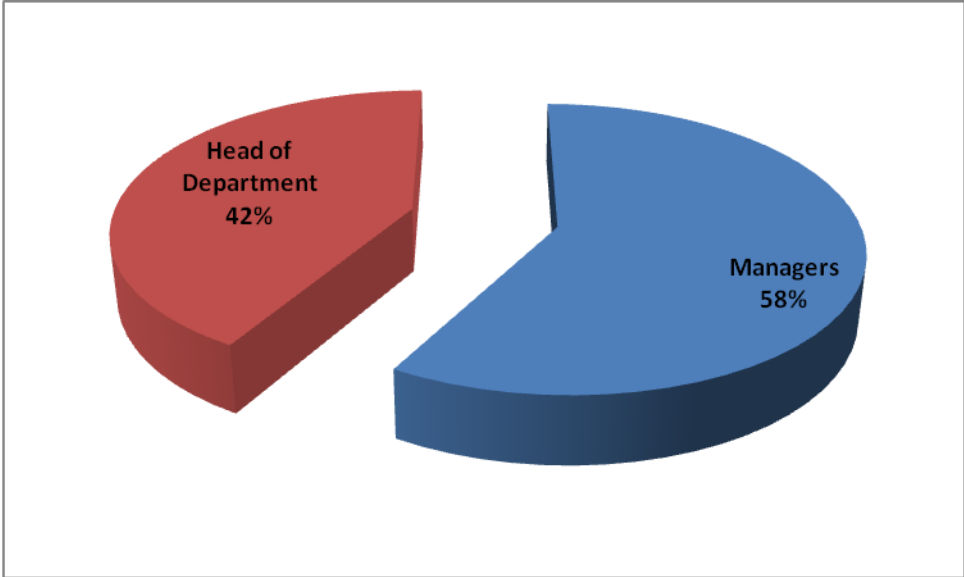
4.2 Company and Respondent Profile

This section presents the findings on the general information on the respondents and their organizations.

4.2.1 Position of the Respondents in the Organization

The study revealed that 58% of the respondents were managers and 42% were heads of departments. This is an indication that they can give reliable responses. These results are summarized and presented in Figure 4.1.

Figure 4.1: Position of the Respondents in the Organization



Source: Author (2015)

The inclusion of managers and heads of departments in the study brings in a diversity of opinions on knowledge management practices and performance of mobile telephone companies in Kenya.

4.2.2 Number of Years Respondents Organization has been Operating in Kenya

As shown in Table 4.2 the respondents’ organization have been operating in Kenya, the study found that 48% of the organizations have been operating in Kenya for 1-5 years, 36% said their organization had been operating in Kenya for 6-10 years and the remaining 16% said their organization had been operating in Kenya for 11 years & above. The results imply that the organizations had operated in Kenya for a period ranging from 1-10 years.

Table 4.1: Distribution of the Companies by the Lenth of Time they have been in Kenya

	Frequency	Percentage (%)
1-5 years	17	48
6-10 years	12	36
11 years & above	7	16
Total	36	100

Source: Author (2015)

The results show that majority of the firms have been in Kenya for several years and thus better placed to understand environmental factors that are likely to impact knowledge management practices in Kenya. In this regard, there is high credibility that their responses are credible.

4.2.3 Respondents Understanding of Knowledge Management

When asked to explain what they understand by the term ‘knowledge management’, the respondents pointed out that; “Knowledge management is the systematic, explicit, and deliberate building, renewal and application of knowledge to maximize an enterprise’s knowledge-related effectiveness and return from its knowledge assets,” and that “Knowledge management is the process of capturing a company’s collective expertise wherever it resides in databases, on paper, or in peoples’ heads and distributing it to where it can be best utilized.”

More over, they explained that “Knowledge management is a strategy used by organizations to improve their competitive performance. It brings together three core organizational resources – people, processes and technologies to enable the organization

use and share information and knowledge more effectively. Knowledge management therefore builds upon collegial and professional teamwork by actively engaging people at many organizational levels in sharing with others what they know, and what they are learning.”

Similarly, Alavi (2001) explained knowledge management as a strategy that can help to promote those processes that lead to a more informed decision making for better performance in organizations.

4.2.4 Application of Knowledge by the Companies

The study asked the respondents to explain how their organization adopted knowledge. In response the respondents stated that knowledge is applied through acquisition, sharing and application of information especially the professional knowledge, experiences and competencies of staff. There are many types of knowledge which need to be managed in the organizations such as information about organizational performance or best practices among others.

4.3 Knowledge Creation and Acquisition

The study investigated the extent of knowledge creation on organization’s performance using a five likert scale of 1 to 5, where 1 was strongly disagree and 5 was strongly agree. The findings are presented in Table 4.2.

Table 4.2: Extent of Knowledge Creation by Telephone Companies in Kenya

Knowledge Creation Statements	Mean	Std. Dev
Our employees obtain alot of new knowledge from business partners (e.g. suppliers, clients).	3.86	0.271
Our employees obtain alot of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks).	3.99	0.225
Our employees share their knowledge through formal procedures (e.g. project reports, organisational procedures and instructions, reports and company publications).	4.16	0.122
Our employees exchange knowledge with their co-workers.	4.19	0.341
The general management/leadership motivates employees to engage in informal education systems (e.g. seminars, courses).	4.23	0.169
The general management/leadership motivates employees to engage in formal education systems to achieve a higher level of knowledge.	4.27	0.117
In their work, our employees rely on written sources (e.g. previously implemented project documentation, organisational procedures, instructions and other documented sources).	4.29	0.155
Employees in our organisation consider their knowledge as an organisational asset and not their own source of strength.	4.31	0.252
Our employees rely on experience, skills and knowledge in their work,	4.36	0.189
Our employees share their knowledge orally at meetings or informal gatherings (e.g. during lunch, in the hallway).	4.42	0.144

Source: Author (2015)

The findings in Table 4.2 indicate the level at which employees of telephone companies in Kenya engage in knowledge creation and acquisition is by sharing their knowledge orally at meetings or informal gatherings (e.g. during lunch, in the hallway) (mean= 4.42). This was followed by employees relying on experience, skills and knowledge in their work (mean= 4.36). Employees in the said organisations consider their knowledge as an organisational asset and not their own source of strength (mean= 4.31). In their work, employees rely on written sources (e.g. previously implemented projects documentation,

organisational procedures, instructions and other documented sources) (mean= 4.29). The management or leadership motivates employees to engage in formal education systems to achieve a higher level of knowledge (mean= 4.27). The management or leadership of the organization motivates employees to engage in informal education systems (e.g. seminars, courses) (mean= 4.23). They also agreed that; employees exchange knowledge with their co-workers (mean= 4.19). Employees share their knowledge through formal procedures (e.g. project reports, organisational procedures and instructions, reports and company publications) (mean= 4.16). Employees obtain a good extent of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks) (mean= 3.99). Employees obtain a good extent of new knowledge from business partners (e.g. suppliers, clients) (mean= 3.86).

