The Role of Knowledge Management In Creating Competitive Advantage: A Case Study Of Huawei Technologies (Kenya) Limited

by

Lorna Misoi

A thesis presented to the School of Business and Economics of Daystar University, Nairobi, Kenya in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION in Strategic Management

May 2013

THE ROLE OF KNOWLEDGE MANAGEMENT IN CREATING COMPETITIVE
ADVANTAGE: A CASE STUDY OF HUAWEI TECHNOLOGIES (KENYA) LIMITED

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Lorna Misoi

In accordance with Daystar University policies, this thesis is accepted in partial fulfillment of the requirements for the Master of Business Administration degree.

Date

Michael Bowen, PhD,
1st Supervisor

Godfrey Mwamba, PhD,
2nd Supervisor

Thomas Koyier, MSc,
HoD, Commerce Department

Evans Amata, MFC,
Dean, School of Business and Economics
DECLARATION

THE ROLE OF KNOWLEDGE MANAGEMENT IN CREATING COMPETITIVE ADVANTAGE; A CASE STUDY OF HUAWEI TECHNOLOGIES (KENYA) LIMITED

I declare that this thesis is my original work and has not been submitted to any other college or university for academic credit.

Signed: ________________________________ Date: __________________________
Lorna Misoi
()
ACKNOWLEDGEMENTS

First and foremost, I would like to thank God for the gift of life, good health and for the opportunity to accomplish my dream. Amen

I would like to thank my Supervisor, Prof. Michael Bowen for his guidance and great insight throughout the research process. I acknowledge my Reader, Dr. Mwamba T. Godfrey, for his time and willingness to work with me during the study period.

Special thanks to my son, Nathan Maritim Kilach and my husband, Dennis Kimutai Kilach for having to cope with the limited time I accorded to them during the entire period of the study.

To my mother, I say thank you for the moral support and spiritual encouragement provided to me during every challenging moment. May God richly bless you all.
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ABSTRACT

In the modern world of business, knowledge management has emerged as an independent discipline with the development of the global knowledge economy. Focus is rapidly shifting from traditional factors of production such as land, labor and capital to knowledge as a factor of production.

The purpose of this study was to establish the role of knowledge management in creating competitive advantage with special emphasis being placed on the case of Huawei Technologies (Kenya) Co. Limited. The study sought to identify the types of knowledge that was generated by Huawei Technologies, how the knowledge generated was managed, to determine the effect of knowledge management on competitiveness and to find out the challenges faced in the management of the generated knowledge.

The research adopted a descriptive study. The population of the study was 189 employees with a sample size of 56 members. From the data analysis, it was established that there was a linear relationship between knowledge management practices and its effects on the overall organizational performance.

The study recommends that the company diversifies on the utilization of the types of knowledge generated in order to cover the latest development in the market, it should ensure 100% board of directors support on the management of the generated knowledge and that the company should increase its investment in knowledge generation and its management in order to make sure it stays ahead of competition.
DEDICATION

I dedicate this thesis to my beloved husband, Dennis Kimutai Kilach, for his support and for constantly encouraging me to be the best I can be.
CHAPTER ONE
INTRODUCTION AND BACKGROUND OF THE STUDY

Introduction

Knowledge management intertwines the two words ‘knowledge’ and ‘management’ in a more intricate way than the pure meanings of the words may appear (Gao, Li, & Clarke, 2008). It is the process of constantly creating, sharing and applying different kinds of information and knowledge in the organization in alignment with the overall company strategy that includes formulation, implementation, monitoring and evaluation processes (Demarest, 1997). Knowledge management has grown to be an independent discipline as the rise of the knowledge based economy keeps developing. Emphasis has since shifted from the classical factors of production (capital and labor) to knowledge as a principal reserve for business firms (Jasimuddin, 2008).

Gao et al. (2008) suggest that in different situations knowledge management is discussed in either of two perspectives: the predominant soft mechanisms whose focus is mainly oriented towards application of software technology. This perspective endeavors to capture and capitalize on the available explicit, implicit and also tacit knowledge of the organization. Examples of these include supply chain management systems (SCM), communication systems, copyrights and patents (Freeze & Kulkarni, 2007). The hard mechanism perspective involves discussing technology, research and development or a company offering innovation and improvement, data mining, information technology infrastructures and finding knowledge from organizational
databases (Gao et al., 2008).

Background of the Study

Nicholas and Rowlands (2000) illustrate the evolution of knowledge management through a four-phase model which correlates human input on one axis against structure on another axis. The first element in the model is data which comprises raw facts and figures processed into the second stage called information. Information is put together in a logical manner to form knowledge which has relevance and is actionable and based on some form of experience (Leonard & Sensiper, 1998). The last and equally important stage is wisdom which is defined by Hasley (1986) as the ability to perceive or determine what is good, true or sound. This phase involves decision making using the identified knowledge to achieve a certain goal. This is the current definition of knowledge management (Jain, 2006).

In creating and maintaining a competitive advantage, the main challenge of viewing knowledge as a requisite asset to a firm is that this highly treasured asset is owned by the employees who work for the organizations. The idea of how these organizations can ensure that they get as much value as possible from the employees’ knowledge and competence lies in their good will and capabilities (Gavrilova & Andreeva, 2012).

The first and most important step that organizations should take, to its advantage, in the management of knowledge, is to identify the types of knowledge that are generated in the firm and go a notch higher to establish which of the identified knowledge can be classified as an asset (Wiig, 1993).
Huawei Technologies Company Limited

Huawei is a leading multinational solutions provider and telecommunications equipment supplier with its headquarters situated in Shenzhen, Guangdong in the People's Republic of China. It is the largest networking and telecommunications equipment supplier in China and the second-largest supplier of mobile telecommunications infrastructure equipment in the world.

