KNOWLEDGE MANAGEMENT STRATEGIES ON PERFORMANCE OF INFORMATION, COMMUNICATION AND TECHNOLOGY COMPANIES IN NAIROBI COUNTY

BY

NZAU WAKI

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

FALL 2017
KNOWLEDGE MANAGEMENT STRATEGIES ON PERFORMANCE OF INFORMATION, COMMUNICATION AND TECHNOLOGY COMPANIES IN NAIROBI COUNTY

BY

NZAU WAKI

A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for Business Research Methods

UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

FALL 2017
STUDENT DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: ___________________________ Date: ___________________________

Nzau Waki (ID 647564)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: ___________________________ Date: ___________________________

Prof. Katuse Paul

Signed: ___________________________ Date: ___________________________

Dean Chandaria School of Business
COPYRIGHT

All rights reserved. No part of this project may be produced or transmitted in any form or by any means, electronic, mechanical, including photocopying, recording or any information storage without prior written permission from the author.

© 2017 by Nzau Waki
ACKNOWLEDGEMENT

I would like to acknowledge my supervisor for the guidance and wise counsel during the development of this proposal. I would also like to acknowledge my friends and family for their support.
DEDICATION

I dedicate this project to all employees in the information communication and technology industry.
ABSTRACT

Sustainable competitive advantage is essential on building and exploiting core competencies. The ability to develop and leverage the value of these intangible assets comprises a core competency for organization, particularly those providing financial and professional services. This study sought to establish the effects of knowledge management strategies on performance of ICT companies in Nairobi County. The study sought to address the following research questions: How do knowledge creation strategies affect performance of ICT companies in Nairobi County? What is the effect of knowledge sharing strategies on performance of ICT companies in Nairobi County? What is the effect of knowledge application strategies on performance of ICT companies in Nairobi County?

The study adopted a descriptive research design targeting 81 ICT firms. A census was applied as there are less than 100 firms within the city of Nairobi hence easily accessible. The study collected primary data using a questionnaire. Collected data was analyzed using Statistical Package for Social Sciences (SPSS) and Microsoft excel to generate quantitative reports which were presented in the form of tabulations, percentages, mean and standard deviation. Analyzed data was presented using tables and figures.

The study established that the companies had online portals where employees access relevant information relating to their tasks, had well established media for sharing of information among employees and observes operations inherited since its founding. The study further revealed that knowledge in the organizations emerged from local innovations, firms build technological advantages suited for the local market, majority of the engineers in the companies are local, engineers always take an opportunity to avail solutions to corporate technology challenges, engineers diagnose corporate technology challenges with precision and engineers possess adequate experience on the local technology market.

The study found that companies held several talks among staff to generate new knowledge on how to meet customers’ needs, holds brainstorming sessions to come up with new ways of satisfying customer needs, had online portals where employees access relevant information relating to their tasks, had well established media for sharing of information
among employees and that knowledge in the organizations emerged from local innovations build to suit the local market.

The study concluded that knowledge creation was promoted at the ICT companies through the organization media and training, knowledge sharing increases continuous performance improvement and companies identified what skills are needed to attain organizational goals and experienced staff needed to apply the currently available knowledge more effectively. The study recommends that ICT companies should adopt more ways of creating knowledge/information among employees, adopt more ways of sharing knowledge/information and incentive programs which reward knowledge application.

The alignment of knowledge management policy to the organizational strategy will act as a guideline on how knowledge should be disseminated within the organizations. The study further recommends that the ICT companies should adopt more ways of sharing knowledge/information among employees in order to improve their knowledge management capacities. The alignment of knowledge management policy to the organizational strategy will act as a guideline on how knowledge should be disseminated within the organizations.

The study also recommends that incentive programs which reward knowledge application that will encourage employees to actively share knowledge with their colleagues should be used. This may go further in encouraging cross-department knowledge sharing and will encourage coordination between different departments. This may be beneficial in reducing duplicate operations within organizations and as a whole creating a learning organization.
# TABLE OF CONTENTS

STUDENT DECLARATION ......................................................................................... iii  
COPYRIGHT ............................................................................................................... iv  
ACKNOWLEDGEMENT ............................................................................................... v  
DEDICATION ............................................................................................................... vi  
ABSTRACT ................................................................................................................ vii  
LIST OF TABLES ....................................................................................................... xi  
LIST OF FIGURES ..................................................................................................... xii

CHAPTER ONE ........................................................................................................ 1  
1.0 INTRODUCTION ................................................................................................. 1  
  1.1 Background of the Problem ............................................................................. 1  
  1.2 Statement of the Problem ............................................................................... 4  
  1.3 Purpose of the Study ...................................................................................... 5  
  1.4 Research Questions ....................................................................................... 5  
  1.5 Significance of the Study ............................................................................... 6  
  1.6 Scope of the Study ......................................................................................... 6  
  1.7 Definition of Terms ....................................................................................... 7  
  1.8 Chapter Summary ......................................................................................... 7  

CHAPTER TWO ...................................................................................................... 9  
2.0 LITERATURE REVIEW .................................................................................... 9  
  2.1 Introduction ..................................................................................................... 9  
  2.2 Effect of Knowledge Creation Strategies on Performance of ICT Companies .... 9  
  2.3 Effect of Knowledge Sharing Strategies on Performance of ICT Companies ...... 14  
  2.4 Effect of Knowledge Application Strategies on Performance of ICT companies .. 18  
  2.5 Chapter Summary .......................................................................................... 23  

CHAPTER THREE .................................................................................................. 24  
3.0 RESEARCH METHODOLOGY ........................................................................ 24  
  3.1 Introduction .................................................................................................... 24  
  3.2 Research Design ........................................................................................... 24
LIST OF TABLES

Table 3.1: Population of the Study ................................................................. 25
Table 4.1: Effect of Knowledge Creation Strategies on Performance .......... 32
Table 4.2: Effect of Knowledge Sharing Strategies on Performance ............. 34
Table 4.3: Effect of Knowledge Application Strategies on Performance .......... 35
Table 4.4: Effects of Knowledge Management Strategies on Performance .... 37
Table 4.5: Model Summary .................................................................................. 37
Table 4.6: ANOVA .............................................................................................. 37
Table 4.7: Coefficients ......................................................................................... 38
LIST OF FIGURES

Figure 4.1: Response Rate ........................................................................................................... 28
Figure 4.2: Gender Distribution .................................................................................................. 29
Figure 4.3: Highest Level of Education ....................................................................................... 30
Figure 4.4: Current Position at the Company ............................................................................. 30
Figure 4.5: Period Working in the Organization ........................................................................ 31
CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Problem

Knowledge is the awareness and understanding of a set of information and ways that information can be made productive in supporting specific tasks or attaining a crucial decision. Knowledge management is, according to Chen and Huang (2009), the process that connects the firms’ internal and external information convenient for the right recipient at the appropriate time. Knowledge Management (KM) was popularized in the early 1990s although it can be traced earlier than that. Knowledge Management involves the creation, archiving and sharing valued information, expertise and insight both within and across communities of people in organizations with similar needs (Tong, Tak & Wong, 2015).

Company performance is the most vital of criteria convenient in testing the success of enterprises. It is the most essential target for company managements. Management scholars have hence focused on improving strategic variables such as Knowledge Management practices. According to Lopez-Nicolas and Soto-Acosta (2010), performance relies on a company’s ability to integrate knowledge into the value creation process as well as the main vision strategies. This study further revealed that efficient mechanism for creation, transfer, and integrating knowledge to achieve and sustain high level performance. Knowledge management is therefore, one of the most significant developments in the field of management science (Bernardo, Di Maria & Roberto, 2012).

The efforts towards establishing Knowledge management have a long history in the United Kingdom. They include; the job discussions, formal apprenticeship, discussion, discussion forums, professional training and mentoring programs. Danish (2012) explains that efficient KM strategies focus on getting the appropriate knowledge to the right people at the right time which enables employees to have relevant knowledge that will lead to improved organizational performance. So, there is need for KM strategies to be aligned with the business vision and management must ensure that staff are clearly on board, so as to ensure understanding of why knowledge is important. There is also need to have channels for discussion as well as allow a flow of ideas and above all trust must be
developed between the management and the employees. Danish (2012) argues that, this condition has led to growth recognition of knowledge as an asset, as it can be substituted for land or capital and can be a greater force than any of those in production of goods and services.

Globally, Knowledge Management, as a discipline, has developed to maturity over the past 10 years. The intensified competition among organizations has led to more focus in the field making it popular. Most organizations strive to acquire the latest technology assets by hiring the most innovative people with new ideas as much as they can afford. Danish (2012) in a study on; Impact of Knowledge Management Practices on Organizational Performance-evidence from Pakistan, notes that the important role of knowledge management strategies on performance of Information Technology firms is undoubtedly evident. However, Danish explains, there is limited empirical work and studies conducted on the connection between the rapidly changing high-technology and the human resource management systems (López-Nicolás & Meroño-Cerdán, 2011). Until recently, there has been missing research articles on organizations’ quantifiable success with regards to innovations achieved via knowledge management strategies (Ramirez & Kumpikaite, 2012).

In knowledge, intensive organizations, processing knowledge is core to improving business performance. Due to a steady rise in global competition and new challenges facing business and industry are creating substantial pressures on all organizations (Daley, 2012). To establish long term competitive advantage from an information and knowledge management point of view it is important to efficiently exploit what the business actually knows and not only what it owns. Knowledge management has played a key role in helping Small and medium-sized enterprises (SMEs) around the globe to obtain insight into both their external (competitors, suppliers, and customers) and internal experiences. Knowledge Management involves activities such as knowledge creation, acquisition, knowledge storage, sharing and implementation towards achieving success in problem-solving techniques, dynamic learning, strategic planning, decision-making, and ultimately; improving overall organizational performance.
In the United Kingdom ICT Companies, have intensified competition among themselves by adopting the latest advancements in technology. This competition arises from frequent changes in hiring workers with the latest versions. The sole purpose of the strategies is to address strategic issues that emphasize internal intelligence and knowledge retrieval systems. It is also estimated that over forty percent of the U.S. economy is directly attributable to the creation of intellectual capital (Dalkir, 2011) and over ten percent of the gross domestic product (GDP) in developed countries around the world are reinvested in the development of knowledge in order to out think the competition.