It is clear from the above that knowledge is mainly created in the mobile telephone companies through; knowledge sharing orally at meetings or informal gatherings (e.g. during lunch, in the hallway), employees experience, skills and knowledge. This finding is consistent with the findings by Caloghirou, Kastelli, and Tsakanikas (2004) who found that a relationship exists between strategic alliance and the extent of innovation. Knowledge assets are a potential for action embedded in individuals, groups or socio-physical systems with future prospects of value creation. Penrose (1995) argues that the ability of the firm to create knowledge helps to explain the firm's ability to innovate and grow. This leads to better firm performance.

4.4 Knowledge Sharing

The study determined the extent of knowledge sharing on organization performance using a five likert scale of 1 to 5, where 1 was strongly disagree and 5 was strongly agree. The findings are as illustrated in Table 4.3.

Table 4.3: Extent of Knowledge Sharing by Telephone Companies in Kenya

Knowledge Sharing Statements	Mean	Std. Dev
In my department, lessons learned are shared routinely with fellow teammates and members of the organization	4.07	0.425
There is a willingness to share lessons learned in my group	4.09	0.225
In my group, lessons learned from projects, both successful and unsuccessful, are considered valuable	4.16	0.114
Successful instances of sharing lessons learned are consistently publicized throughout my organization	4.19	0.365
Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in my organization	4.26	0.187
In our organisation, there is a general inclination to cooperation and exchange of experience among employees.	4.33	0.181
The general management/leadership of our organisation promotes cooperation and exchange of experience among employees.	4.40	0.302

Source: Author (2015)

From the findings in Table 4.3, show that the level at which employees of telephone companies in Kenya engage in knowledge sharing through; The general management or leadership of the respondents organisation promoting cooperation and exchange of experience among employees (mean= 4.40). Coming in next was; In the respondents organisation, there is a general inclination to cooperation and exchange of experience among employees (mean= 4.33). Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in respondents organization (mean=

4.26). Successful instances of sharing lessons learned are consistently publicized throughout respondents organization (mean= 4.19). In the respondent's group, lessons learned from projects, both successful and unsuccessful, are considered valuable (mean= 4.16). There is a willingness to share lessons learned in respondents group (mean= 4.09). In the respondents department, lessons learned are shared routinely with fellow teammates and members of the organization (mean= 4.07).

This implies that there is a high level of knowledge sharing in the respondents organization especially in relation to promotion of cooperation and exchange of experience among employees by the management/leadership of the mobile companies in a bid to enhance the performance of the organization. The findings tally with those of Halawi, Aronson and McCarthy (2005) who suggest that sustainable competitive advantage depends on building and exploiting core competencies and having strategic assets which are rare, valuable, nonsubstitutable and imperfectly imitable. Knowledge asset is the single most competitive asset that a firm has and constitutes a pool of hard-to-copy resources and capabilities. Knowledge sharing may lead to higher organizational performance especially when knowledge sharing capabilities are combined with organizational resources.

4.5 Knowledge Storage

The study sought to establish the extent of knowledge storage on organization performance using a five likert scale of 1 to 5, where 1 was strongly disagree and 5 was strongly agree. Table 4.4 presents the findings.

Table 4.4: Extent of Knowledge Storage by Telephone Companies in Kenya

Knowdge Storage Statements	Mean	Std. Dev
I found it easy to use the classification scheme for documenting lessons learned	4.15	0.173
There is a structured format, such as templates / forms, to follow when documenting lessons learned	4.19	0.114
Training / instruction on using the structured format for documenting lessons learned is available to me	4.20	0.098
The structured format helps me capture the key points of lessons learned that I documented	4.26	0.017
Documenting lessons learned from projects is required in my organization	4.29	0.081
In my organization, employees document lessons learned from projects	4.32	0.266
There exists a classification scheme exist for categorizing lessons learned by project type, problem type, subject area, etc.	4.37	0.141

Source: Author (2015)

According to the findings in Table 4.4, the level at which employees of telephone companies in Kenya engage in knowledge storage is through; existence of a classification scheme for categorizing lessons learned by project type, problem type, subject area, etc (mean= 4.37). Documentation of lessons learned by employees from projects (mean= 4.32). The requirement to document lessons learnt from projects in the respondents organization (mean= 4.29). The structured format helps employees capture the key points of lessons learned that they document (mean= 4.26). Training / instruction on using the structured format for documenting lessons learned is available to employees of the mobile companies (mean= 4.20). There is a structured format, such as templates / forms, to follow when documenting lessons learned (mean= 4.19). Employees find it easy to use the classification scheme for documenting lessons learned (mean= 4.15).

This depicts that knowledge storage was highly organized into classification scheme for categorizing lessons learned by project type, problem type, subject area in the respondents organization in order to improve the performance of the organization. This is similar to the findings by Chang and Lee (2007) who using canonical correlation found in their paper that knowledge storage, knowledge acquisition, knowledge selection and knowledge diffusion have positive effects on technical innovation. These are significantly correlated to organizational innovation (both technical and administrative innovation). They conclude that knowledge management causes significant influence on business management performance and competitive edges.

4.6 Knowledge Acquisition

The study sought to ascertain the extent of knowledge acquisition on organization performance using a five likert scale of 1 to 5 where 1 was strongly disagree and 5 was strongly agree. The findings are as presented in Table 4.5.