Established in 1988 by Ren Zhengfei, Huawei Technologies is a private enterprise which specializes in research and development (R & D), production and marketing of communications equipment, and providing customized network services for telecom carriers. Huawei’s products and solutions have been deployed in over 100 countries worldwide. Huawei has served 45 of the world's top 50 telecom operators, as well as one third of the world's population.

Huawei Technologies (K) Ltd, a locally registered company, has been operating in the East Africa region since 1998, covering Kenya, Uganda, Tanzania, Ethiopia, Congo, Rwanda, Burundi, Somali, and Djibouti. Around 65 percent of Huawei Employees are locals. This has created more than 400 jobs both directly and indirectly (Huawei, 2012).

According to Stanley (2010), knowledge management is not a new concept in Huawei Technologies. The company has been a knowledge company for decades in comparison to its competitors. Huawei has established a knowledge management department whose main role is to collect, store and retrieve information to be used in
various modes and system with an aim of continuously improving processes, services and products.

Huawei employees have adopted a knowledge management motto dubbed “pass it forward”. This motto helps them to improve efficiency by reducing lead times through collaborative efforts such as increasing awareness sought from information portal, showcasing and sharing, benchmarking and studying analysis generated from the active and passive feedback given by different users (Bhagat, 2013).

Problem Statement

Silvi and Cuganesan (2006) observe that in developed economies, value creation is majorly driven by well-established information and knowledge management positions. These positions encompass intellectual capital that is comprised of human, structural and relational factors. Ichijo and Nonaka (2007) argue that as much as organizations portray growing interests in knowledge management and develop initiatives to adopt the concept as a tool for outperforming rivals, few companies have done well in building knowledge-focused capabilities that are essential in creating competitive advantage. While the significance of knowledge management has been ascertained, there has been a concern on the effective management of knowledge with an aim of creating value by organizations (Andriessen, 2004).

According to Alrawi (2007), fortune 500 companies lose a minimum of $31.5 billion annually because of failure to share and apply knowledge within their divisions. High employee turnover has also resulted in their loss of best practices knowledge in
specific business operations and a deterioration of client, sponsor and supplier relationships due to departures of key individuals.

According to Khoza (2009), developed countries such as Canada, United States of America and Australia have shown that competitive advantage can be achieved through knowledge management. Khoza (2009) regrets that there are no experiences shared in Africa on how knowledge management can be utilized as a tool for creating competitive advantage. According to Mutula (2003), this unfortunate state of affairs is attributable to identified limitations in the use of ICT in Africa caused by reasons such as high costs of accessing internet services, non-supportive government policies, limited expertise that results in the underutilization of existing technology, poor communication and resistance to change.

It was against this background that this study sought to establish ways in which Huawei Technologies (K) Ltd used knowledge management in achieving competitive advantage.

Purpose of the Study

The purpose of this study was to determine the role of knowledge management in creating competitive advantage in the technology industry.

Objectives of the Study

1. To identify the types of knowledge that were generated by Huawei Technologies (K) Ltd.
2. To establish the different ways in which the generated knowledge was managed by Huawei Technologies (K) Ltd.
3. To determine the effect of knowledge management on competitiveness by Huawei Technologies (K) Ltd.

4. To find out the challenges faced by Huawei Technologies (K) Ltd in the management of the generated knowledge

Research Questions

1. What types of knowledge were generated by Huawei Technologies (K) Ltd?

2. What were the different ways in which the generated knowledge is managed by Huawei Technologies (K) Ltd?

3. What were the effects of knowledge management practices in creating competitiveness by Huawei Technologies (K) Ltd?

4. What were the challenges faced by Huawei Technologies (K) Ltd in the management of the generated knowledge?

Justification of the Study

As mentioned in the introduction, firms in developed economies have successfully employed knowledge management to create value and compete with rivals at an all new level, outperforming them by producing inimitable products and services. Unfortunately there is no significant study known to the researcher to show that the same happens in Kenya. It was therefore important to understand the use of knowledge management by Huawei Technologies (K) Ltd towards its achievement of competitive advantage and also to identify the elements of knowledge management that was generally associated with competitive advantage.
Significance of the Study

The study is expected to contribute to the pool of knowledge that exists on knowledge management. The study describes how knowledge can be used as a tool for building competitive advantage and thereafter provides recommendations on its adaptability by organizations to consider knowledge management as a tool to achieve competitiveness.

Assumptions of the Study

1. There was a correlation between knowledge management and the creation of competitive advantage.
2. The recommendations from the research would contribute towards the adoption of knowledge management as a tool for creating competitive advantage.

Scope of the Study

The study was carried out at Huawei’s Kenya subsidiary office which was situated at the Zep Re Place, Upperhill, Nairobi. The study focused on employees from mid-management level and expert employees who were skilled in their areas of specialization such as engineers, accountants, contract managers, product managers, project managers and sales and marketing. The study further focused on the elements of knowledge management and factors of competitiveness.
Limitations and Delimitations of the Study

The challenges the researcher faced included participants who were uncooperative, suspicious and hesitant to provide information because of genuine reasons such as company policies that govern information security in Huawei and personal bias on the part of respondents because of not having the relevant information and not understanding of the subject matter.

The researcher overcame the stated challenges by assuring respondents that the information they shared was purely for academic purposes and their confidentiality would duly be observed. This encouraged the respondents to answer questionnaires in the best way possible.

Definition of Terms

Knowledge: Bell (1973) defines knowledge as a set of organized statements of facts or ideas, presenting a reasoned judgment or an experimental result, which is transmitted to others through some communication medium in some systematic form.