In Africa, using the same quality principles embedded as the core of developed ICT firms yields the best outcome and is currently applied for KM movement embedding process. KM has rapidly become a part of everything an organization does and is part of everyone’s job. In South Africa organizations are successful in managing knowledge leading to reduced dependencies on knowledge champions, employee reward systems and reduced monitoring and redevelopment. Camarero and Garrido (2011) recommended that employee training, knowledge retention and involvement in decision making process are crucial in KM. Management are increasingly focusing on giving employees a sense of security, motivated through incentives, training and empowered with authority to ensure successful KM. It is the success of KM that all stakeholders be involved in decision making process. This shows that strengthening of human element for sharing will promote creativity and innovative thinking. The processes will be developed in alignment with strategies and goals of the organization. Graham and Mann (2013) highlighted, that thus effective and appropriate utilization of the knowledge resource than competitors will give an organization not only competitive advantage but also help maintain it by constant up gradation of knowledge base, thus KM contribute to organizational performance.

The growth of ICT companies in Kenya is commonly associated with success and knowledge as the major influential factors. Knowledge is the most valued of the available resources to these companies because it not only embodies the best practices and routines but also encourages creative processes of problem-solving methods that are rarely easy to duplicate. According to Camarero and Garrido (2011), most of the ICT companies in Nairobi owe their success in business performance more on effective management of
knowledge than deployment of tangible assets. According to Dalkir (2012), knowledge management strategies may be critical resources to ICT firms but demands high costs and investments in delivering effective transfer of knowledge.

Graham and Mann (2013) conducted a study titled; Imagining a Silicon Savannah? Technological and conceptual connectivity in Kenya’s BPO and software development sectors. In the study, they highlight the history of ICT within the Kenyan government which began back in the 1960s when the treasury purchased and installed computerized payroll services. Since then the sector has grown over the years to include all government ministries. The private sector, on the other hand, has experienced rapid unregulated growth to at least 81 firms by the end of 2014 (Graham & Mann, 2013).

1.2 Statement of the Problem

Sustainable competitive advantage is essential on building and exploiting core competencies. The ability to develop and leverage the value of these intangible assets comprises a core competency for organization, particularly those providing financial and professional services (Dalkir, 2012). In order to maintain the competitiveness of business and relevance in the market, ICT companies have focused on establishing efficient knowledge management to improve their quality. Bernardo, Di Maria and Robert (2012) conducted a survey on Knowledge-intensive business services, knowledge management strategies where they divided knowledge management into IT-based and human-resource-based Knowledge Management. IT-based Knowledge Management, also supply-driven Knowledge Management focuses on the need to ease access to available knowledge existing in databases or elsewhere. Human-resource-based Knowledge Management, also demand-driven approach emphasizes on facilitating interactive creating and sharing of knowledge. This conflict within firms is the major cause for replacement of personnel for more appropriate ones in accordance with the organizations’ choice of approach.

Dalkir (2011) argues that organizational learning, resulting for the need for updates in KM, can be regarded as the ability of an organization to demonstrate that it can learn collectively by applying new knowledge to the policy process or innovation in policy implementation. Challenges arise in most organisations, especially in the ICT industry, where employees
are reluctant to share their knowledge freely. Lopez-Nicolas and Soto-Acosta (2010) highlighted that employees have a tendency to retain the knowledge to them in order to earn recognition and be valuable to the organization for the sake of job security. Danish (2012) used four metrics to access organizational knowledge including individual, context, content and process knowledge measures. The four metrics determine the contribution of knowledge to business performance more explicitly and provide insight into how knowledge can be strategically managed. It shows that KM strategies should demonstrate value and benefits to gain support from variety of stakeholders and must be measured using intermediates such as the number of new ideas, number of new products, benchmarking and customer complaints on the contribution of knowledge management activities to organizational performance.

Another huge challenge against successful implementation of KM is properly addressing the culture change issue since the KM efforts focus on this aspect of organizational change and must develop programs to reach out to individuals involved. These programs include communications, training, policies and procedures and incentives. They must also include knowledge proficiencies, a comprehensive measurement system and it must not be divorced from a business goal. Lopez-Nicolas and Soto-Acosta (2010) argued on an economic point of view that KM must be considered not as expenditure but as an investment in the efficiency and competitiveness of an organization.

1.3 Purpose of the Study

The purpose of the study was to determine the effects of Knowledge Management strategies on performance of ICT companies in Nairobi County.

1.4 Research Questions

1.4.1 How do knowledge creation strategies affect performance of ICT companies in Nairobi County?

1.4.2 What is the effect of knowledge sharing strategies of performance on ICT companies in Nairobi County?
1.4.3 What is the effect of knowledge application strategies on performance of ICT companies in Nairobi County?

1.5 Significance of the Study

This study would be extremely valuable to a wide range of stake holders but particularly to researchers and academicians. It would also provide detailed information critical for industry regulators, policy makers and managers of organisations.

1.5.1 Managerial Staff of ICT Companies

To the managers of ICT firms, this study is crucial for consideration of implications of their strategic efforts to achieve success through maintaining competitive advantage and relevance.

1.5.2 Policy Makers

The findings of this study would be useful for the Communication Authority of Kenya (CAK) and the regulatory board for effective control of ICT firms in Nairobi, Kenya. The findings and conclusions of the study would be helpful in the development of efficient plans to regulate the firms.

1.5.3 Academicians

To academicians and researchers, the results of this study would be of great contribution to latest information regarding knowledge management strategies considering the limited resources today. The study would, therefore, be a source of reference for future scholars as well as suggesting preferable areas for further research.

1.6 Scope of the Study

This study focused on the effects of Knowledge Management strategies on performance of ICT companies in Nairobi County. The respondents of the study included human resource managers from a sample 24 firms from the registered 81 ICT firms in the County (Computer Society of Kenya, 2016). The study was carried out in June 2017. It relied on information from both the management and the staff of the companies. The managers and
staff are the most affected by the consistent changes of knowledge management in their firms and offered essential information for the study hence the selection.

1.7 Definition of Terms

1.7.1 Knowledge
A justified belief that highlights an entity’s capacity for effective action (Danish, 2012). In this study, knowledge will be used to refer to the awareness and understanding of a set of information and ways that information can be made productive in supporting specific tasks or attaining a crucial decision.

1.7.2 Knowledge Management
It is the process that connects the firms’ internal and external information convenient for the right recipient at the appropriate time (Chen & Huang 2009).

1.7.3 A Knowledge Management Strategy
The process of creating, archiving and sharing valued information, expertise, and insight both within and across communities of people in organizations who have similar needs (Dalkir, 2011).

1.7.4 Performance
The output of an organization measured at a point in time. It may be compared with previous output of the same organization or the output of a similar organization in the same industry (Alegre, Sengupta & Lapiedra, 2013).

1.8 Chapter Summary
This first chapter provided the background of the study in relation to performance of ICT companies. It has also exposed a history of ICT Firms in Nairobi and stated the problem. The chapter has also discussed the scope and significance of the study. A definition of terms used within the study has also been listed. The next chapter evaluated the literature review on studies that had been conducted in the past that were related to this study. Chapter three reviewed the research methodology which was used to achieve the objectives of the study. It includes the research design, population, sampling procedure and sample size, data collection method and data analysis. Chapter four presents the research results
and findings while chapter five presents discussions, conclusions and recommendations of
the study.
2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews the various theories, concepts and studies that exist on effects of knowledge management strategies on performance of ICT Companies. It is divided into three sections based on the research questions. These are: the effects of knowledge creation strategies to performance of ICT companies, the effect of Knowledge sharing strategies on performance of ICT companies and the effects of knowledge application strategies on performance of ICT companies. These are discussed below.

2.2 Effect of Knowledge Creation Strategies on Performance of ICT Companies

Berraies, Chafer and Yahia (2014) conducted a study to assess the Knowledge Creation Process and Firms’ Innovation Performance: Mediating Effect of Organizational Learning. The study acknowledges the importance of knowledge as a primary ingredient for ensuring the sustenance and survival of companies in the extremely competitive market today. Knowledge creation is therefore vital in creating wealth for firms. The study shows that Japanese ICT Companies (such as yahoo and Canon) thrive mostly due to their special approach in managing creation of new knowledge.

2.2.1 The Knowledge Creation Process

Creating knowledge requires the existence of a person or group of people who come up with new ideas, new concepts, innovative product or process. Knowledge creation can be achieved through research, innovation projects, experiments, observations etc. Firestone Chen and Huang (2009) suggests that knowledge production begins with the request of knowledge, followed by individual or group learning, information acquisition, application for evaluation of knowledge and ultimately, build organizational knowledge. Ceptureanu and Ceptureanu (2010) define knowledge creation process in organisations as the process of making available and amplifying knowledge created by individuals as well as crystallizing and connecting it to an organization's knowledge system.
The process of knowledge creation entails two main levels; interaction between individuals to groups then to the organization and an interaction between tacit and explicit knowledge (Binbin et al., 2012). This is called the Socialization, externalization, combination and internalisation (SECI) process. According to the study, the initial step involves socialization (which entails sharing new tacit knowledge among individuals within a company). This knowledge can be shared through by either observation or imitation between apprentices and experts. Companies may obtain the tacit knowledge through interactions with customers or suppliers. This mode of knowledge creation can also occur during brainstorming camps in which creative discussions and sharing experiences take place to resolve issues as well as generate new ideas (Binbin et al., 2012).

The second phase of the SECI process; externalization refers to the conversion of the acquired tacit knowledge into explicit information. Knowledge is basically moved from individual level to group level. Utilising analogies, metaphors and other creative dialogue techniques enable the swift transfer of tacit ideas into new explicit concepts of products and services. The third phase (combination) correlates explicit information acquired that generates new explicit knowledge to be shared within the organization. The researcher provides an example of a comptroller of an ICT company who synthesizes the collected explicit knowledge into a financial report. This Combination process may occur effectively through meetings, conversations, documents and computerized communications networks (Chen & Huang, 2009).