Table 4.5: Extent of Knowledge Acquisition by Telephone Companies in Kenya

Knowledge Acquisition Statements	Mean	Std. Dev
In my organization, employees look for lessons learned from similar earlier projects prior to beginning a new project	3.99	.431
In my organization, looking for lessons learned from similar earlier projects is a required part of work practices	4.16	.095
I believe that the search tool is effective (i.e. it filters out most of the irrelevant alternatives and yet includes most of the relevant ones)	4.16	.117
I believe that the search tool exhibits intelligence (i.e. it uses context and personalization to filter out alternatives that are not relevant to me in a particular problem situation)	4.18	.228
Training / instruction on using the search tools for locating lessons learned is available to employees	4.25	.174
When employees look for documented lessons learned from similar earlier projects, they are able to find them	4.28	.235
I find that the documented lessons learned are available from sources other than the original author (owner)	4.29	.140
The documented lessons learned are stored in a database, or other repository, that allows direct access by potential users	4.31	.888
The organization staff can search the lessons learned via database	4.34	.170

Source: Author (2015)

Based on the findings in Table 4.5, the level at which employees of telephone companies in Kenya engage in knowledge acquisition is by; searching the lessons learned via database (mean= 4.34). The documented lessons learned are stored in a database, or other repository, that allows direct access by potential users (mean= 4.31). The documented lessons learned are available from sources other than the original author (owner) (mean= 4.29). When looking for documented lessons learned from similar earlier projects, employees are able to find them (mean= 4.28). Training / instruction on using the search tools for locating lessons learned is available to employees (mean= 4.25). They believe

that the search tool exhibits intelligence (i.e. it uses context and personalization to filter out alternatives that are not relevant to employees in a particular problem situation) (mean= 4.18). They believe that the search tool is effective (i.e. it filters out most of the irrelevant alternatives and yet includes most of the relevant ones) and In their organization, looking for lessons learned from similar earlier projects is a required part of work practices (mean= 4.16 each). In their organization, employees look for lessons learned from similar earlier projects prior to beginning a new project (mean= 3.99).

The findings reveal that knowledge acquisition is promoted in the mobile telephone companies through the organization databases, repositories, search tools, training/instructions as well as similar earlier projects. This is in an effort to equip the staff/employees with the necessary knowledge to execute their duties and achieve high levels of organization performance. This is findins are in agreement with Krubu and Osawaru (2011) who observes that knowledge is acquired through education, on-job-training,mentoring, seminars, conferences and workshops.

4.7 Knowledge Implementation

The study sought to make certain the extent of knowledge implementation on organization performance using a five likert scale of 1 to 5, where 1 was strongly disagree and 5 was strongly agree. The findings are as presented in Table 4.6.

Table 4.6: Extent of Knowledge Implementation by Telephone Companies in Kenya

Knowledge Implementation Statements	Mean	Std. Dev
Training / instruction on incorporating lessons learned into normal work practices is available to employees	4.00	.254
In my organization, processes for sharing lessons learned are widely accepted as part of normal work practices	4.11	.333
Processes for documenting lessons learned are regularly improved and updated in my organization	4.27	.116
Processes for cataloging / classifying lessons learned are regularly improved and updated in my organization	4.36	.149
In my organization, processes for searching for lessons learned are regularly improved and updated.	4.39	.247
The organization uses documented lessons learned in decision-making	4.41	0.251
The organization uses documented lessons learned in improving performance	4.44	0.189
The organization uses documented lessons learned in achieving goals	4.46	0.172

Source: Author (2015)

The findings presented above portray that, the level at which employees of mobile telephone companies in Kenya engage in knowledge implementation is by; documenting lessons learned in achieving goals (mean= 4.46). The organization uses documented lessons learned in improving performance (mean= 4.44). The organization uses documented lessons learned in decision-making (mean= 4.41). processes for searching for lessons learned are regularly improved and updated in the respondents organization (mean= 4.39). Processes for cataloging / classifying lessons learned are regularly improved and updated in respondents organization (mean= 4.27). Processes for sharing

lessons learned are widely accepted as part of normal work practices in respondents organization (mean= 4.11). Training / instruction on incorporating lessons learned into normal work practices is available to employees (mean= 4.00).

The findings denote that knowledge is mainly implemented through the use of documented lessons learned in decision-making, achieving goals and ultimately improving the organization performance of the mobile telephone companies. On the same note, Khalifa and Liu (2003) acknowledge that knowledge management infrastructure and knowledge implementation processes have significant effects on knowledge management success and that IT impact on knowledge implementation success is not direct but mediated through knowledge management process. Leadership, culture and strategy influence knowledge implementation.

4.8 Respondents Organization Performance of Mobile Telephone Companies in Kenya

The study finally examined influence of knowledge management practices in general on organization performance. The respondents were therefore requested to indicate the extent to which they agreed or disagreed with statements on the influence of knowledge management practices on organization performance.

Table 4.7: Respondents Organization Performance

Statements	Mean	Std. Dev
Operating systems have improved	4.22	0.516
Operational processes have improved	4.25	0.101
Managers are more innovative	4.31	0.404
Staff are more innovative	4.31	0.488
Knowledge of individuals has become knowledge available to the whole organisation	4.33	0.407
Staff are making better decisions	4.37	0.414
Staff have gained more experience	4.38	0.254
The proportion of operating costs, relative to income, has been reduced	4.38	0.516
Staff are more knowledgeable	4.39	0.626
Teamwork has improved	4.40	0.534
Staff are more skilled	4.41	0.033
Managers are making better decisions	4.44	0.047
Overall the organization is functioning better	4.44	0.214
Learning by individuals has improved	4.45	0.458
There is increased awareness of information that is critical to achieving the organisation's mission	4.45	0.223
We are delivering a higher quality of service to our clients	4.45	0.404
Managers are more knowledgeable	4.46	0.408
We are better placed to meet competition from other organisations in tendering for services	4.46	0.398
There is increased awareness of information that is critical to achieving the organization's mission	4.49	0.326

Source: Author (2015)

As per the findings in Table 4.7 above, it can be seen that the respondents strongly agreed that knowledge management practices in general influences organization performance as; There is increased awareness of information that is critical to achieving the organization's mission (mean= 4.49). The organizations are better placed to meet competition from other organisations in tendering for services and managers are more knowledgeable (mean= 4.46 each). The organizations are delivering a higher quality of service to their clients,

there is increased awareness of information that is critical to achieving the organisation's mission and learning by individuals has improved (mean= 4.45 each). Overall the organization is functioning better and managers are making better decisions (mean= 4.44 each). Staff are more skilled (mean= 4.41). Teamwork has improved (mean= 4.40). Staff are more knowledgeable (mean= 4.40).

In addition, the proportion of operating costs, relative to income, has been reduced and staff have gained more experience (mean= 4.38 each). Staff are making better decisions (mean= 4.37). Knowledge of individuals has become knowledge available to the whole organisation (mean= 4.33). Staff are more innovative and managers are more innovative (mean= 4.31 each). Operational processes have improved (mean= 4.25). Operating systems have improved (mean= 4.22).