Knowledge Management: This is defined as the collection of processes that govern the creation, dissemination, and utilization of knowledge. It involves creation of supportive organizational structures, facilitation of organizational members, putting IT instruments with emphasis on teamwork and diffusion of knowledge (Gupta & Sharma, 2004).

Competitive advantage: Is a set of factors or capabilities that allow firms to consistently outperform rivals (Armstrong, 2008).
Summary

This chapter gives a brief introduction on knowledge management and its evolution. It then provides a background of the study globally, regionally and locally. It has set out the problem statement, purpose and objectives of the study and has discussed the justification, significance and scope of the study. This chapter has also provided the research questions, predictable challenges the researcher expected to face, how and the definitions of the terms used in the study.
CHAPTER TWO
LITERATURE REVIEW

Introduction

This chapter presents a review of available literature by other research and theorists on issues related to knowledge management and its role in creating a competitive advantage within a particular industry. This literature review is guided by the variables selected in the study and will provide a base for reference for this study’s findings.

Knowledge

The early Greek philosophers started the study of knowledge (Epistemology) by discussing questions such as “What do we know?” “What can be known” and “What does it mean to say that someone knows something?” in philosophical literature. While the focus of the philosophers may have been more on the literature, researchers from the fields such as economics, linguistics, artificial intelligence (AI) and theoretical computer science have their interest centered on the logic of knowledge i.e. reasoning (Fagin, Halpern, & Vardi, 1995).

According to Drucker (1993), knowledge is information that changes something or somebody either by becoming grounds for action, or by making an individual or an institution capable of different and more effective action. Generally, knowledge is what we know, or what we can accept we think we know and has not yet been proven invalid, or what we can know.
Expert systems developers have preferred often to talk of “expertise” which is commonly defined as knowledge about a particular (specialist) domain (Hayes-Roth, Waterman, & Lenat, 1983). These workers point out that experts and potentially expert systems perform highly because they are knowledgeable (Prusak, 1997).

Polanyi (1966) distinguishes knowledge that is generated in organizations into two different kinds: tacit and explicit. Bhatt (2000) mentions researchers who have used Polanyi’s (1967) concept of explicit and tacit knowledge in illustrating knowledge dimensions. Explicit knowledge is easy to articulate, capture, and distribute in different formats, whereas tacit knowledge is difficult to capture, codify, adopt, and distribute, because individuals cannot easily articulate this type of knowledge.

Examples of tacit knowledge include belief, perspective, mental models, ideas and ideals. Tacit knowledge is difficult to transact because it is non-transferable if there is no proper systems that support it and personnel to perform the conveyance (Nonaka, Toyama, & Nagata, 2000).

The history of management dates as far back as 5000 B.C. when ancient Sumerians used written records to assist in governmental and other business doings (Wren, 2009). Management was a critical tool in the building of the Egyptian pyramids, the ascent of the Roman Empire and the commercial success of 14th century Venice.

The industrial revolution saw the use of management in the manufacturing sector. Thereafter, during the 20th century, emerging economies embarked on mass
production as was being undertaken by Henry Ford and others. Management has since then rapidly gained momentum and has since been adopted by many business firms as a path of development (Schermerhorn, 2011).

Classical theorists such as Fredrick Taylor, the father of scientific management, had a great impact on the early development of management. Taylor established the principles of scientific management whose approach to management included: replacing rule of thumb with science, obtaining harmony in group action, achieving cooperation of human beings, working for maximum output and worker development to the fullest extent possible.

Henri Fayol, the father of modern management theory, recognized the extensive necessity for management teaching. He identified principles to that effect which included authority and responsibility, unity of command, scalar chain and the principle of strength in unity (Koontz & Weihrich, 2007). Early social scientists based their research on human behavior in the workplace linking their studies to issues about efficiency, effectiveness and the conditions under which employees work. Some based their work on employee motivation, interpersonal communication and leadership. Recent theorists of management such as Mintzberg, Porter, Peters, and Kanter have mainly based their work on engaging the different organizational components such as the vision, mission, culture, values, structure, leadership, business environment and customer needs tastes and preferences from a strategic perspective (Cole, 2004). Two distinctive epistemologies exist in the knowledge management literature, that of dualism which is the practice-based perspective on knowledge and
duality which is the objectivist perspective of knowledge (Schultze & Stabell, 2004).

The Objectivist Perspective on Knowledge

Objectivists view knowledge as an entity and are at times referred to as “epistemology of possession” that people or groups possess. It is based on a positivistic philosophy as knowledge is regarded as a fact (Cook & Brown, 1999).

On the nature of knowledge, this perspective holds the assumption that it is possible to develop a type of knowledge and understanding that is free of individual subjectivity and as such the character of knowledge from an objectivist view is that explicit knowledge (objective) is privileged over tacit knowledge. Explicit knowledge is seen as a fact across cultures and time (McAdam & McCreedy, 2000).

The main reason as to why knowledge management has become important is because when integrated with information technology and organizational processes, product or service development, documentation databases and software applications, it will help facilitate knowledge growth, knowledge transfer and sharing to other organizational departments and the measurement of the value and impact of knowledge management in the business in general (Gupta & Sharma, 2004).

The Practice-Based Perspective on Knowledge

Cook and Brown (1999) refer to this perspective as an “epistemology of practice” because this view conceptualizes knowledge as embedded within and inseparable from work activities, processes and practices. Gherardi (2000) argues that practice connects knowing with doing. Practice-based perspective challenges the objectivity or entity aspect of knowledge and regards knowledge as not discrete and insists that
knowledge is inseparable from human activity that to some extent involves use and development of knowledge (Orlikowski, 2002).