The final process (internalization) involves the conversion of explicit organizational knowledge into tacit knowledge by individuals. During this process, individuals acquire organizational explicit knowledge and convert it to a new tacit knowledge through putting it into a practice (Chen & Huang, 2009). Training, simulation programs, experimenting, reading and using documents about work tasks and job rotation are the main tools enabling the internalizing process of knowledge. By use of procedural manual, which lists the explicit experiences of other employees, individuals may convert this explicit knowledge into tacit knowledge once assimilated. After internalization, a new spiral of knowledge creation is initiated (Camarero & Garrido, 2011).
2.2.2 Innovation Performance

Innovation is, according to De Clercq and Dimov (2008), the successful implementation of creative ideas, tasks as well as procedure. Camarero and Garrido (2011) define innovation as a new knowledge incorporated into products, processes or services. Basing on these definitions, knowledge is ultimately, an essential component of innovation performance. There are five capabilities of innovation performance; the first is a clear, specific innovation strategy, which includes setting goals and determining investment priorities in a way that captures both hearts and minds. The second is an organization with a culture that nurtures innovation, an organization supported by the right people, processes and organizational structure. Third, this organization should have effective idea generation and development processes to create attractive new offerings, both by generating a broad and diverse set of ideas and, especially, by converting these ideas into profitable business concepts. Fourth, a company should manage a diverse innovation portfolio that has the right size, shape and speed, a portfolio aligned with its strategy. Fifth, a company has to be effective at scaling new business ideas, supporting them with the appropriate level and type of resources. It also has to create feedback loops to learn how best to reinforce, redirect or when necessary kill new ideas (Almquist, Leiman, Rigby & Roth, 2013).

These creative ideas are often generated via social interactions that enable the creation and sharing of crucial knowledge. The phases of knowledge creation focus on the creation of new concepts and thus of exploratory innovation. In another study, Alegre, Sengupta and Lapiedra (2013) sought to assess the knowledge management and innovation performance in a high-tech SMEs industry. In the study, the researchers acknowledge the importance of company innovation towards sustenance and survival from competitiveness. The results of the study indicate that an ICT company’s capacity to absorb and utilize knowledge is the primary facilitator of innovation.

Alegre et al., (2013) maintained that the extent of use of knowledge, which has been acquired from internal or external sources, influences a company’s performance. In addition, the study revealed that the amount of new knowledge acquired and applied determines the degree of innovation. Zohoori, Mohseni, Samadi and Attarnezhad (2013) underlined the effect of both tacit and explicit knowledge on speed and quality of
innovation. In addition, the researcher pointed out the significance of Knowledge Creation Process (KCP) speeds on improving innovation success. The novelty of an idea therefore, relies on whether the actors create and use tacit knowledge or explicit knowledge. It is via socialization and externalization that tacit knowledge (which is personal and difficult to externalize compared to explicit knowledge) is generated and communicated around the organization (Zohoori et al., 2013).

López-Nicolás and Meroño-Cerdán (2011) conducted a study on Strategic Knowledge Management, Innovation and Performance. They insisted that the interactive creation of new knowledge, the dissemination and application processes throughout the company catalyzes a firm’s innovation performance. Innovation is based on a consistent and efficient KCP that helps notice opportunities and generation of new ideas. Schulze and Hoegl (2008) suggested that socialization is positively linked to the novelty of product ideas.

According to these researchers, the traditional face-to-face interaction of individuals, who have varied perspectives on issues, promote novel product ideas (Schulze and Hoegl, 2008). This informal interaction helps to create a variety of perspectives as it may also occur between employees within the organization. Informal communication happens randomly and may occur outside the organization for instance with consumers. As a result, creation of new products that meet the customer needs may emerge. In addition, (and in contrast to Binbin et al. (2012)’s research), Schulze and Hoegl (2008) found out that externalization, which occurs in mostly in formal meetings and by organized strategies, is negatively related to the novelty of product ideas.

2.2.3 Organizational Learning

According to the Collins and Smith’s (2013) study, organizational learning is termed a modification in the state of organizational knowledge and types of interpretation that catalyze organizational growth. Organizational learning, Innovation performance and the Knowledge Creation Process are correlated. According to a study conducted by Collins and Smith (2013) on Knowledge exchange and combination; the role of human resource practices in the performance of high-technology firms, learning primarily depended on the exploitation of both internal and external sources of knowledge. The critical role of middle
managers is facilitating knowledge transfer as main factors for Organization learning (OL). This study also suggested that company teams should constitute a crucial organizational environment and context that enhances OL via knowledge creation and transfer resulting from the interaction of their members (Collins and Smith, 2013).

There are various ways to conceptualize the relationship between knowledge management and organizational learning. Easterby-Smith and Lyles (2013) consider OL to focus on the process, and knowledge management (KM) to focus on the content, of the knowledge that an organization acquires, creates, processes and eventually uses. Another way to conceptualize the relationship between the two areas is to view OL as the goal of KM. By motivating the creation, dissemination and application of knowledge, KM initiatives pay off by helping the organization embed knowledge into organizational processes so that it can continuously improve its practices and behaviours and pursue the achievement of its goals. From this perspective, organizational learning is one of the important ways in which the organization can sustainably improve its utilization of knowledge.

At the organizational level, the learning process characterizes the relationship between an organization and its environment. It occurs when the organization adapts its behaviours (response) to environment changes (stimulus) depending on its routines. An empirical study conducted in Slovenia by Dermol (2013) revealed that; an organization in which Knowledge creation activities were often carried out, there were corresponding changes in cognition and behaviour appearing. The author claimed that the socialization, externalization, combination and internalization processes determine the outcome of learning in organizations.

In a study conducted in Spain, on the other hand, Ramírez and Kumpikaite (2012) demonstrated the major effect of two modes of knowledge creation of SECI model. Using socialization and internalization on OL, the author maintains that there exists a close relationship between socialization (that ensures interactions between individual exchanges) and OL. This same idea was supported by Al-adaileh et al. (2012) who maintained that the socialization phase of the SECI model had the potential to influence learning in organizations on the three levels; Individual, groups and the organization. Through
socialization, the author explains, sharing personal experiences between employees can yield major changes in the overall behaviour of an organization.

2.3 Effect of Knowledge Sharing Strategies on Performance of ICT Companies

Due to a rapidly increasing rate of problems that require solutions through social technology platforms, employees with the ability to help others are faced with the dilemma of whether to allocate attention to offering solutions at all or decide on which problems to address. Since information overload is now a growing challenge, the question of why organization members decide to allocate attention to addressing particular problems online is a similarly growing concern for most firms (Berchicci, 2013).

Tong, Tak and Wong (2015) did a study on the impact of knowledge sharing on the relationship between organizational culture and Job satisfaction, the perception of information communication and technology (ICT) practitioners in Hong Kong. The demographic data of this research showed a much higher percentage of male respondents. It may be a reflection of male dominance in ICT industries. The research findings revealed that most of the firms were either SMEs or larger companies. Regarding ICT experience of the respondents, nearly half of the respondents had less than 10 years ICT experience and about one-third of them served with the same company for 6-10 years. This indicates that the turnover of ICT practitioner is generally less than 10 years. Dissatisfaction with the job itself, with pay, with supervisors, with colleagues, or with a lack of promotion prospects could be the reasons for not staying with a firm longer. Together with the high level of education with undergraduate degree and associate degree or higher diploma suggests that ICT companies should recruit people with more ICT experience and with high-level educational or professional qualifications such as e-skill, e-learning, and e-business.

Ramirez and Kumpikaite (2012) conducted a study to assess the Creation, Transfer and Application of Knowledge and its Importance for Business Innovation and Organizational Performance. They found that members of a legal professional association were more likely to contribute to an online discussion forum if they felt that they had more to share, anticipated reputational benefits, and were structurally embedded in the professional
network. They concluded that social media is the most effective way of knowledge sharing in this era.

2.3.1 Online Knowledge-Sharing

In the current world of information overload, attention becomes a critical scarce resource. As a result, the limited attention of employees becomes a major hindrance on problem solving. The improvisation and growth in learning, innovation processes, and performance increasingly rely on how members of the organization use social technologies to share knowledge (Al-adaileh, Dahou & Hacini, 2012). The unique features and capabilities of online learning are built on the ability to connect to a wider range of learning resources and peer learners that benefit individual learners, such as through discussion forums, collaborative learning, and community building. The success of online learning thus depends on the participation, engagement, and social interaction of peer learners, which leads to knowledge sharing. Thus, without frequent and persistent interaction, it is doubtful whether knowledge sharing can take place in online learning (Ma & Yuen, 2011).

In order to facilitate knowledge sharing, many multi nationals around the globe have established electronic communities of practice and introduced social technology platforms to support them. Online discussion forums (such as message boards) are often used to allow employees may post work-related issues and share suggestions on solutions with each other. Although the platforms are valuable for knowledge sharing, notes (Ramirez et al., 2011) their proliferation may contribute to an increasing sense of information overload among junior staff members.

In their study, Al-adaileh, Dahou and Hacini (2012) found that in most of the large, dispersed multinationals, where knowledge is distributed widely, online communities provided critical social platforms such as discussion forums to enhance knowledge sharing. By posting concerns and queries to the forums, individuals can access solutions from knowledge providers across the organizations. Moreover, the questioner can search beyond their local social networks to strange knowledge providers. These social technology platforms are essential because they significantly minimize coordination costs as compared to traditional face-to-face communication (Al-adaileh et al., 2012).
Knowledge Management (KM) seeks to leverage the organisation’s expertise and know-how to add value to the business, utilising some form of technological support system (Ellis, 2013). IS focuses on the core processes that pump the business, critical data that enables the business to effectively operate. KM focuses beyond the day-to-day operations and seeks to build the capability to improve the way the business functions. By developing the capabilities of the organisation’s members, KM develops the high value-adding expertise and creativity that enables business evolution and growth. Hence, KM seeks to effectively harness information system to achieve the goal of maximising the value of the organisation’s knowledge-base.