The findings signify that knowledge management practices in general influences organization performance in various ways including, knowledgeable employees, better decision making in the organization, improved service offering to client, reduced operational costs, improved organizational competitiveness. This is mainly so because there is increased awareness of information that is critical to achieving the organization's mission. This concurs with Lee et al., (2010) who reported that knowledge management encourages an organization's members to share knowledge and improves the organization's efficiency, performance, and competitiveness. It increases the ability to learn from its environment and to incorporate knowledge into the business processes by adapting to new tools.

4.9 Inferential Statistics

The study further applied multiple regressions to determine the predictive power of of knowledge management practices on performance of mobile telephone companies in Kenya.

4.9.1 Regression Analysis

The researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on performance of mobile telephone companies in Kenya. The researcher applied the statistical package for social sciences (SPSS V 20.0) to code, enter and compute the measurements of the multiple regressions for the study.

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (performance of mobile telephone companies in Kenya) that is explained by all the five independent variables (knowledge creation, knowledge acquisition, knowledge sharing, knowledge storage and knowledge implementation).

Table 4.8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.885	0.783	0.619	0.6273

a Predictors: (Constant),

b Dependent Variable: Firm Performance (return on assets-ROA).

Source: Author (2015)

The results of multiple regression analysis obtained multiple correlation coefficient (R) of 0.885 indicates multiple correlation (knowledge creation, knowledge acquisition, knowledge sharing, knowledge storage and knowledge implementation) with Performance. Adjusted R2 value of 0.783 indicates the extent of the role or contribution of knowledge creation, knowledge acquisition, knowledge sharing, knowledge storage and knowledge implementation are able to explain Performance variable as big as 78.3 percent.

4.9.2 Analysis of Variance (ANOVA)

Table 4.9 ANOVA of the Regression

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.534	29	1.267	9.475	.0031
	Residual	9.307	50	2.327		
	Total	11.841	79			

Source: Research Findings

Predictors: (Constant), knowledge creation, knowledge acquisition, knowledge sharing, knowledge storage and knowledge implementation

Dependent Variable: Firm Performance (return on assets-ROA)

The strength of variation of the predictor values influence the performance of mobile telephone companies in Kenya variable at 0.0031 significant levels. This shows that the overall model was significant.

4.3.2 Correlation Analysis

Table 4.10 Coefficient of Determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.301	0.2235		5.821	0.011
	Knowledge Creation	0.801	0.1032	0.761	7.762	.009
	Knowledge Acquisition	0.763	0.2178	0.691	3.503	.028
	Knowledge Sharing	0.794	0.1937	0.683	4.099	.019
	Knowledge Storage	0.751	0.1475	0.356	5.092	.016
	Knowledge Implementation	0.761	0.17031	0.557	4.468	.027

Source: Author (2015)

Multiple regression analysis was conducted as to determine the relationship between performance of mobile telephone companies in Kenya and the five independent variables. P-values were used to test for the significance of each predictor variables (knowledge management practices) in the model. The knowledge management practices were significant when the significance value was less than 0.05 (significance level). As per the SPSS generated table below, regression equation

($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$) becomes:

$$(Y = 1.301 + 0.801X_1 + 0.707X_2 + 0.763X_3 + 0.794X_4 + 0.751X_4 + 0.761X_4 + \varepsilon)$$

Relationship between Knowledge Creation and performance of mobile telephone companies in Kenya. The t value and significance levels were 7.762 and 0.009 against the significance level of 0.05 respectively which indicates that the independent variable of Knowledge Creation explained a highly significant proportion of the variation in the dependent variable performance of mobile telephone companies in Kenya.

Relationship between Knowledge Acquisition and performance of mobile telephone companies in Kenya. The t value and significance levels were 3.503 and 0.028 against the significance level of 0.05 respectively which indicates that the independent variable of Knowledge Acquisition explained a highly significant proportion of the variation in the dependent variable performance of mobile telephone companies in Kenya.

Relationship between Knowledge Sharing and performance of mobile telephone companies in Kenya. The t value and significance levels were 4.099 and 0.019 against the significance level of 0.05 respectively which indicates that the independent variable of Knowledge Sharing explained a highly significant proportion of the variation in the dependent variable performance of mobile telephone companies in Kenya.

Relationship between Knowledge Storage and performance of mobile telephone companies in Kenya. The t value and significance levels were 5.092 and 0.016 against the significance level of 0.05 respectively which indicates that the independent variable of

Knowledge Storage explained a highly significant proportion of the variation in the dependent variable performance of mobile telephone companies in Kenya.

Relationship between Knowledge Implementation and performance of mobile telephone companies in Kenya. The t value and significance levels were 4.468 and 0.027 against the significance level of 0.05 respectively which indicates that the independent variable of Knowledge Implementation explained a highly significant proportion of the variation in the dependent variable performance of mobile telephone companies in Kenya.

The findings further reveal the order of significance of the effect of knowledge management practices on performance of mobile telephone companies in Kenya starting with the most significant to the least is; knowledge creation, knowledge sharing, knowledge acquisition, knowledge implementation and knowledge storage respectively.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of research findings, discussion of key findings, conclusions made from the study and the recommendations for policy and practice. The chapter also presents suggestions for further research.

5.2 Summary of Findings

The study found out that the management of mobile telephone companies in Kenya understand the term ‘knowledge management’, as an alternative strategy by organizations to improve competitive performance. It brings together three core organizational resources; people, processes and technologies to enable the organization to use and share information and knowledge more effectively. It therefore builds upon collegial and professional teamwork by actively engaging people at many organizational levels in sharing with others what they know, and what they are learning.

Knowledge management is used for acquisition, sharing and application of management knowledge in the institution so as to better manage and apply organizations tangible and intangible knowledge assets, especially the professional knowledge, experiences and competencies of staff. There are many sorts of knowledge, which need to be managed in the organizations such as information about organization performance or best practice among others. Management therefore develop and acquire different kinds of knowledge in the organization .Knowledge management should therefore be applied to facilitate managing staff knowledge.

5.2.1 Influence of Knowledge Creation on Organization Performance

The study revealed that the level at which employees of telephone companies in Kenya engage in knowledge creation and acquisition is by sharing their knowledge orally at meetings or informal gatherings (e.g. during lunch, in the hallway). Employees relying on experience, skills and knowledge in their work. Employees in their organisation consider their knowledge as an organisational asset and not their own source of strength. In their work, employees rely on written sources (e.g. previously implemented projects documentation, organisational procedures, instructions and other documented sources). The general management/leadership motivates employees to engage in formal education systems to achieve a higher level of education. The general management/leadership motivates employees to engage in informal education systems (e.g. seminars, courses). They also agreed that; employees exchange knowledge with their co-workers. Employees share their knowledge through formal procedures (e.g. project reports, organisational procedures and instructions, reports and company publications). Employees obtain a good extent of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks). Employees obtain a good extent of new knowledge from business partners (e.g. suppliers, clients) respectively.