Gherardi (2009) suggests that practice-based view challenges among the assumptions of duality are those of knowledge being primarily derived from cognitive processes. Dualism holds that knowing and the development of knowledge occurs on an ongoing basis through the day to day activities that people undertake in an organization. Knowing can therefore be seen as more of a holistic process involving the whole body and less of a simply cognitive process (Hilsop, 2009).

In his contribution towards the development of the practice-based perspective on knowledge, Strati (2007) came up with the term “sensible knowledge” through which he conceptualized knowing as an activity that is not conducted purely in the brain but that knowledge activities in the organizations are not only mental and logical-analytical but also corporeal and multi-sensorial. The perception of “sensible knowledge” involves employees using their natural senses of touch, taste, hearing, sight and smell.

The practice-based perspective disagrees with the taxonomy-based approach of separating explicit and tacit knowledge. It instead conceptualizes the two as practically inseparable and that there is no such thing as fully explicit knowledge as all knowledge will at some point have tacit element (Werr & Stjernberg, 2003). The view holds that knowledge develops through practice i.e. as you conduct an activity continuously, you accumulate experience. Due to the inseparability of the tacit and
explicit knowledge, there will always be a part of knowledge that exists in the brain/body of those who conceived and processed it (Werr & Stjernberg, 2003).

The epistemology of practice-based perspective further argues that knowledge is socially constructed and culturally embedded as opposed to objectivist assumption of “knowledge is truth”. For example, the meanings people attach to language and the beliefs and values they hold are shaped by the assumptions of the social and cultural context in which they operate. Knowledge can therefore not be “understood outside of the cultural parameters that condition its emergence and modes of reproduction” (Weir & Hutchins, 2005).

The Knowledge Management Process

Knowledge management process encompasses five development stages: The first stage is conceptualization which involves the creation, identification, acquisition, development and representation of knowledge. The second stage is codification which involves the conversion of knowledge into accessible and applicable formats. The third, utilization, involves the actual usage of acquired and codified information into an organization’s product or service.

The fourth being sharing and distribution includes the movement of knowledge from its point of generation using various distribution technologies, and the fifth being monitoring involves evaluation and observation of key results of actions. These different phases of knowledge can happen separately or concurrently (April & Izadi, 2004).
Davenport and Grover (2001) argue that “knowledge interacts with information to increase the state of possibilities and provide new information, which can then facilitate generation of new knowledge”. The knowledge process acts on information to create new information that allows for greater possibilities to fulfill old or possibly new organizational needs.

Knowledge Management and Strategy

Strategic management has been utilized by managers as a primary source of knowledge management technique in dealing with the dynamisms faced by the firm. Strategic managers keep developing strategies that will give their offering a head start and provide them with competitive advantage against rivals in the industry (David, 2003).

Several authors have discussed knowledge management strategies in two main categories, namely exploitation and exploration. While the exploitation knowledge management strategy lays emphasis on the reassignment and diffusion of knowledge within the organization, the exploration knowledge management endorses creation and innovation of knowledge (Curado, 2008).

As discussed in strategic management literature, knowledge-based view of the firm has gained popularity as opposed to the resource based view. Focus is highly centered on how knowledge can be aligned to the overall corporate strategy with an aim of driving business results and achieving laid out performance targets and organizational objectives (du Plessis, 2007).
Knowledge Sharing

Geiger and Schreyogg (2012) suggest that knowledge is the key asset in knowledge-intensive firms and such firms can be compared to techno-savvy corporations, auditing firms, legal firms and other consultancies whose core resource is exceptional expertise and specialized problem solving skills. Von and Roos (1996; as quoted in Geiger & Schreyogg, 2012) propose the aspect of viewing of a firm as a knowledge system running knowledge-based activities such as knowledge creation, sharing, application and utilization.

Researchers place emphasis on natural forms and practices of knowledge sharing with attention specifically directed on narratives and the narrative mode of communication (Piktialis & Greenes, 2008). Contrary to the hype given to the knowledge captured in IT-systems, preference is still bestowed on narratives as a knowledge sharing tool because narrative communication can offer multidimensional meaning through its power to distribute tacit knowledge and offer critical problem solving skills that sometimes may not be easily comprehensible with the use of IT (Thier & Erlach, 2005).

Ethnographical studies have explored the different narrative-based knowledge sharing platforms that companies such as Xerox (Orr, 1996) explore and the narrative-knowledge sharing technique on the shop floor (Patriotta, 2003). Both cases appreciate narratives to be the best tool for knowledge transfer among peers in the organization. Of particular interest is the study of Shell’s knowledge sharing platform dubbed “global networks” (Geiger & Schreyogg, 2012).
Shell is a multi-national company (MNC) with an employee base of 30,000 worldwide and a host of complex operational activities ranging from discovery of hydrocarbons, oil and gas distribution and refinery. To avoid mistakes and delay in delivery that may lead to huge losses, Shell has gone beyond the use of meetings, and periodic case sharing to establish web-based communities of practice called “global networks” designed specifically for sharing of knowledge on drilling techniques, skills and experiences by employees from different parts of the world. Engineers and other experts can log onto the networks through a membership access and ideas are exchanged among contributors in the network (Case & Pinero, 2006).

Knowledge Management and Information Systems

The purpose of different approaches to knowledge management is to facilitate the organization’s effort in managing both explicit and tacit knowledge. Information system plays a vital role in the development of a competitive advantage when integrated with knowledge management. This is evident in a prevailing perspective borrowed from the value chain analysis by Michael Porter which positions information systems as a support function in the organization replacing value adding activities such as production and marketing (Porter, 1985).