In order for an online discussion forum to function efficiently, voluntary participation from knowledge providers is essential. Early studies on online knowledge sharing strategies have exposed a variety of social motivations that influence knowledge providers to contribute suggestions to solve problems. For instance, a study on advice giving in an American technical online community, Ramirez and Kumpikaite (2012) found that the positive results to most successive knowledge providers emerged mainly from the gratitude of helping colleagues and from the reputational enhancement and experience they gained through demonstrating their expertise.

2.3.2 Knowledge Exchange in Teams

Knowledge exchange is, according to Cramton and Hinds (2014), the process during which individual perspectives, information, and the know-how are applied in team interactions and shared and discussed. Most of the multinational corporations (MNCs) use multicultural teams (MCTs) to establish effective communication among members of different nationalities. These teams enhance the exchange of unique knowledge in order to capture market share and beat local competition in new locations. The MCTs are useful in ensuring an establishment of efficient customer service departments, securing crucial local resources, or implementing successful distribution in emerging economies (Weingart & Tinsley, 2011). The main reason for MCTs establishments is to enable the sharing and combination of knowledge across international and geographic boundaries (Liu, Ke, Wei & Hua, 2013).
The structure of MNCs and the context may however, negatively hinder the process of performance improvement. For instance, corporate policies that are designed to create equality among workers while encouraging assimilation may result not only in an effort to maintain harmony but also acculturate members. In this case, diverse knowledge never emerges. Although MCTs offer a vital potential for high performance in complex tasks, frequent failures to realize that potential waste valuable resources are eminent without a supportive and appropriate MNC context (Liu et al., 2013).

Most scholars have linked knowledge exchange processes to positive outcomes such as team effectiveness. According to (De Clercq & Dimov, 2008) team effectiveness is the extent to which a team successfully accomplishes its objectives. The author further found out that a primary distinguisher in this process is whether the team had developed a psychologically safe interaction environment (an atmosphere characterized by open, supportive communication) However, some other opposing evidence maintains that it is not as simple as being safe is most important but also a combination of advocating for one’s own ideas, and showing enthusiasm for others’ ideas (Berchicci, 2013).

2.3.3 Knowledge Inheritance

Throughout the history of American companies, knowledge assets have been considered to be the most important determinant in expansion and success (Hancock, Allen, Bosco, McDaniel & Pierce, 2013). MNC may be the most innovative firms in the world yet research and Development (R&D) is among the least global activities evident in firms. A study conducted by Blumenberg, Wagner and Beimborn (2009) on Knowledge transfer processes in IT outsourcing relationships and their impact on shared knowledge and outsourcing revealed that most of the world Investment Reports (such as the UNCTAD, 2010, 2012) indicated that MNCs, especially from the developed countries including the United States, Japan, United Kingdom, Germany and France, focused most of their R & D activity in their local countries. Managers’ report the reluctance for adopting foreign R&D activities for fear of losing control over their innovation processes. They cite potential for knowledge spill overs to competitors, along with other complexities such as quality control and oversight of foreign operations (Hancock et al., 2013).
Moreover, innovation has become increasingly global across many industries over the last two decades of the 21st century. There is an increase in establishment of sophisticated firms and technology clusters around the globe. According to the U.S. National Science Foundation (NSF) for instance, the average share of patents granted by the U.S. Patent and Trademark Office (USPTO) per capita (i.e., per U.S. resident) has gradually fallen since end of the 20th Century (from 54% in 1996 to 52% in 2002 and down to 49% in 2010) (Weingart & Tinsley, 2011).

Although the American government has a high concentration of new patents relative to other major economies in technologies such as information and communication technologies (ICT), automation, biotechnology, and pharmaceuticals in several other technologies foreign-based innovations have outpaced U.S. activity. These foreign-dominant technologies include many technology classes within scientific and optical instruments, motor vehicles, industrial machinery, organic compounds, and electronics (Bernardo, Di Maria & Roberto, 2012).

Agarwal, Echambadi, Franco and Sarkar (2014) examined knowledge transfer through inheritance. The results show that incumbents with both strong technological and market pioneering know-how generate fewer spin-outs than firms with strengths in only one area. The incumbent’s capabilities at the time of spin-out founding positively affects the spin-out’s knowledge capabilities and result in spin-outs having higher probabilities of survival relative to other industry entrants.

2.4 Effect of Knowledge Application Strategies on Performance of ICT companies

In order to achieve efficient knowledge application, expertise of knowledge providers is essential. Since a potential knowledge provider with expertise that relates closely to a problem can attract greater advantages as well as low costs from allocating attention to that problem, an organization anticipates that a closer expertise relationship will increase the probability that a provider allocates attention to a problem for instance, an online discussion forum.

Chen, Elnaghi and Hatzakis (2011) conducted a study on investigating knowledge management factors affecting Chinese ICT Firms performance. The study confirms that
the culture environment of an enterprise is central to its success in the context of China. Furthermore, it shows that a collaborated, trusted and learning environment within ICT firms will have a positive impact on their KM performance.

Rasula, Vuksic and Stemberger (2012) argue that the knowledge on its own without being applied in organizational processes is useless. In order for knowledge to make a difference in any organization, it has to be applied in its processes. Organizations need to struggle to convert individual knowledge into organizational knowledge if they are to attain and maintain competitive advantage in their respective fields beyond the departure of employees. This era of rapid technological advancement has made knowledge a key resource if organizations are to achieve and maintain sustainable competitive advantage. Organizations need to have appropriate structure to promote learning among employees so as to enable them apply the knowledge acquired in improving the efficiency and effectiveness of their organization. Knowledge management has been found to promote organization performance through provision of infrastructure capability and business strategy that out matches that of the competitors.

2.4.1 Local Innovation Dominance

Whenever there are crucial clusters of knowledge emerging in a firm’s home country market, the companies in these markets propel the industry forward with advanced production and process improvements. In these national conditions, local firms possess more technological advantages than foreign companies. There are higher levels of innovation output reflecting vital clusters of knowledge, infrastructure, sophisticated suppliers and consumers, and strong educational inputs. In these local environments, companies may draw from advanced know-how by employing local engineers, technicians, and scientists to provide the necessary advanced knowledge into organizational R&D activities (Von Krogh, 2012). In cases where companies coming from countries that are more dominant in technological innovation in their global industry than the local firms enter the market, they gain access to the strong common innovation infrastructure available and a high combined stock of high-tech knowledge that provide opportunities to cultivate new ideas. These new ideas can be nurtured, developed and used commercially. In these
conditions, a parent firm knowledge has more advantages compared to the new foreign firms, especially in foreign countries that are lagging in the global industry.

Although it is logical to assume that there will be value creation when parent firms transfer their knowledge assets to foreign subsidiaries, the complexities involved in relative industry–country technology comparison that makes this value creation more unlikely. Advanced technological knowledge transfers from local ICT firms can provide crucial benefits to foreign dealings such as unique production processes, and advancement in firm technological know-how. Consistency in the transfer of specialized knowledge and licensed technology will enable the desired performance benefits to foreign investments as upgraded products, new versions, and even advanced technology that can be exploited in foreign markets when local country innovation dominates. As a result, the consistent exchange of parent firm technological knowledge by local companies emerging from technology-leading countries to their foreign operations will probably increase operations access to competitive advantages that will give rise to higher performance in the local foreign market (Daley, 2012).

2.4.2 Provider-Problem Matching

According to Berchicci (2013), the level of expertise of knowledge providers is extremely important in determining their overall contributions to an online community, for instance. Wang and Wang (2012) conducted a study to investigate Knowledge sharing, innovation and firm performance where they found that individuals with higher levels of expertise were more likely to contribute answers to an online discussion forum, and Wang and Wang (2012) confirmed that employees were less likely to contribute to a discussion or offer suggestions when they felt that their expertise was inadequate. The study mostly relied on self-reported levels of expertise and overall contributions. It however, failed to explore either the content of the knowledge providers’ expertise or the details of the problems that require addressing. Nevertheless, the authors maintained that a knowledge provider able to provide expertise that more closely related to the expertise required by a focal problem will be more likely considered to make a final decision on the problem. (Wang & Wang, 2012).
A potential knowledge provider with expertise relating more closely to a problem helps to reap benefits at low costs. The organization therefore, anticipates that a closer expertise match will improve on the probability that a provider allocates attention to a problem (Bernado et al., 2012). Knowledge needs to be readily available in a form that can be easily consumed if it is to be of influence to organizational performance.

### 2.4.3 Team Efficacy and Team Performance

Effective Knowledge application will ensure the improvement of team performance for at least two reasons: enhanced decision making techniques, and coordination. Beloglazov and Buyya (2012) found that effective knowledge application led to a more explicit consideration of alternatives as well as a more informed utility of existing knowledge resources within a group. The result is improved decision making and problem solving techniques. Effective knowledge application is also likely to improve team performance because of its prior beneficial effect on team coordination. Accordingly, effective knowledge application helps in the development of shared mental models and creation of transitive memory, thereby enabling better coordination among team members. Shared mental models can be defined as common knowledge held by team members about their task or social processes (Beloglazov & Buyya, 2012).

Individuals as team members need to be aware of their crucial importance as a part of a whole, since team efficacy develops from group interaction and the process of collective cognition, (Gibson et al., 2014). It became essential to understand and be aware how the development of the cognitive, motivational, affective, and coordination processes influence team effectiveness (Zaccaro, Marks & DeChurch, 2012).

Teams can be characterized as a set of two or more individuals that through a dynamic, interdependent and adaptive interaction work together aiming to achieve a common goal in organizations (Zaccaro, Marks & DeChurch, 2012). They can share more than one common goal and they exist to perform organizationally relevant tasks, interact socially, exhibit task interdependencies and maintain and manage boundaries. As a team, this set of interdependent individuals who contribute in a different and unique way to achieve the needed collective action, becomes necessary to coordinate and synchronize their
contributions in order to achieve the defined goal. It is also important to be aware that usually they are embedded in an organizational context which creates constraints and boundaries (Kozlowski & Ilgen, 2016), so teams exist in context, perform across time and interact within and with others inside their context.