5.2.2 Influence of Knowledge Sharing on Organization Performance

The study further established that that the level at which employees of telephone companies in Kenya engage in knowledge sharing through; The general management/leadership of the respondents organisation promoting cooperation and exchange of experience among employees. The a general inclination to cooperation and

exchange of experience among employees. Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in respondents organization. Successful instances of sharing lessons learned are consistently publicized throughout respondents organization. In the respondent's group, lessons learned from projects, both successful and unsuccessful, are considered valuable. There is a willingness to share lessons learned in respondents group. In the respondents department, lessons learned are shared routinely with fellow teammates and members of the organization in that order.

5.2.3 Influence of Knowledge Storage on Organization Performance

The level at which employees of telephone companies in Kenya engage in knowledge storage was found to be through; existence of a classification scheme for categorizing lessons learned by project type, problem type, subject area, etc. Documentation of lessons learned by employees from projects. The requirement to document lessons learnt from projects in the respondents organization. The structured format helps employees capture the key points of lessons learned that they document. Training / instruction on using the structured format for documenting lessons learned is available to employees of the mobile companies. There is a structured format, such as templates / forms, to follow when documenting lessons learned. Employees find it easy to use the classification scheme for documenting lessons learned.

5.2.4 Influence of Knowledge Acquisition on Organization Performance

The study determined that the level at which employees of telephone companies in Kenya engage in knowledge acquisition is by; employees can search the lessons learned via database. The documented lessons learned are stored in a database, or other repository,

that allows direct access by potential users. The documented lessons learned are available from sources other than the original author (owner). When looking for documented lessons learned from similar earlier projects, employees are able to find them. Training / instruction on using the search tools for locating lessons learned is available to employees. They believe that the search tool exhibits intelligence (i.e. it uses context and personalization to filter out alternatives that are not relevant to employees in a particular problem situation). They believe that the search tool is effective (i.e. it filters out most of the irrelevant alternatives and yet includes most of the relevant ones) and In their organization, looking for lessons learned from similar earlier projects is a required part of work practices. In their organization, employees look for lessons learned from similar earlier projects prior to beginning a new project.

5.2.5 Influence of Knowledge Implementation on Organization Performance

The study also found out that the level at which employees of mobile telephone companies in Kenya engage in knowledge implementation is by; The organization uses documented lessons learned in achieving goals. The organization uses documented lessons learned in improving performance. The organization uses documented lessons learned in decision-making. processes for searching for lessons learned are regularly improved and updated in the respondents organization. Processes for cataloging / classifying lessons learned are regularly improved and updated in respondents organization. Processes for sharing lessons learned are widely accepted as part of normal work practices in respondents organization.

Training / instruction on incorporating lessons learned into normal work practices is available to employees.

Knowledge management practices in general were found to influence organization performance as; There is increased awareness of information that is critical to achieving the organization's mission. The organizations are better placed to meet competition from other organisations in tendering for services and managers are more knowledgeable. The organizations are delivering a higher quality of service to their clients, there is increased awareness of information that is critical to achieving the organisation's mission and learning by individuals has improved. Overall the organization is functioning better and managers are making better decisions; staff are more skilled; teamwork has improved; staff are more knowledgeable. In addition, the proportion of operating costs, relative to income, has been reduced and staff have gained more experience; staff are making better decisions; knowledge of individuals has become knowledge available to the whole organisation; staff are more innovative and managers are more innovative; operational processes have improved; operating systems have improved.

5.3 Conclusions

The study concluded that knowledge is mainly created in the mobile telephone companies in various ways including; knowledge sharing orally at meetings or informal gatherings (e.g. during lunch, in the hallway), employees experience, skills and knowledge. Additionally, there is a high level of knowledge sharing in the respondents organization especially in relation to promotion of cooperation and exchange of experience among

employees by the management/leadership of the mobile companies in a bid to enhance the performance of the organization.

The study further concluded that knowledge storage was highly organized into classification scheme for categorizing lessons learned by project type, problem type, subject area in the respondents organization in order to improve the performance of the organization. Moreover, knowledge acquisition is promoted in the mobile telephone companies through the organization databases, repositories, search tools, training/instructions as well as similar earlier projects. This is in an effort to equip the staff/employees with the necessary knowledge to execute their duties and achieve high levels of organization performance. The study also concluded that knowledge is mainly implemented through the use of documented lessons learned in decision-making, achieving goals and ultimately improving the organization performance of the mobile telephone companies.

The study as well concluded that knowledge management practices in general influences organization performance in various ways including, knowledgeable employees, better decision making in the organization, improved service offering to client, reduced operational costs, improved organizational competitiveness. This is mainly so because there is increased awareness of information that is critical to achieving the organization's mission. The order of significance of the effect of knowledge management practices on performance of mobile telephone companies in Kenya starting with the most significant to the least is; knowledge creation, knowledge sharing, knowledge acquisition, knowledge implementation and knowledge storage respectively.

5.4 Recommendations

Based on the findings, the study recommends that;

To enhance understanding of knowledge management on perception of staff in performance of organizations, management should undertake in house trainings on knowledge management among management and staff, entrench good practices of knowledge management in organizations to strengthen information sharing among teachers and students. This would enable application of staff knowledge in organization so as to better manage and apply organizations' tangible and intangible knowledge assets, especially the professional knowledge, experiences and competencies of staff to improve organization performance.

The study also points out that for effective organization administration organizations need to create a central repository system to store and retrieve information on organization reports cards, feedback on student progression, coordination of organization schedules, organization suspension, finances and other professional development which will have an overall effect on organization performance.

Organizations should also install internet services and computers in order to share knowledge and improve the organization's efficiency, performance, and competitiveness.

5.5 Limitations of the Study

The researcher encountered various limitations that were likely to hinder access to information sought by the study. The researcher encountered problems of time as the research was being undertaken in a short period with limited time for doing a wider research. However, the researcher countered the limitation by carrying out the research

across the 21 mobile telephone companies that were selected which enabled generalization of the study findings on the effect of knowledge management practices on organizational performance of mobile telephone companies in Kenya. The respondents to be approached were reluctant in giving information fearing that the information they give might be used to intimidate them or print a negative image about the institution. The researcher handled the problem by carrying an introduction letter from the University and assured the respondents that the information they gave was to be treated confidentially and it was to be used purely for academic purpose.