Knowledge management system (KMS) is a type of information systems that supports and enhances knowledge management processes of creation, storage, retrieval, diffusion and application of knowledge (Lin & Huang, 2008). Knowledge management systems help in user assimilation; provision of access to sources of knowledge and provision of link among sources of knowledge in creation of a wider
breadth and depth of knowledge flows; provision of effective search and retrieval mechanisms in location of information and to enhance intellectual capital by supporting the development of individual and organizational competencies (Alavi & Leidner, 2001).

A good example of a part of knowledge management systems that can be employed in sharing knowledge is the intranet. Through tailor making this integral part of knowledge management systems, organizations can strategically use the intranet to support distribution and connectivity of ideas and information as a way of facilitating knowledge management (Averweg & Jory, 2007).

**Intellectual Capital**

Intellectual capital is a broad term that may be interpreted to mean knowledge asset or human capital (Tseng & Goo, 2005). Intellectual capital consists of all value creation and addition activities that are performed by employees through their intelligent capacity in relation to decision making at all levels in the organization (Chan, 2009). Many companies have reluctantly portrayed the true value created by intangibles such as intellectual property rights and patent rights in their books of accounts because of the purpose of adhering to the requirements of the conventional accounting standards in preparing their financial statements (Chen, Cheng, & Hwang, 2005).

Knowledge should be treated as a resource that bears the characteristics similar to those of capital such as its measurability, its worthiness, its ability to be invested and owned in form of intellects which is embedded in the employees (Andriessen, 2006).
The gap found between the market value and the reported book value led to the emergence of the concept of intellectual capital. Intellectual capital of the firm is an endowment of ideas and innovation capabilities and if well managed, it will determine the future of the organization (Bontis, 2002).

Challenges Faced by Organisations in Managing Knowledge

Kalkan (2008) outlines the main challenges that have previously been popularly discussed by several authors as employees developing an understanding of the different knowledge types generated in organizations, use of information technology to manage tacit knowledge, language barrier, employee turnover, complex organizational structures and dealing with increased competition.

Knowledge Management and Competitive Advantage

There have been several discussions on the importance of knowledge management as a tool for creating competitive strength and it has become apparent that managers and business executives address knowledge management as a prerequisite for higher productivity, creativity and sales in both the private and the public sectors (Goodman & Chinowsky, 1997). A firm can boast of achieving a competitive advantage when it reaches a point where it is implementing a value-creating strategy that is superior relative to its rivals’ strategies in the industry. A firm is said to have attained a sustainable competitive advantage if this advantage stands the test of opposition and imitation by competitors (Clulow, Gerstman, & Barry, 2003). Sustainable competitive advantage is the fundamental basis of
above-average performance in the long run relative to industry standards (Porter, 1985).

Organizations can endeavor to create a position of competitive advantage through the knowledge invested in the people by focusing on different criteria, in terms of competencies in their employees, namely: valuable; rare; hard to imitate and agile (Bohlander & Snell, 2009). It is no longer obvious that a company will have competitive advantage by just creating and acquiring knowledge. This is because many companies have huge knowledge databases bestowed in their employees and technical apparatus but are not able to put the databases into good use. When a company holds knowledge that can be copied, it will only be able to create a transient competitive advantage. Therefore a company should endeavor to create competitive advantage through either spreading knowledge (tacit) internally that rival companies will find hard to imitate or develop superior knowledge management capabilities that would leads to an on-going innovation process (Lubit, 2001).

An organization can make use of its tangible and intangible resources to create value for its customers by either the use of the cost leadership concept or differentiating its services and products through superior efficiency, quality, innovation and high customer response (Pearson, 2006). Tacit knowledge is difficult to manage because of its implicitness (Nonaka, Toyama, & Nagata, 2000). However, scholars in disciplines such as economics, who studied innovation and have been working on developing the theory of the firm, agree that tacit knowledge is the preeminent source of competitive advantage because it is very difficult to imitate
(Dierkes, Antal, Child, & Nonaka, 2003). Organizational executives should not only exploit resources specific to individual departments or divisions but also focus on the dynamic development of new capabilities through learning, accumulation and the integration of functional capabilities. The mentioned competencies are pools of cumulative experience, knowledge and systems that are available within departments, culture, organizational leadership, project teams or designated business units which can be utilized to minimize costs or time required to create a new capability or extend an existing one (April & Izadi, 2004).

Zack (1999) argues that knowledge embedded in employees is not easily codified in terms of hierarchy, function or position and as a result, an organization needs to eliminate any barriers to the access of these capabilities and competences. In the long term, the organizational success will be determined by the speed at which it can generate, capture and disseminate knowledge and then use this knowledge to develop capabilities that cannot be easily imitated by rivals. Scarcity of resources has resulted in an increase in global competition in production and services sectors (Kassam, 2009). This is highly attributed to the acceleration of easily transferrable technology and reductions in international trade barriers. Customer needs and tastes keep changing as different and new standards are established each day in the international market. It has therefore become necessary for organizations to react to this market dynamism by becoming customer-focused, reduce response time, lay emphasis on quality, be dedicated to continuous improvement, introduce new technology, becoming more agile and cost leadership.
Kenton and Yarnall (2005) suggest that the decrease in market share through the jockeying of the five forces in the market that include: threats posed by new entrants; availability of substitute products/services; competition from industry rivals; bargaining power of buyers and bargaining power of suppliers are forcing organizations to determine the relevance of activities that add value to their processes and performance such as efficiency, innovativeness, quality services and customer responsiveness. Porter (1985) argues that a company can have competitive advantage over rivals by either possessing low cost strategy that allows a firm to use aggressive pricing and maximize sales volume or differentiation strategy which favors building brand loyalty and positive reputation. The choice of either of the two strategies is determined by the ability of the firm to cope with the five forces better than rivals.
MIT Technology (2003) reported that globally multinational corporations in the telecommunication industry dedicate approximately 10% to 20% of their annual revenues to research and development (R&D). These ICT solution providers have obtained competitive advantage position through marketing innovation based on their services. For example Huawei Technologies (HW) dedicates 10% of its annual sales revenue on R&D on a yearly basis. The multinational giant boasts of having over...
62,000 product and solution R&D employees. This is 44% of its employees in the world.