Team effectiveness will be the result of team members’ interactions which will represent the performance and satisfaction that they were able to achieve, (Wang, Waldman & Zhang, 2014). These interactions will have different results or outcomes according to their background, or inputs. Hackman (2011) urge that team efficacy depends on their position in what concerns to the degree to which team’s output meet the expected standards of quality, quantity, and achieve the expectations of their receptors, reviewers or users (objective performance); degree to which team work processes enhances members capability to keep working together interdependently, creating or not a performing unit that becomes more capable over time; degree to each team experience contributes to the development and growth of members satisfaction (Noruzy et al., 2013).

Teixeira (2013) conducted a study on expectations on team performance, collective efficacy and team effectiveness. Results show that team members’ expectations on performance are related with collective efficacy, team performance and satisfaction, and the applied multiple regressions analyzes partially support collective efficacy mediating role between the input expectations, outputs performance and satisfaction considered in the effectiveness team model analyzed on this research.

Team effectiveness can be affected by predictors from different levels origin, organizational, individual or team level, and with different roles in the process, this is the predictor that can have the role of input or mediator. In order to enhance team effectiveness, it’s essential to know about the critical team processes and emergent states with cognitive, affective-motivational, and behavioural nature developed from repeated interactions among individuals which have the tendency to regularize and then serve as a guide to new subsequent interaction episodes (Barrick et al., 2011).
2.5 Chapter Summary

The purpose of this literature review was to review the effects of knowledge management strategies on performance of ICT companies. The chapter discussed the effect of knowledge creation, knowledge sharing, and knowledge application. The perspectives of a variety of scholars and early researchers have been presented to assess the existing material relevant for this study. Chapter three will provide the research methodology that also outlines the methods that were used to collect the data, research design and how the data was analyzed.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed the methodology that was employed in carrying out the study. In this section the researcher identifies the procedures and techniques that were used in the collection, processing and analysis of data. Specifically, the following subsections are included; research design, target population, data collection instruments, data collection procedures and finally data analysis.

3.2 Research Design

This research problem was studied through the use of a descriptive research design. Descriptive study is concerned with finding out the what, where and how of a phenomenon (Thorpe & Jackson, 2012). The research design and methodology entails collecting data useful in analysis and coming up with relevant recommendations and conclusions.

A survey research attempts to collect data from members of a population and describes existing phenomena by asking individuals about their perception, attitudes, behaviour or values (Ngechu, 2004). Surveys enable collection of data from a sizeable population in a highly economical way. The data obtained is standardized, to allow easy comparison. Moreover, it explores the existing status of two or more variables at a given point in time.

3.3 Population and Sampling Design

3.3.1 Population

According to Ngechu (2004), population is the total collection of elements with common observable characteristics about which some inferences can be made. A large set of observations is referred to as a population while the smaller set is called the sample. The target population comprised of managers of all ICT firms in Nairobi County. There are 81 ICT registered firms in the County classified as below (Computer Society of Kenya, 2016).
Table 3.1: Population of the Study

<table>
<thead>
<tr>
<th>Business Size</th>
<th>Frequency</th>
<th>Proportion of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>24</td>
<td>29.6</td>
</tr>
<tr>
<td>Medium</td>
<td>36</td>
<td>44.4</td>
</tr>
<tr>
<td>Large</td>
<td>21</td>
<td>26.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>81</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

3.3.2 Sample Design

3.3.2.1 Sample Frame

According to Cooper & Schindler (2006), a sampling frame is a list of elements from which the sample is actually drawn and closely related to the population. In this study, the sampling frame was drawn from 81 ICT firms in Nairobi County obtained from the Computer Society of Kenya.

3.3.2.2 Sampling Technique

Qualitative factors must be considered including nature of the research, expected outcomes, importance of the findings, number of variables to be studied, nature of analysis and resource constraints. Quantitative factors included variability of the population characters hence a larger sample size due to high variability of firm managers. 90% confidence level is therefore desired in estimating the population characteristics; larger sample size is preferred for accurate description of the examination systems (Cooper, Schindler & Sun, 2006).

The study adopted the probability sampling design since each sampling unit has a known non-zero chance of getting selected in the final sample and results generalized to the target population with a specified margin of error through statistical methods. Stratified random sampling technique was employed to obtain a reasonable sample size of the study and sampling frame was stratified into corporate customers and Consumer customers (Ngechu, 2004). This gave the researcher assurance of representativeness, comparison between strata and a deeper understanding of each stratum as well as their unique characteristics.
3.3.2.3 Sample Size

Thorpe and Jackson (2012) said that a sample refers to a subset of those entities that decisions relate to. The sample must be carefully selected to be representative of the population and the researcher also needs to ensure that the subdivisions entailed in the analysis are accurately catered for (Bryman, 2012). The target population was 81 registered ICT firms in Nairobi County, the entire population was the sample size hence census.

3.4 Data Collection Methods

This research collected secondary data using questionnaires. The questionnaires comprised both open and closed ended questions in line with the objectives of the study. A five point Likert scale was used for closed ended questions. The questionnaire contained two sections each. The first section sought to establish the respondents’ demographic data while the second section sought to establish the respondents’ opinions on the three variables (knowledge creation, knowledge sharing and knowledge application).

3.5 Research Procedures

After development of the draft questionnaire, a pilot test was carried out with five human resource managers from each five companies to test for any inconsistencies and ambiguity. Respondents in the pre-test were not be included in the final study to avoid pre-emption of the study at the actual area. In the process of piloting, the study ensured the rectification of any errors of ambiguity existing in the research instrument. After the amendment of the final questionnaire, the researcher explained the purpose of the research to the respondents and in order to obtain permission to carry out the research in the given topic.

The study adopted a drop and pick later method in administering the questionnaire to reduce the level of interruptions in target respondents’ normal schedules. This allowed them sufficient time to fill in the questionnaires.

3.6 Data Analysis Methods

Before processing the responses, data preparation was done on the completed questionnaires by editing, coding, entering and cleaning the data. The data collected was analyzed using descriptive statistics. The descriptive statistical tools helped in describing
the data and determining the respondents’ degree of agreement with the various statements under each factor. Data analysis used Statistical Package for Social Sciences (SPSS) and Microsoft excel to generate quantitative reports which were presented in the form of tabulations, percentages, mean and standard deviation. To help establish the extent to which knowledge management practices affect performance, the study conducted a multiple regression analysis taking the form:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon \]

Where

- \( Y \) = Organization Performance
- \( X_1 \) = Knowledge creation
- \( X_2 \) = Knowledge Sharing
- \( X_3 \) = Knowledge Application
- \( \varepsilon \) = Error Term
- \( \beta \) = Coefficient factor

### 3.7 Chapter Summary

Chapter three enumerated the research methodology and design. It has given a detailed analysis of the population and the sampling process that was used in collecting the research data. Primary data was collected from the managers through the application of a structured questionnaire. Data analysis was done using the Statistical Package for Social Sciences.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the results and the findings of the study. The study sought to determine the effects of knowledge management strategies on performance of ICT companies in Nairobi County. The data was collected through questionnaires designed in line with the research questions of the study.

4.1.1 Response Rate

A total of 81 questionnaires were distributed to the ICT managers out of which 59 were fully filled and returned giving a response rate of 73%. This response was good enough and representative of the population and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 70% and above is excellent. The finding is shown in Figure 4.1.

![Figure 4.1: Response Rate](image)

Figure 4.1: Response Rate
4.2 General Information

4.2.1 Gender Distribution

The respondents were required to indicate their genders. The findings in Figure 4.2 show that 32 (54%) were male while 27 (46%) were female. This shows that all genders were included thus provided a good representation for the study.

![Gender Distribution Chart](chart)

**Figure 4.2: Gender Distribution**

4.2.2 Highest Level of Education

The respondents were requested to indicate their highest qualification attained, from the responses, majority 32 (54.2%) of the respondents had bachelor’s degree, 15 (25.4%) had master’s degree and 12 (20.2%) had diploma. This shows that the respondents had relevant qualifications thus had ease in addressing the question and provided the correct responses.
4.2.3 Current Position at the Company

The respondents were required to indicate their current positions in their companies. From the responses, 41 (69.5%) were senior managers and 18 (30.5%) were middle managers. These shows that relevant positions in the companies were covered hence reliable information were collected for the study. The finding is shown in Figure 4.4.

Figure 4.4: Current Position at the Company
4.2.4 Period Working in the Organization

The respondents were asked to indicate the period they had been working in their respective companies. From the responses 30 (50.8%) had between working for a period below 3 years, 17 (28.8%) indicated 4-6 years, 6 (10.2%) indicated between 7-10 years and 6 (10.2%) more than 10 years. This shows that the respondents had been working long enough in the ICT companies thus understand the motivational strategies used hence provided reliable information for the study.