5.6 Suggestions for Future Research

The study on the the effect of knowledge management practices on performance of mobile telephone companies in Kenya has brought to light the major causes of success of knowledge management practices in enhancing organization performance. The study was carried out on mobile telephone companies in Kenya thus the same study should be carried out in the other sectors to find out if the same results will be obtained. The study also recommends further studies to determine the impact of management factor as a major determinant to the adoption of knowledge management practices and organization performance. Further research should be done in one firm to allow indepth analysis of the various knowledge management practices applied and how they influence the performance of the organization.

REFERENCE

- Alavi, M., & Leidner, D. E. (2001). Review: Knowledge Management and Knowledge Management Systems: Conceptual Foundations and research Issues. *MIS Quarterly*, Vol 25(1), p. 107-136.
- Argote, L. & Ingram, P. (2000). *Knowledge transfer: A basis for competitive advantage in firms*. Organisational Behaviour and Human Decisions Processes. Kluwer Academic: Boston.
- Arora, R. (2002). Implementing knowledge management; A balanced scorecard approach. *Journal of Knowledge Management*, 6(2), 240–249.
- Baker, W. E. and Sinkula, J. M. (2009). The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance. *Journal of the Academy of Marketing Science*, 27(4), 411-427.
- Bhatt, G. (2000). Organizing knowledge in the knowledge development cycle. *Journal of knowledge management* 4 (1), 15-26.
- Bhatt, G. (2001). Knowledge management in organizations: Examining the interactions between technologies, techniques, and people. *Journal of knowledge management* 5 (1), 68-75.
- Bhatt, G. (2002). Management strategies for individual knowledge and organizational knowledge. *Journal of knowledge management* 6 (1), 31-39.
- Birkinshaw, J., Fey. C.F. & Teigland, R. (2000). Knowledge Dissemination in Global R&D Operations: An Empirical Study of Multinationals in the High Technology Electronics Industry. *Management International Review*, 40(1), 49 – 77.
- Bosieri, M.L., Ombui, K., and Oeba, V.O. (2013). Evaluation of role of knowledge management on performance of secondary schools in Kikuyu District, Kiambu County. *Prime Journal of Social Science (PJSS)* ISSN: 2315-5051. Vol. 2(10), pp. 464-473.
- Bueren, A., Schierholz, R., Kolbe, L., & Brenner, W. (2004, January). Customer knowledge management-improving performance of customer relationship management with knowledge management. In *System Sciences, 2004. Proceedings of the 37th Annual Hawaii International Conference on* (pp. 10-pp). IEEE.
- Calantone, J & T. Li (2008). The Impact of Knowledge Competence on New Product Advantage: Conceptualization and Empirical Examination, *Journal of Marketing*, Vol. 62, No.4, pp.13-29.
- Choo, C. (1998). *The knowing organization*. New York: Oxford University Press.

- Dahiya, D., Gupta, M., and Jain, P. (2012). Enterprise Knowledge Management System: A Multi Agent Perspective. *Information Systems, Technology and Management*, 285(4), 271-281.
- Dalkir, K. (2011). *Knowledge management in theory and practice*. Cambridge, Mass: MIT.
- Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of knowledge management*, 9(3), 101-111
- Darroch, J. (2005). Knowledge Management, Innovation, and Firm Performance. *Journal of Knowledge Management*, 9(3), 101-115.
- Davenport, T. and Prusak, L. (2010). *Working Knowledge: How Organizations Manage What They Know*. Boston: Harvard Business School Press.
- Davenport, T.H. & Prusak, L. (2000). *Working Knowledge: How Organisations Manage what they Know*, Harvard Business School Press, Boston.
- Debowski, S. (2006). *Knowledge Management*, Wiley, Milton.
- Drew, S.A. (2007). From knowledge to action: The impact of benchmarking on organizational performance. *Long Range Planning*, 30(3), 427– 441.
- Fernández, Z. & Usero, B. (2009). Competitive behavior in the European mobile telecommunications industry: Pioneers vs. followers, *Telecommunications Policy*, vol. 33, issue 7, August 2009, Pages 339-347.
- Frappaolo, C. (2006) *Knowledge Management*. West Sussex, England: Capstone Publishing.
- Gold, A.H., Malhotra, A. & Segars, A.H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185–214.
- Gooijer, F.D. (2000). Designing a knowledge management performance framework. *Journal of Knowledge Management*, 4(4), 303–310.
- Gottschalk, P. and Khandelwal, V.K. (2000), Information Technology Support for International Knowledge Transfer: An Empirical Study of Law Firms in Norway and Australia. *Information Resources Management Journal*, Vol. 16, No. 1, pp.14-23.
- Griffins, L. W. (2006). Strategic planning: concept and cases. *Strategic Management Journal*, 16(2), 71-83.

- Huang, T. C. (2001). The Relation of Training Practices and Organizational Performance in Small and Medium Size Enterprises. *Education+ Training*, 43(8/9), 437-444.
- Hughes, N. (2010). Piper: 15.8 M US iPhone sales in 2010, even without Verizon. *AppleInsider*. 6 January.
- Hyöty, J. (2011), Sijoittaja yritysstrategioiden pauloissa – intohimona Nokia, Talentum Oy, Hämeenlinna, Finland.
- Ibrahim, F. & Reid, V. (2009). ‘What is the value of Knowledge Management Practices?’ *Electronic Journal of Knowledge Management*, Volume 7(5): 567-574.
- ITU (2010). *World Telecommunication/ICT Indicators Database*, International Telecommunications Union, <http://www.itu.int/ITU-D/ict/statistics>.
- Jaworski, B. J., and Kohli, A. K. (2011). Market Orientation: Antecedents and Consequences. *The Journal of marketing*, 75(3), 53-70
- Johnsen, G. J. and McMahon, R. G. P. (2005). Owner-Manager Gender, Financial Performance and Business Growth Amongst SMEs from Australia’s Business Longitudinal Survey. *International Small Business Journal*, 23(2), 115-142.
- Kaplan, R.S. & Norton, D.P. (2000). Having trouble with your strategy? Then map it. *Harvard Business Review*, 78(5), 167–176.
- Karadsheh, L. (2009). A theoretical framework for knowledge management process: towards improving knowledge performance.
- Karadsheh, L., Mansour, E., Alhawari, S., Azar, G. and El-Bathy, N. (2009). A Theoretical Framework for Knowledge Management Process: towards Improving Knowledge Performance. *Journal of Communications of the IBIMA*, 7(1), 67-79.
- Kenya Association of Mobile phone Handset Manufacturers, (2014). A Big Year Ahead For The Phone Manufacturers with Samsung Leading the pack in Kenya. <http://www.kachwanya.com/2013/01/15/a-big-year-ahead-for-the-phone-manufacturers-with-samsung-leading-the-pack-in-kenya/>
- Koh, S. C. L., Demirbag, M., Bayraktar, E., Tatoglu, E., and Zaim, S. (2007). The Impact of Supply Chain Management Practices on Performance of SMEs. *Industrial Management & Data Systems*, 107(1), 103-124.
- Larsen, J. N. (2001), Knowledge, Human Resources and Social Practice: The Knowledge Intensive Business Service Firm as a Distributed Knowledge System, *The Service Industries Journal*, Vol. 21, No. 1, pp. 81-102.