Huawei has 23 research centers in different countries and 34 joint innovation centers with top carriers to transform leading technologies into sustainable competitive advantage. By 2011, Huawei had in its possession 36,344 patent applications in China, 10,650 under the Patent Cooperation Treaty (PCT) and 10,978 patent applications overseas. HW had been awarded 23,522 patent licenses 90% of which are invention patents. As far as cloud computing technology is concerned, HW has 685 patents in China, 226 in Europe, and 107 in the US (Huawei, 2012).

It is through this initiative that HW has been able to be number one in the market share of long distance light transmission, a core technology that was purchased and license patented from a global leader in the field, which invested over $70 million in long distance light transmission and product solutions. This marketing innovation, which occurred at the level of the product, allowed Huawei to gain a significant SCA (Ren, Xie, & Krabbendam, 2009).

By March 2012, Ericsson had a total of 22,000 employees in its R&D team. This is 20% of its workforce worldwide. The company possesses 30,000 patents in a portfolio that covers 2G, 3G and 4G technologies. Each day about 16 patents are applied for. It also has licensing royalties with more than 100 patent-licensing agreements in place and boasts of 25% (largest single holder) of standard-essential patents for LTE (Ericsson, 2012).
HW was ranked the 5th most innovative company worldwide in 2010 by ‘Fast Company’ magazine. Shenzhen-based Huawei Technologies shot past Alcatel-Lucent and Nokia Siemens in 2009 to become the world’s No. 2 telecom-equipment provider, powered by quality and product upgrades on top of its long-standing low prices. In the past year, it has won a slew of lucrative, prestigious contracts – Huawei recently beat out rivals Ericsson and Nokia Siemens for a deal to build Norway’s pioneering 4G cell-phone network, one of the world’s first – and showed continued strength in the burgeoning Indian and Chinese markets. The sum of these deals was good enough to double Huawei’s global market share to 20 per cent and boost 2009 sales 17.5 per cent to $21.5 billion (Lee, 2010).

Ivancevich, Lorenzi, Skinner, and Crosby (1994) argue that the technology gap that the United States enjoyed for years is inevitably being closed up by other nations’ desire to do so. This is because of the casual way in which America has been approaching the issue of R&D expenditures and diminishing invention patents as compared to their performance in the 60s-80s. America is currently facing intense competition from newly industrialized countries such as China, South Korea, Taiwan and Thailand. It is evident in today’s world of business that rivals are taking over high-technology markets that include telecommunication, medical, electronics, robotics and equipment from American firms.
Theoretical Framework

The theoretical framework of this study suggests that knowledge management is rooted in the contemporary management school of thought and can be discussed in the following evolving three dimensions:

The Resource-Based Theory of the Firm

The resource-based view argues that firms own resources which they utilize to achieve unmatched performance as well as a position of competitive advantage (Barney, 1991). This concept was originally developed by Wenerfelt (1984) with the aim of building a foundation aligned to the premise of business policy. It has since been developed by several academics. The theory assumes heterogeneity of capabilities and resources (Hoopes, Madsen, & Walker, 2003). Firms ride on the advantage of possessing rare capabilities or non-uniformity in resources as a significant aspect that will provide temporary competitive advantage through close monitoring and control. These firms may manage to attain superior performance and sustain that competitive advantage in the long term by protecting their resources from imitation, replacement or transfer (Wade & Hulland, 2004). However the theory does not clearly state the source of this heterogeneity so it becomes a challenge for researchers to clearly elaborate how firms utilize resources in creating competitive advantage (Helfat & Peteraf, 2003).
The Dynamic Capability-Resource Based Theory of the Firm

This view suggests that competition among firms is not only based on owning and exploiting uncommon resources and rare capabilities but is also in their ability to reinvent and develop their capabilities (Wheeler, 2002). Firms operating in a dynamic environment have the capacity to attain a position of sustainable competitive advantage because they are able to quickly react to market dynamics and constantly changing business conditions by their ever developing and renewed capabilities (Winter, 2003). This concept holds the assumption that organizational capabilities keep evolving while in the process, they build, integrate or reconfigure other resources in order to create competitive advantage. The concept of dynamic capability of the firm in retrospect provides strategic options to managers by identifying drivers of competitiveness in different firm capabilities spread out in various industries however it does not clearly state the processes and activities that contribute towards the renewal and development of organizational capabilities (Nielsen, 2006).

The Knowledge-Based Theory of the Firm

This theory takes on the mainstream perspective on knowledge and represents the dominant theory which adopts the objectivist perspective on knowledge. Nonaka and Peltokorpi (2006) analyzed the twenty most cited knowledge management articles’ list and concluded that articles using or developing the knowledge based theory of the firm were prominent in this list. Hislop (2009) suggests that writers including Spender (1996), Kogut and Zander (1996) and Grant (1996) have articulated and developed the knowledge-based theory of the firm, which signifies a specific development from
The resource-based view of the firm and that over time, the theory has been refined partly through theoretical development and partly through empirical testing. The theory assumes that the value obtained from a firm’s tangible resources such as capital and facilities depends on how they are utilized through the combination and application of wealth of knowledge into the various elements of the organization including its policies, processes, organizational culture, systems and employee perception (Spender, 1996).