![Figure 4.5: Period Working in the Organization](image)

4.3 Effect of Knowledge Creation Strategies on Performance

Several statements on effects of knowledge creation strategies on performance of ICT companies were identified and the respondents were required to indicate the extent to which they agree with each of the statement. A scale of 1-5 where: 1- Strongly disagree, 2- Disagree, 3- not sure, 4- Agree, 5- Strongly agree was used. From the responses, mean and standard deviation were used for ease of interpretation and generalization of findings. The finding is shown in Table 4.1.
Table 4.1: Effect of Knowledge Creation Strategies on Performance

<table>
<thead>
<tr>
<th>Knowledge Creation Strategies</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our Company thrives mostly on its special approach in managing creation of new knowledge.</td>
<td>2.16</td>
<td>1.452</td>
</tr>
<tr>
<td>Our Company has invested in research and development to generate new knowledge</td>
<td>2.42</td>
<td>.855</td>
</tr>
<tr>
<td>Our Company has invested in innovation projects to generate new ideas on business development</td>
<td>2.83</td>
<td>.931</td>
</tr>
<tr>
<td>Our Company has invested in experiments to come up with new ways of solving challenges facing our customers</td>
<td>2.44</td>
<td>.836</td>
</tr>
<tr>
<td>Our company holds several talks among staff to generate new knowledge on how to meet customers’ needs</td>
<td>4.44</td>
<td>.914</td>
</tr>
<tr>
<td>Our company holds brainstorming sessions to come up with new ways of satisfying customer needs</td>
<td>4.28</td>
<td>.831</td>
</tr>
<tr>
<td>Our company organizes seminars and workshops for its employees</td>
<td>3.91</td>
<td>.876</td>
</tr>
<tr>
<td>Our Company financially supports staff in furthering their professional courses</td>
<td>4.55</td>
<td>.771</td>
</tr>
<tr>
<td>Our Company has regular staff interactions to share knowledge</td>
<td>4.06</td>
<td>.715</td>
</tr>
<tr>
<td>Our company encourages exchange of information to align operations to changing operational environment</td>
<td>3.88</td>
<td>1.035</td>
</tr>
<tr>
<td>Organizational learning has improved efficiency in our company</td>
<td>3.83</td>
<td>1.116</td>
</tr>
</tbody>
</table>

The respondents disagreed that the company thrives mostly on its special approach in managing creation of new knowledge as shown by a mean of 2.16 with a standard deviation of 1.452, the company has invested in research and development to generate new knowledge indicated by a mean of 2.42 and a standard deviation of 0.855 and that the company has in invested in experiments to come up with new ways of solving challenges facing our customers shown by a mean of 2.44 with a standard deviation of 0.836.

The respondents were not sure that the company has invested in innovation projects to generate new ideas on business development as indicated by a mean of 2.83 and a standard deviation of 0.931.

The respondents agreed that the company holds several talks among staff to generate new knowledge on how to meet customers’ needs shown by a mean of 4.44 with a standard deviation of 0.914, the company holds brainstorming sessions to come up with new ways
of satisfying customer needs which had a mean of 4.28 and a standard deviation of 0.831, the company organizes seminars and workshops for its employees with a mean of 3.91 and a standard deviation of 0.876, the company has a regular staff interactions to share knowledge which had a mean of 4.06 with a standard deviation of 0.715, the company encourages exchange of information to align operations to changing operational environment had a mean of 3.88 with a standard deviation of 1.035 and that organizational learning has improved efficiency in the company as indicated by a mean of 3.83 with a standard deviation of 1.116.

The respondents strongly agree that the company financially supports staff in furthering their professional courses as shown by a mean of 4.55 with a standard deviation of 0.771.

4.4 Effect of Knowledge Sharing Strategies on Performance

Various statements on the effects of knowledge sharing strategies on performance of ICT companies were identified. The respondents were asked to indicate the extent to which they agree with each of the statement as applied to their ICT companies. A scale of 1-5 where: 1- Strongly disagree, 2- Disagree, 3- not sure, 4- Agree, 5- Strongly agree was used. From their responses mean and standard deviations were calculated for ease of interpretation. The finding is presented in Table 4.2.
Table 4.2: Effect of Knowledge Sharing Strategies on Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our company has online portals where employees access relevant information relating to their tasks</td>
<td>3.91</td>
<td>.987</td>
</tr>
<tr>
<td>Our company has well established media for sharing of information among employees</td>
<td>3.79</td>
<td>1.494</td>
</tr>
<tr>
<td>Knowledge sharing leads to employees improved capability</td>
<td>4.44</td>
<td>.725</td>
</tr>
<tr>
<td>Knowledge sharing aids in the generation of new knowledge.</td>
<td>3.84</td>
<td>1.047</td>
</tr>
<tr>
<td>ICT aids in the exchange of knowledge in this organization</td>
<td>3.76</td>
<td>1.088</td>
</tr>
<tr>
<td>Knowledge sharing increases continuous performance improvement in this organization</td>
<td>4.20</td>
<td>.825</td>
</tr>
<tr>
<td>Knowledge sharing increases employee and customer satisfaction</td>
<td>4.16</td>
<td>.746</td>
</tr>
<tr>
<td>Majority of the knowledge in our company has been passed on from previous generations</td>
<td>4.06</td>
<td>.848</td>
</tr>
<tr>
<td>Previous generations provided foundation for the current knowledge in the organization</td>
<td>3.62</td>
<td>1.081</td>
</tr>
<tr>
<td>Our company observes operations inherited since its founding</td>
<td>3.47</td>
<td>1.222</td>
</tr>
</tbody>
</table>

From the responses the respondents were in agreement that the company has online portals where employees access relevant information relating to their tasks as indicated by a mean of 3.91 with a standard deviation 0.987, the company has well established media for sharing of information among employees as shown by a mean of 3.79 with a standard deviation 1.494, knowledge sharing leads to employees improved capability indicated by a mean of 4.44 with a standard deviation 0.725, knowledge sharing aids in the generation of new knowledge shown by a mean of 3.84 with a standard deviation 1.047, ICT aids in the exchange of knowledge in this organization as indicated by a mean of 3.76 with a standard deviation 1.088, knowledge sharing increases continuous performance improvement in this organization with a mean of 4.20 with a standard deviation 0.825, knowledge sharing increases employee and customer satisfaction had a mean of 4.16 and a standard deviation 0.746, majority of the knowledge in our company has been passed on from previous generations as shown by a mean of 4.06 and a standard deviation 0.848, previous generations provided foundation for the current knowledge in the organization indicated by a mean of 3.62 and a standard deviation 1.081 and the company observes operations inherited since its founding had a mean of 3.47 and a standard deviation 1.222.
4.5 Effect of Knowledge Application Strategies on Performance

Several statements on the effects of Knowledge Application Strategies on performance of ICT companies were identified and the respondents were required to indicate the extent to which they agree with regard to ICT companies. A Likert scale of 1-5 where: 1- Strongly disagree, 2- Disagree, 3- not sure, 4- Agree, 5- Strongly agree was used. Mean and standard deviation were used for ease of interpretation and generalization of findings. The finding is shown in Table 4.3.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much of the knowledge in our organization has emerged from local innovations</td>
<td>3.66</td>
<td>1.212</td>
</tr>
<tr>
<td>Our firm has built technological advantages suited for the local market</td>
<td>3.81</td>
<td>1.210</td>
</tr>
<tr>
<td>Majority of the engineers in our companies are local</td>
<td>4.00</td>
<td>1.050</td>
</tr>
<tr>
<td>Our engineers always take an opportunity to avail solutions to corporate technology challenges</td>
<td>3.69</td>
<td>1.221</td>
</tr>
<tr>
<td>Our engineers diagnose corporate technology challenges with precision</td>
<td>4.18</td>
<td>1.090</td>
</tr>
<tr>
<td>Our engineers possess adequate experience on the local technology market</td>
<td>3.74</td>
<td>1.168</td>
</tr>
<tr>
<td>Our company always insists on team efficiency at all times</td>
<td>3.77</td>
<td>1.160</td>
</tr>
<tr>
<td>Our company encourages engineers to work together in finding solutions to challenges facing our customers</td>
<td>4.05</td>
<td>1.057</td>
</tr>
<tr>
<td>Knowledge Application in my organization makes knowledge more active</td>
<td>4.01</td>
<td>.991</td>
</tr>
<tr>
<td>ICT plays a crucial role in organizing knowledge to enable sharing</td>
<td>4.07</td>
<td>1.040</td>
</tr>
<tr>
<td>Knowledge application enables collaboration with other key stakeholders</td>
<td>3.98</td>
<td>.982</td>
</tr>
<tr>
<td>Knowledge application is achieved through dissemination</td>
<td>3.72</td>
<td>1.111</td>
</tr>
<tr>
<td>Knowledge application in my organization has improved the speed of task execution</td>
<td>4.05</td>
<td>.990</td>
</tr>
<tr>
<td>Knowledge application in task execution lowers employees’ rate of error in task execution</td>
<td>3.79</td>
<td>1.141</td>
</tr>
</tbody>
</table>

From the finding, the respondents agreed that much of the knowledge in their organization has emerged from local innovations as shown by a mean of 3.66 with a standard deviation
of 1.212, firm has built technological advantages suited for the local market as indicated by a mean of 3.81 with a standard deviation of 1.210, majority of the engineers in the companies are local as shown by a mean of 4.00 with a standard deviation of 1.050, engineers always take an opportunity to avail solutions to corporate technology challenges had a mean of 3.69 with a standard deviation of 1.221, engineers diagnose corporate technology challenges with precision as indicated by a mean of 4.18 with a standard deviation of 1.090 and engineers possess adequate experience on the local technology market had a mean of 3.74 with a standard deviation of 1.168.

The respondents were also in agreement that the company always insists on team efficiency at all times as indicated by a mean of 3.77 with a standard deviation of 1.160, company encourages engineers to work together in finding solutions to challenges facing our customers with a mean of 4.05 with a standard deviation of 1.057, knowledge application in my organization makes knowledge more active shown by a mean of 4.01 with a standard deviation of 0.991 and ICT plays a crucial role in organizing knowledge to enable sharing as indicated by a mean of 4.07 with a standard deviation of 1.040.

The respondents further agreed that knowledge application enables collaboration with other key stakeholders had a mean of 3.98 with a standard deviation of 0.982, knowledge application is achieved through dissemination as shown by a mean of 3.72 with a standard deviation of 1.111, knowledge application in the organization has improved the speed of task execution as shown by a mean of 4.05 with a standard deviation of 0.990 and knowledge application in task execution lowers employees’ rate of error in task execution had a mean of 3.79 with a standard deviation of 1.141.