- Lee, H., & Choi, B. (2003). Knowledge management enablers, processes, and organizational performance: An integrative view and empirical examination. *Journal of management information systems*, 20(1), 179-228.
- Lee, H., & Choi, B. (2003). Knowledge Management enablers, processes, and organizational performance: an integrative view and empirical examination. *Journal of Management Information Systems*, Vol 20(1), p. 179-228.
- Lester, R. T., Ritvo, P., Mills, E. J., Kariri, A., Karanja, S., Chung, M. H., ... & Plummer, F. A. (2010). Effects of a mobile phone short message service on antiretroviral treatment adherence in Kenya (WelTel Kenya1): a randomised trial. *The Lancet*, 376(9755), 1838-1845.
- Lettieri, E., Borga, F. & Savoldelli, A. (2004). 'Knowledge management in non-profit organizations', *Journal of Knowledge Management*, vol. 8, no. 6, pp. 16-30.
- Ling, R. (1996). " *One Can Talk about Common Manners!': The Use of Mobile Telephones in Inappropriate Situations*. Telenor.
- Liu, P.L. and Tsai, C.H. (2007). Effect of Knowledge Management Systems on Operating Performance: An Empirical Study of Hi-Tech Companies using the Balanced Scorecard Approach, *International Journal of Management*, Vol. 24, No. 4, pp. 734-823.
- Mac Donald, V. H. (1979). Advanced mobile phone service: The cellular concept. *Bell System Technical Journal*, The, 58(1), 15-41.
- Mas, I., & Radcliffe, D. (2010). Mobile payments go viral: M-PESA in Kenya.
- Mayfield, R. D. (2008). *Organizational Culture and Knowledge Management in the Electric Power Generation Industry*. Dissertation, University of Phoenix, Phoenix.
- Moffet, H. & Hinds, A. (2010). 'Assessing the impact of KM on Organisational Practice: Applying the MeCTIP Model to UK Organizations': *Electronic Journal of Knowledge Management*, Volume 8(1):103-118.
- Moodysson, J. (2008). Principles and Practices of Knowledge Creation: On the Organization of "Buzz" and "Pipelines" in Life Science Communities. *Economic Geography*, 84(4), 449-469.
- Narver, J. C., and Slater, S. F. (2006). The Effect of a Market Orientation on Business Profitability. *The Journal of Marketing*, 54(3), 20-35
- Nissen, M., Kamel, M.N. and Sengupta, K.C. (2009). Integrated Analysis and Design of Knowledge Systems and Processes. *Information Resources Management Journal*, 13(1), 24-43.

- Nokia (2010c), *Nokia Corporation – Form 20-F 2009*, <http://www.nokia.com/aboutnokia/financials/quarterly-and-annual-information>, pp. 92-93.
- Nonaka, I. & Takeuchi, H. (1995). *The knowledge creating company: How Japanese companies create the dynamics of innovation*. New York [u.a.: Oxford Univ. Press.
- Nonaka, I. (1994). 'A dynamic theory of organizational knowledge creation', *Organization Science*, vol. 5, no. 1, pp. 14-37.
- O'Dell, C., & Grayson, C.J., (1998). *If we only know what we know: The transfer of internal knowledge and best practice*: The Free Press: New York.
- Ramussen, P., & Nielsen, P. (2011). Knowledge management in the firm: concepts and issues. *International Journal of Manpower*, Vol. 32(No. 5/6), p. 479-493.
- Rothman, K. J., Chou, C. K., Morgan, R., Balzano, Q., Guy, A. W., Funch, D. P., ... & Carlo, G. (1996). Assessment of cellular telephone and other radio frequency exposure for epidemiologic research. *Epidemiology*, 291-298.
- Senaji, T. and Nyaboga, A.B. (2011). Knowledge Management Process Capability: Operations Strategy Perspective. *International Journal of Management & Information Systems* Vol. 15(3).
- Sveiby, K.E. (2007). *The new organizational wealth: Managing and measuring knowledge assets*. San Francisco, CA: Berrett-Koehler.
- Ulrich, D. (2008). Intellectual capital; competence; commitment. *Sloan Management Review*, 39(2), 15–26.
- Venkatraman. N. and Vasudevan, R. (1986). Measurement of Business Performance in Strategy Research: A Comparison of Approaches. *Academy of Management Review*, 11(4), 60-75.
- Von, K.G. & Roos, J. (1995). *Organizational epistemology*. New York: St. Martin's Press.
- Wiig, K.M. (1993). *Knowledge management foundations: Thinking about thinking : how people and organizations create, represent, and use knowledge*. Arlington, Tex: Schema Press.
- Wiig, K.M., DeHoog, R. and Vander Spek, R. (2007). Supporting Knowledge Management: A Selection of Methods and Techniques. *Expert Systems with Applications*, 13(1), 15-27.
- Zack, M., McKeen, J. and Singh, S. (2009). Knowledge Management and Organizational Performance: an Exploratory Analysis. *Journal of Knowledge Management*, 13(6), 392-409.
- Zack, M.H. (1999). 'Managing codified knowledge', *Sloan Management Review*, vol. 40, no. 4, pp. 45-58.

APPENDICES

APPENDIX I: QUESTIONNAIRE

Section A: General Information

1.Name of your organization?

.....

2.What is your position in the organization?

.....

3.How many years has your company been operating in Kenya?

.....

Section B: Knowledge Management Practices by Mobile Telephone Companies in Kenya

4. Please indicate the extent to which each of the statements describes what happens in your company. Tick the appropriate cell or box against each statement. The numbers represent the following levels; 1- Not at all, 2-To a less extent, 3-To a moderate extent, 4-To a great extent, 5-To a very great extent.