The theory views a firm as a knowledge-creating body and argues that knowledge and the capability to generate and apply it are the core sources of competitive advantage for the firm. This is because it is through its established competence level and uniqueness that a firm is in a position to innovate services/products or process or improve existing ones in a more efficient and effective way (Nonaka et al., 2000).

The theory also assumes that humans are dynamic creatures and firms are dynamic entities. Both humans and firms actively interact with others and with their immediate environments and in the process, they understand each other’s dynamics. This leads to growth of both humans and firms through the process of knowledge creation and application (Nonaka & Takeuchi, 1995).
Knowledge management requires a well-defined organizational setting. This implies having proper systems and structures in place to harmonize management of the know-how and organizational capabilities and integrate these into businesses processes such as information flow technology, interpersonal interactions and document repositories, together with institutional and cultural values of focusing on knowledge. All these issues may not bring knowledge management into fruition without the active engagement of the people with whom the knowledge is vested on, the owners of this asset and the employees (Wenger, 2004).

If any significant progress is to be made by a firm to use knowledge management as a tool for achieving competitive advantage, organizational instruments such as leadership, organizational culture, technology and strategy should be aligned to that end. It has been a common understanding among behavioral thinkers that if the firm has the best leadership practices in operation other organizational-desired mechanisms

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**Figure 2.2: Conceptual Framework**

Source: Author (2013)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Intervening Variables</th>
<th>Dependent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspects of Knowledge Management:</td>
<td>Leadership (BOG)</td>
<td>Competitive Advantage</td>
</tr>
<tr>
<td>- Knowledge generation</td>
<td>- Corporate strategy</td>
<td>- Differentiation</td>
</tr>
<tr>
<td>- Knowledge sharing</td>
<td>- Organizational culture</td>
<td>- Lower cost</td>
</tr>
<tr>
<td>- Knowledge distribution</td>
<td>- Information</td>
<td>- Value creation</td>
</tr>
<tr>
<td>- Knowledge application</td>
<td></td>
<td>- Customer satisfaction</td>
</tr>
</tbody>
</table>

| | | - Higher profits |

---
will automatically fall in place (Singh, 2008). It is important for organizations to select leadership styles that appreciate the value of knowledge.

Managers need to develop a ‘knowledge culture’ in which the values, norms and beliefs of the organization are developed in such a way that it promotes creativity and positive attitude towards sharing and applying acquired knowledge for the benefit and growth of individuals and the organization (Oliver & Kandadi, 2006). Information Technology is important in the facilitation of the use of knowledge management to create competitive advantage because it can be strategically used to speed up knowledge sharing and communication especially where an organization has its subsidiaries spread in different continents (Lang, 2001). Information Technology can also be used as a cost cutting measure by not only being a tool for supporting operational functions but also as a process reengineering tool (Mohamed, Stankosky, & Murray, 2006).

The aim of a knowledge management strategy is to identify and understand knowledge resources and their placement in the organization and to institutionalize this knowledge down the value chain to create a competitive advantage which translates to wealth creation (du Plessis, 2007).

Summary

This chapter discusses an overview of knowledge management. It explains the perspective typologies as researched by different scholars. The chapter also elaborates on the knowledge management process, knowledge sharing, knowledge management and information systems, knowledge management and strategy, intellectual capital
and the link between knowledge management and competitive advantage. Theoretical framework is provided in this chapter and the researcher has designed a conceptual framework that shows the interaction between knowledge management, competitive advantage and the intervening variables.
CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

Research is the process of studying in order to discover new things (Saunders, Lewis, & Thornhill, 2007). It involves a scientific and systematic method of enunciating a problem, formulating a hypothesis, collecting data, analyzing the collected data and arriving at a conclusion either in the form of solutions towards solving the identified problem or generalizing for a theoretical course (Kothari, 2004). Research methodology is the philosophy of the research process. It includes the assumptions that serve as rationale for research and the criteria used to interpret data in order to arrive at a conclusion (Jain, 1998).

Research methodology looks at not only the techniques employed in data collection and analysis but also considers the reasoning behind the methods used in the study. It also provides explanations as to why a particular technique was selected as opposed to others in pursuit of a targeted result (Kothari, 2004).

This chapter entails a discussion on the research methodology that is to be employed in the study of the role of knowledge management in creating competitive advantage as adopted by Huawei Technologies Limited. The chapter is divided into the following sections: research design, the population to be studied, sampling design, data collection instruments, data collection procedures and data analysis procedures.
Research Design

According to Kothari (2007, p. 31), research design involves the making of decisions regarding what, where, when, how much, by what means. A research design is a tool used to achieve the research objectives (Chandran, 2004). A research design assists the researcher to manage ideas in a manner that makes it possible to identify errors and inconsistencies in the research. It is necessary because it facilitates the smooth flow of processes of the various research activities ensuring efficiency and effectiveness throughout the research process (Kothari, 2004).

Descriptive research seeks to portray an accurate profile of persons, events or situations (Robson, 2002). It is concerned with describing the characteristics of a particular individual or group (Kothari, 2004). According to Emory (1985), the aim of descriptive study is to describe the characteristics of an event, situation, community or population. Chandran (2004) argues that certain inquiries focus on questions that need answers that will assist in the understanding of events, situations, communities or populations. The strength of descriptive research is that it assists the researcher to formulate objectives, design data collection techniques and administer their tailored questionnaires.

This study used descriptive research design. This involved a precise measurement and reporting of the characteristics of the phenomenon under investigation, describes these phenomena, situations and/or events (Miller, 1991). This is because a descriptive design has flexibility in terms of considering different aspects of a problem under study and is also appropriate for studies that seek to discover new
insights, in development of concepts, in establishments of priorities and in the development of operational definitions (Kothari, 2007). This research described the types of knowledge generated in organizations, how the generated knowledge is managed towards the achievement of competitive advantage and the challenges faced in the management of knowledge.