4.6 Effects of Knowledge Management Strategies on Performance

Several ways in which knowledge management strategies affect performance of ICT companies in Nairobi County were identify and the respondents were asked to indicate the extent to which this has been felt at your company. Mean and standard deviation were used for ease of interpretation and generalization of findings. The finding is presented in Table 4.4.
Table 4.4: Effects of Knowledge Management Strategies on Performance

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved the quality of ICT</td>
<td>4.07</td>
<td>1.055</td>
</tr>
<tr>
<td>Enhanced skills upgrade among staff</td>
<td>4.05</td>
<td>1.071</td>
</tr>
<tr>
<td>Timeliness in task performance among staff</td>
<td>3.89</td>
<td>1.322</td>
</tr>
</tbody>
</table>

From the responses, the respondents were in agreement that knowledge management strategies had improved the quality of ICT as indicated by a mean of 4.07 and standard deviation of 1.055, enhanced skills upgrade among staff as shown by a mean of 4.05 and standard deviation of 1.071 and timeliness in task performance among staff with a mean of 3.89 and standard deviation of 1.322.

4.7 Regression Analysis

The study conducted regression analysis to determine the effects of knowledge management strategies on performance on ICT companies in Nairobi County. The study results are shown in the subsequent sections.

Table 4.5: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.559a</td>
<td>.313</td>
<td>.275</td>
<td>2.59910</td>
</tr>
</tbody>
</table>

From the findings in Table 4.5, R was 0.559 meaning that there was a positive relationship between all the three independent variables. R² was 0.313 implying that only 31.3% of the dependent variable could be explained by the independent variables while only 68.7% of the variations were due to other factors. This implies that the regression model has very good explanatory and predictor grounds.

Table 4.6: ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>166.194</td>
<td>3</td>
<td>55.398</td>
<td>8.201</td>
<td>.000b</td>
</tr>
<tr>
<td>Residual</td>
<td>364.789</td>
<td>54</td>
<td>6.755</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>530.983</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the finding, the significance value is 0.000 which is less than 0.05 thus the model is statistically significant in predicting the independent variables influence dependent
variable. The F critical at 5% level of significance is 2.77. Since F calculated (value = 8.201) is greater than the F critical (2.77), this shows that the overall model was significant.

Table 4.7: Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>4.859</td>
<td>3.883</td>
<td>1.251</td>
<td>.216</td>
</tr>
<tr>
<td>Knowledge Creation Strategies</td>
<td>.015</td>
<td>.095</td>
<td>.021</td>
<td>.162</td>
</tr>
<tr>
<td>Knowledge Sharing Strategies</td>
<td>.020</td>
<td>.065</td>
<td>.040</td>
<td>.313</td>
</tr>
<tr>
<td>Knowledge Application</td>
<td>.157</td>
<td>.032</td>
<td>.553</td>
<td>.000</td>
</tr>
</tbody>
</table>

The established regression equation becomes:

\[ Y = 4.859 + 0.015X_1 + 0.020X_2 + 0.157X_3 + \varepsilon \]

\( Y = \text{Organizational performance} \)

\( \varepsilon = \text{Error Term} \)

\( \beta = \text{Coefficient factor} \)

\( X_1 = \text{Knowledge Creation Strategies, } X_2 = \text{Knowledge Sharing Strategies and } X_3 = \text{Knowledge Application Strategies} \)

From the findings of the regression analysis if all factors (knowledge creation strategies, knowledge sharing strategies and knowledge application strategies) were held constant, organizational performance would be at 4.859. An increase in knowledge creation strategies would lead to an increase in organizational performance by 0.015. An increase in knowledge sharing strategies would lead to an increase in organizational performance by 0.02. An increase in knowledge application strategies would lead to an increase in organizational performance by 0.157. All the variables were significant as the P-values were less than 0.05 an indication that all the factors were statistically significant.
4.8 Chapter Summary

This chapter concentrated on the results and findings as collected from the field. It presented the response rate, general information including: gender, highest level of education attained, current position in the organization and period worked in the organization. These were meant to provide a profile of the respondents so as to establish their fitness in providing data for the study. It also identified knowledge creation strategies, knowledge sharing, knowledge application and knowledge management and how they affected organization performance. The chapter ended by displaying the findings of inferential statistics which included regression results. The next chapter presents summary, discussions, conclusions and recommendations.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, discussion, conclusions and recommendations of the study based on the research questions of the study.

5.2 Summary of the Study

The purpose of this study was to determine the effects of Knowledge Management strategies on performance of ICT companies in Nairobi County. To reach the purpose of this study sought to answer the following research questions: How do knowledge creation strategies affect performance of ICT companies in Nairobi County? What is the effect of knowledge sharing strategies on performance of ICT companies in Nairobi County? What is the effect of knowledge application strategies on performance of ICT companies in Nairobi County?

The study adopted descriptive research design. This design was applicable to the research since it explores the existing status of two or more variables at a given point in time. A sample size of 81 registered ICT firms in Nairobi County was used for the study. Participants were selected using probability sampling design.

The study found out that companies holds several talks among staff to generate new knowledge on how to meet customers’ needs, holds brainstorming sessions to come up with new ways of satisfying customer needs, organizes seminars and workshops for its employees, has regular staff interactions to share knowledge, encourages exchange of information to align operations to changing operational environment and that organizational learning has improved efficiency in the company.

The study established that the companies had online portals where employees access relevant information relating to their tasks, had well established media for sharing of information among employees and observes operations inherited since its founding. Knowledge sharing leads to employees improved capability, aids in the generation of new
knowledge, ICT aids in the exchange of knowledge in this organization, increases continuous performance improvement and increases employee and customer satisfaction.

The study further revealed that knowledge in the organizations emerged from local innovations, firms build technological advantages suited for the local market, majority of the engineers in the companies are local, engineers always take an opportunity to avail solutions to corporate technology challenges, engineers diagnose corporate technology challenges with precision and engineers possess adequate experience on the local technology market. Knowledge Application enables collaboration with other key stakeholders, achieved through dissemination, has improved the speed of task execution and lowers employees’ rate of error in task execution.

5.3 Discussion

5.3.1 Effect of Knowledge Creation Strategies on Performance

The respondents disagreed as to whether the companies thrived mostly on their special approach in managing creation of new knowledge. This means that in order for companies to thrive, they were required to do more than just managing creation of knowledge (Chen & Huang, 2009). For instance, they need to train employees, encourage inventions by investing in research and development. This finding contradicts with that of Berraies et al. (2014) that Japanese ICT Companies (such as yahoo and Canon) thrive mostly due to their special approach in managing creation of new knowledge.

The respondents also disagreed that their companies had invested in research and development to generate new knowledge and in experiments to come up with new ways of solving challenges facing our customers. This disagrees with the finding of Firestone Chen and Huang (2009) that knowledge creation can be achieved through research, innovation projects, experiments, observations among other things. An organization needs to constantly invest in its employees through training to improve their skills in research and development so that they are empowered to come up with new ways of doing things in a more efficient manner.
The respondents were uncertain that their companies had invested in innovation projects to generate new ideas on business development. Although some investment had been made in innovative projects, it was not huge to result in noticeable magnitude. This concurs with Alegre et al. (2013) that an ICT company’s capacity to absorb and utilize knowledge is the primary facilitator of innovation. The rate of development and redundancies in ICT industry is huge which means that in order for an organization to remain competitive, it needs to constantly look for newer technologies so as to avoid the risk of redundancies and obsolescence (Almquist et al., 2013).

The respondents agreed that they held several talks among staff to generate new knowledge on how to meet customers’ needs. Brainstorming has been found to be one of the most effective ways of generating worthy ideas that would lead to better and improved ways of doing things (Alegre et al., 2013). Innovations are important in ensuring that organizations are sustainable and competitive into the unforeseeable future. This finding is in line with Chen and Huang (2009) that knowledge productions begins with the request of knowledge, followed by individual or group learning, information acquisition, application for evaluation of knowledge and ultimately, build organizational knowledge.

The respondents agreed that the company held brainstorming sessions to come up with new ways of satisfying customer needs. This concurs with Binbin et al. (2012) that knowledge creation can also occur during brainstorming camps in which creative discussions and sharing experiences take place to resolve issues as well as generate new ideas.

The respondents further agreed that the companies organized seminars and workshops for their employees to exchange knowledge and acquire new ones. Having sessions where employees can transfer knowledge to their colleagues is important in ensuring continuity of knowledge usage in an organization. This ensures that the knowledge is shared for optimal impact on the organization. This is consistent with Chen and Huang (2009) that the combination process may occur effectively through meetings, conversations, documents and computerized communications networks.

The respondents were in agreement that the companies had regular staff interactions to share knowledge. For knowledge to be beneficial to organizations, it is important that it is
shared among authorised personnel. This also promoted continuity of knowledge usage within the organization as the departure of one employee does not mean that the knowledge gets lost. This is contrary to Ceptureanu (2010) that knowledge creation process is the process of making available and amplifying knowledge created by individuals as well as crystallizing and connecting it to an organization's knowledge system.

The respondents further agreed that the company encourages exchange of information to align operations to changing operational environment which is in line with the finding of Binbin et al. (2012) that the process of knowledge creation entails two main levels; interaction between individuals to groups then to the organization and an interaction between tacit and explicit knowledge.

The respondents also agreed that the organizational learning has improved efficiency in the company. This is consistent with Alegre et al. (2013) maintained that the extent of use of knowledge, which has been acquired from internal or external sources, influences a company’s performance. The respondents also agreed that the company financially supports staff in furthering their professional courses.

5.3.2 Effect of Knowledge Sharing Strategies on Performance

The respondents were in agreement that the company has online portals where employees access relevant information relating to their tasks which agrees with the finding of Berchicci (2013) that the question of why organization members decide to allocate attention to addressing particular problems online is a similarly growing concern for most firms.

The respondents agreed that their companies have well established media for sharing of information among employees which is consistent with Ramirez et al., (2011) that in order to facilitate knowledge sharing, many multi nationals around the globe have established electronic communities of practice and introduced social technology platforms to support them.

The respondents also indicated that knowledge sharing leads to employees improved capability and this concurs with Ellis (2013) that knowledge management seeks to leverage
the organisation’s expertise and know-how to add value to the business, utilising some form of technological support system.