Knowledge Creation Statements	1	2	3	4	5
Our employees obtain a good extent of new knowledge from external sources (e.g. through seminars, conferences, educational courses, subscription journals, expert networks).					
Our employees obtain a good extent of new knowledge from business partners (e.g. suppliers, clients).					
Our employees exchange knowledge with their co-workers.					
Our employees rely on experience, skills and knowledge in their work,					

In their work, our employees rely on written sources (e.g. previously implemented projects documentation, organisational procedures, instructions and other documented sources).					
Our employees share their knowledge orally at meetings or informal gatherings (e.g. during lunch, in the hallway).					
Our employees share their knowledge through formal procedures (e.g. project reports, organisational procedures and instructions, reports and company publications).					
Employees in our organisation consider their knowledge as an organisational asset and not their own source of strength.					
The general management/leadership motivates employees to engage in formal education systems to achieve a higher level of education.					
The general management/leadership motivates employees to engage in informal education systems (e.g. seminars, courses).					
Others					

5. Please indicate the extent to which each of the statements describes what happens in your company. Tick the appropriate cell or box against each statement. The numbers represent the following levels; 1- Not at all, 2-To a less extent, 3-To a moderate extent, 4-To a great extent, 5-To a very great extent.

Knowledge Sharing Statements	1	2	3	4	5
There is a willingness to share lessons learned in my group					
In my group, lessons learned from projects, both successful and unsuccessful, are considered valuable					
Activities associated with lessons learned (from capturing to using) are recognized and /or rewarded in my organization					
Successful instances of sharing lessons learned are consistently publicized throughout my organization					
In my department, lessons learned are shared routinely with fellow teammates and members of the organization					
In our organisation, there is a general inclination to cooperation and exchange of experience among employees.					
The general management/leadership of our organisation promotes					

cooperation and exchange of experience among employees.					
Others					

6. Please indicate the extent to which each of the statements describes what happens in your company. Tick the appropriate cell or box against each statement. The numbers represent the following levels; 1- Not at all, 2-To a less extent, 3-To a moderate extent, 4-To a great extent, 5-To a very great extent.

Knowledge Storage Statements	1	2	3	4	5
In my organization, employees document lessons learned from projects					
Documenting lessons learned from projects is required in my organization					
There exists a classification scheme exist for categorizing lessons learned by project type, problem type, subject area, etc.					
I found it easy to use the classification scheme for documenting lessons learned					
There is a structured format, such as templates / forms, to follow when documenting lessons learned					
The structured format helps me capture the key points of lessons learned that I documented					
Training / instruction on using the structured format for documenting lessons learned is available to me					
Others					

7. Please indicate the extent to which each of the statements describes what happens in your company. Tick the appropriate cell or box against each statement. The numbers represent the following levels; 1- Not at all, 2-To a less extent, 3-To a moderate extent, 4-To a great extent, 5-To a very great extent.

Knowledge Acquisition Statements	1	2	3	4	5
In my organization, employees look for lessons learned from similar earlier projects prior to beginning a new project					
In my organization, looking for lessons learned from similar earlier projects is a required part of work practices					
When I look for documented lessons learned from similar earlier projects, I am able to find them					
I find that the documented lessons learned are available from sources other than the original author (owner)					
The documented lessons learned are stored in a database, or other repository, that allows direct access by potential users					
I can search the lessons learned via database					
I believe that the search tool is effective (i.e. it filters out most of the irrelevant alternatives and yet includes most of the relevant ones)					
I believe that the search tool exhibits intelligence (i.e. it uses context and personalization to filter out alternatives that are not relevant to me in a particular problem situation)					
Training / instruction on using the search tools for locating lessons learned is available to me					
Others					

8. Please indicate the extent to which each of the statements describes what happens in your company. Tick the appropriate cell or box against each statement. The numbers represent the following levels; 1- Not at all, 2-To a less extent, 3-To a moderate extent, 4-To a great extent, 5-To a very great extent.

Knowledge Implementation Statements	1	2	3	4	5
Training / instruction on incorporating lessons learned into normal work practices is available to me					
In my organization, processes for sharing lessons learned are widely accepted as part of normal work practices					
Processes for documenting lessons learned are regularly improved and updated in my organization					
Processes for cataloging / classifying lessons learned are regularly					

improved and updated in my organization					
In my organization, processes for searching for lessons learned are regularly improved and updated.					
Others					

Organization Performance

9. Please indicate the extent to which each of the statements describes what happens in your company. Tick the appropriate cell or box against each statement. The numbers represent the following levels; 1- Not at all, 2-To a less extent, 3-To a moderate extent, 4-To a great extent, 5-To a very great extent.

Statements	1	2	3	4	5
Operational processes have improved					
Operating systems have improved					
Managers are more innovative					
Staff are more innovative					
Managers are more knowledgeable					
Staff are more knowledgeable					
Staff are more skilled					
Staff have gained more experience					
Managers are making better decisions					
Staff are making better decisions					
Teamwork has improved					
Learning by individuals has improved					
There is increased awareness of information that is critical to achieving the organisation's mission					
Knowledge of individuals has become knowledge available to the whole organisation					
The proportion of operating costs, relative to income, has been reduced					
We are delivering a higher quality of service to our clients					
We are better placed to meet competition from other organisations in tendering for services					
We are better placed to meet competition from other organisations for					

funding					
There is increased awareness of information that is critical to achieving the organization's mission					
We are delivering a higher quality of service to our clients					
Overall the organization is functioning better					

APPENDIX II: MOBILE TELEPHONE COMPANIES IN KENYA

1. Alcatel
2. Bird
3. Blackberry
4. Apple
5. G-tide
6. HTC
7. Huawei
8. Infinix
9. Itel
10. Lenovo
11. LG
12. Microsoft
13. Motorola
14. Neon
15. Obi
16. Oppo
17. Samsung
18. Sony Xperia
19. Tecno
20. Wiko
21. X-Tigi

Source: https://energypedia.info/wiki/Mobile_Phone_Market_in_Kenya

APPENDIX III: DISTRIBUTION OF RESPONDENTS ORGANIZATION

	Frequency	Percentage (%)
Alcatel	1	6
Bird	1	3
Blackberry Rim	2	6
G-tide	1	3
HTC	2	6
Huawei	2	6
Infinix	1	6
Apple	2	6
Itel	1	3
Lenovo	2	6
LG	2	6
Microsoft	2	6
Motorolla	1	3
Neon	1	3
Obi	2	6
Oppo	2	6
Samsung	2	6
Sony Xperia	2	6
Tecno	2	6
Wiko	2	6
X-Tigi	1	3
Total	36	100

Source: Research Findings (2015)