The respondents also indicated that knowledge sharing aids in the generation of new knowledge. This finding is consistent with Ramirez and Kumpikaite (2012) that the knowledge providers emerged mainly from the gratitude of helping colleagues and from the reputational enhancement and experience they gained through demonstrating their expertise.

The respondents agreed that knowledge sharing increases continuous performance improvement in this organization which is in line with Ramirez and Kumpikaite (2012) who found that members of a legal professional association were more likely to contribute to an online discussion forum if they felt that they had more to share, anticipated reputational benefits, and were structurally embedded in the professional network.

5.3.3 Effect of Knowledge Application Strategies on Performance

The respondents agreed that much of the knowledge in their organization has emerged from local innovations and this concurs with Chen, Elnaghi and Hatzakis (2011) that a collaborated, trusted and learning environment within ICT firms will have a positive impact on their KM performance.

The respondents also were in agreement that the firms have built technological advantages suited for the local market which is contrary to the finding of Daley (2012) that the consistent exchange of parent firm technological knowledge by local companies emerging from technology-leading countries to their foreign operations will probably increase operations access to competitive advantages that will give rise to higher performance in the local foreign market.

The respondents were in agreement that majority of the engineers in the companies were local, take an opportunity to avail solutions to corporate technology challenges, diagnose corporate technology challenges with precision and possess adequate experience on the local technology market. This is in line with Von Krogh (2012) that companies may draw from advanced know-how by employing local engineers, technicians, and scientists to provide the necessary advanced knowledge into organizational R&D activities.
The respondents were also in agreement that the company always insists on team efficiency at all times. This concurs with Gibson (2011) that individual as team members need to be aware of their crucial importance as a part of a whole, since team efficacy develops from group interaction and the process of collective cognition.

The respondents were in agreement that ICT plays a crucial role in organizing knowledge to enable sharing which is consistent with Al-adaileh et al. (2012) that improvisation and growth in learning, innovation processes, and performances increasingly rely on how members of the organization use social technologies to share knowledge.

The respondents indicated that knowledge application enables collaboration with other key stakeholders, achieved through dissemination, has improved the speed of task execution and lowers employees’ rate of error in task execution.

5.4 Conclusions

5.4.1 Effect of Knowledge Creation Strategies on Performance

The study concluded that knowledge creation was promoted at the ICT companies through the organization media and training. 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 applied through the use of documented lessons learned in decision-making, achieving goals and ultimately improving the organization performance.

5.4.2 Effect of Knowledge Sharing Strategies on Performance

The study concluded that knowledge sharing increases continuous performance improvement. Employees are encouraged to share the acquired knowledge, to improve their capabilities and increase their responsiveness to customer needs. New knowledge created and shared by employees helps responsiveness as well as reliability of the services offered. Employees are encouraged to articulate information when sharing knowledge and ICT aids in the development of knowledge thus making service in the organization tangible.
5.4.3 Effect of Knowledge Application Strategies on Performance

The study concluded that knowledge application affects performance of ICT companies. The companies identified what skills are needed to attain organizational goals and experienced staff needed to apply the currently available knowledge more effectively. As they apply the right skills and knowledge in the right tasks, manager’s help in identifying competent staff and this improves productivity of employees resulting in better performance of the firms.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 Effect of Knowledge Creation Strategies on Performance

The study recommends that ICT companies should adopt more ways of creating knowledge/information among employees in order to improve their knowledge management capacities. The alignment of knowledge management policy to the organizational strategy will act as a guideline on how knowledge should be disseminated within the organizations.

5.5.1.2 Effect of Knowledge Sharing Strategies on Performance

The study recommends that the ICT companies should adopt more ways of sharing knowledge/information among employees in order to improve their knowledge management capacities. The alignment of knowledge management policy to the organizational strategy will act as a guideline on how knowledge should be disseminated within the organizations.

5.5.1.3 Effect of Knowledge Application Strategies on Performance

The study recommends that incentive programs which reward knowledge application that will encourage employees to actively share knowledge with their colleagues should be used. This may go further in encouraging cross-department knowledge sharing and will encourage coordination between different departments. This may be beneficial in reducing duplicate operations within organizations and as a whole creating a learning organization.
5.5.2 Recommendations for Further Studies

The study was carried out on ICT 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. Further research should be done in one firm to allow in depth analysis of the various knowledge management strategies applied and how they influence the performance of the organization.
REFERENCES


Berraies, S., Chaher, M., & Yahia, K. B. (2014). Knowledge management enablers, knowledge creation process and innovation performance: An empirical study in


Kozlowski, S. W., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological science in the public interest, 7*(3), 77-124


UNCTAD, G. (2010). World investment report

UNCTAD, G. (2012). World investment report


The text reads:

APPENDICES

Appendix I: Letter of Introduction

Ref: Letter of introduction of researcher to respondent

Sir/ Madam

My name is Nzau Waki, a student of United States International University Africa. I am conducting an academic research on KNOWLEDGE MANAGEMENT STRATEGIES ON PERFORMANCE OF INFORMATION, COMMUNICATION AND TECHNOLOGY COMPANIES IN NAIROBI COUNTY

I am therefore kindly requesting your cooperation to enable me gather the necessary information. I assure you that your views will be treated with confidentiality and the research will not be used for any financial gains but for the purpose of completing my studies. This survey is completely voluntary and anonymous. Please note that your participation to this survey will be much appreciated. I therefore request your honest and sincere participation by filling out the questionnaire attached.

Thanking you in advance.

Yours sincerely,

Nzau Waki
Appendix II: Questionnaire

The following questions are for analytical purposes only. They will not be used to try and identify any individual. Please tick as appropriate.
Please kindly complete the questionnaire as per the instructions given.

SECTION A: GENERAL INFORMATION

1. Please indicate your gender

   Male [ ]
   Female [ ]

2. Please indicate the highest level of education attained. (Tick as Applicable)

   Bachelor’s Degree [ ]
   Master’s Degree [ ]
   Diploma [ ]

3. What is your current position at your company?

   Senior manager [ ]
   Middle manager [ ]

4. How long have you worked in the organization?

   Below 3 years [ ]
   4-6 years [ ]
   7-10 years [ ]
   More than 10 years [ ]
SECTION B: EFFECT OF KNOWLEDGE CREATION STRATEGIES ON PERFORMANCE OF ICT COMPANIES

5. Below are effects of knowledge creation strategies on performance of ICT companies. Kindly indicate the extent to which you agree with each of this statement on effects of knowledge creation strategies on performance of ICT companies. Kindly use a scale of 1-5 where: 1- Strongly disagree, 2- Disagree, 3- not sure, 4- Agree, 5- Strongly agree

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our Company thrives mostly on its special approach in managing creation of new knowledge.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our Company has invested in research and development to generate new knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our Company has invested in innovation projects to generate new ideas on business development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our Company has invested in invested in experiments to come up with new ways of solving challenges facing our customers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company holds several talks among staff to generate new knowledge on how to meet customers’ needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company holds brainstorming sessions to come up with new ways of satisfying customer needs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company organizes seminars and workshops for its employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our Company financially supports staff in furthering their professional courses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our Company has regular staff interactions to share knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company encourages exchange of information to align operations to changing operational environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational learning has improved efficiency in our company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. What are the other effects of knowledge creation strategies on performance of ICT companies?

SECTION C: EFFECT OF KNOWLEDGE SHARING STRATEGIES ON PERFORMANCE OF ICT COMPANIES

7. Below are effects of Knowledge Sharing Strategies on performance of ICT companies. Kindly indicate the extent to which you agree with each of this statement on effects of Knowledge Sharing Strategies on performance of ICT companies. Kindly use a scale of 1-5 where: 1- Strongly disagree, 2- Disagree, 3- not sure, 4- Agree, 5- Strongly agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our company has online portals where employees access relevant information relating to their tasks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our company has well established media for sharing of information among employees</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge sharing leads to employees improved capability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge sharing aids in the generation of new knowledge.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ICT aids in the exchange of knowledge in this organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge sharing increases continuous performance improvement in this organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge sharing increases employee and customer satisfaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority of the knowledge in our company has been passed on from previous generations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous generations provided foundation for the current knowledge in the organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Our company observes operations inherited since its founding

8. What are the other effects of knowledge sharing strategies on performance of ICT companies?

________________________________________________________________________

________________________________________________________________________

SECTION D: EFFECT OF KNOWLEDGE APPLICATION STRATEGIES ON PERFORMANCE OF ICT COMPANIES

9. Below are effects of Knowledge Application Strategies on performance of ICT companies. Kindly indicate the extent to which you agree with each of this statement on effects of Knowledge Application Strategies on performance of ICT companies. Kindly use a scale of 1-5 where: 1- Strongly disagree, 2- Disagree, 3- not sure, 4- Agree, 5- Strongly agree

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Much of the knowledge in our organization has emerged from local innovations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our firm has built technological advantages suited for the local market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Majority of the engineers in our companies are local</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our engineers always take an opportunity to avail solutions to corporate technology challenges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our engineers diagnose corporate technology challenges with precision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our engineers possess adequate experience on the local technology market</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Our company always insists on team efficiency at all times
Our company encourages engineers to work together in finding solutions to challenges facing our customers
Knowledge application in my organization makes knowledge more active
ICT plays a crucial role in organizing knowledge to enable sharing
Knowledge application enables collaboration with other key stakeholders
Knowledge application is achieved through dissemination
Knowledge application in my organization has improved the speed of task execution
Knowledge application in task execution lowers employees’ rate of error in task execution.

10. What are the other effects of knowledge application Strategies on performance of ICT companies?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

SECTION E- EFFECTS OF KNOWLEDGE MANAGEMENT STRATEGIES ON PERFORMANCE

11. Below is a list of several ways in which knowledge management strategies affect performance of real ICT companies in Nairobi County. Kindly indicate the extent to
which this has been felt at your company. Use the scale of 1 to 5 where 1- Strongly disagree, 2- Disagree, 3- not sure, 4- Agree, 5- Strongly agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved the quality of ICT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhanced skills upgrade among staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timeliness in task performance among staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thanks for taking time to complete this questionnaire

THE END