Population of the Study

Cooper and Schindler (2007) define a population as the total collection of items about which one wishes to make some inference. According to Mugenda and Mugenda (2003), a population is an entire group of individuals, objects or elements under consideration for study in any field of enquiry and has a common characteristic that is observable. The population of the study was the employees of Huawei Technologies (K) Ltd. The target population was 189 members of staff working at Huawei (Human Resource Department, 2013).

Sampling Design

Sampling design is that part of the research plan that indicates how cases are to be selected for observation. It is divided into probability and non-probability sampling designs (Kombo & Tromp, 2011).

Quota sampling is a technique in which basic parameters or phenomena that describe the population are firstly identified and then a sample is selected which conforms to the identified parameters/phenomena (Srivastava, Shenoy, & Sharma, 1993). Quota sampling may also be referred to as stratified sampling in which case, the selection within geographical strata is non-random. The geographical area under
study was selected purposively and then stratified according to socio-demographic characteristics.

Purposive sampling is a deliberate non-random method of sampling which aims at selecting a sample of people, settings or events with predetermined characteristics. The results may not be generalized to the wider population of interest. In this study, quota sampling was used to arrive at the selected respondents because they had the information that was relevant to this study.

Sample Size

The part of an identified universe that is chosen for study is often referred to as a sample (Bryman, 2012). A sample size is the exact count of items to be selected from the population for the purpose of data collection (Kothari, 2004). To constitute a sample, it should fulfill the requirements of efficiency, representativeness, reliability and flexibility. Mugenda and Mugenda (2003) suggest that an acceptable representation of an identified population is 10% to 30%. Therefore, 56 employees of Huawei Technologies (K) Ltd formed the sample for this study which was 30% of the overall population.

Types of Data

According to Kothari (2004), data being collected afresh is referred to as “primary data” while data which has already been collected before and subjected through a statistical process is referred to as “secondary data”. In most cases primary data is collected for the purpose of scientific research and include sources such as census and samples. Secondary data is normally used for reasons that were originally
not intended for. Sources of secondary data include government and private publications (Andre, 2004). For the purpose of accomplishing this study, the researcher used both primary and secondary data.

Data Collection Instruments

The data collection exercise is carried out to come up with concrete data that will be invaluably used to draw conclusions (Polit & Beck, 2004). The data collection instruments were questionnaires used to extract valuable first-hand data from the Huawei staff. The questionnaire was made up of three sections; Section A covered general demographic data, Section B on strategic importance of knowledge management and Section C on role of knowledge management in achieving competitive advantage. The questions were simple and straight-forward thus requiring straight-forward answers. In designing the questionnaire for research of primary data, the study used both open and closed type of questions.

Pretesting

Pretesting data instrument assists the researcher in the assessment of the efficiency and the feasibility of its use. This gives room for the identification of possible occurrence of errors that should be corrected before the actual use of the instrument in the collection of data (Mugenda & Mugenda, 2003). The researcher pretested six questionnaires on 6 employees from ZTE, a telecommunications, equipment and network solutions provider operating in Kenya. This pretest was done for the purpose of helping the researcher decide whether any changes in the question
content or the wording of questions are called for. This helped in the collection of informed data that was appropriate to the research objectives (Crisp, 2006).

Data Collection Procedure

The researcher got an introductory letter from Daystar University upon recommendation by the supervisor; permission was obtained from Huawei Technologies (K) LTD to conduct the research and a research permit was obtained from the ministry of education after which the research commenced. Fifty six (56) questionnaires were administered to the respondents by research assistants and were collected on a later date. Each questionnaire had a brief introduction on what was expected of the respondents.

Data Analysis Plan

Data collected from a planned fieldwork is meaningless unless analyzed in a way that solutions will be provided to the identified research problem (Bailey, 2007). Data analysis is the process of reducing large amounts of collected data to a manageable size, providing a manuscript, identifying patterns and applying statistical techniques so as to develop themes from the data (Cooper & Schindler, 2007).

In this study, the data from the questionnaires were coded and keyed into the Statistical Package of Social Sciences data analysis software in order to come up with descriptive statistics. Frequencies, percentages, graphs and tables were used to present the findings depending on the trends identified.
Ethical Considerations

This research ensured that there was no breach of respondents’ confidentiality, no breach of non-disclosure agreements and no misinterpretation of results as advised by (Creswell, 2003). The ethical considerations made in this study included the following:

i. Data collected were true and accurate picture of what transpired.

ii. There was maintenance of high level of confidentiality of information.

iii. There was no manipulation of data or informants during the exercise.

Summary

This chapter discusses the methodology of the research. It explains the research design to be used. It examines the nature of population, target population, the sample size and the sampling techniques that were employed in the study. The data collection tools, data types, data collection instrument and the ethical issues to be considered and data analysis have been discussed.
CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Introduction

This chapter discusses the interpretation and presentation of findings. The purpose of the study was to determine the role of knowledge management in creating competitive advantage. The study used frequencies and percentages to analyze the collected data. For multiple questions, the study used likert scale in analyzing the data where a scale of 5 points was used to compute the frequencies and percentages. These were then presented in graphs, charts and tables and appropriate explanations for each were given.

Response Rate

The target population was 189 employees working at Huawei Technologies (K) Ltd. Thirty five (35) questionnaires out of 56 were completed and returned giving a response rate of 63%, which was a good response rate in research. According to Mugenda and Mugenda (2003), above 70% is an excellent response rate, 60% is a good response rate while 30% is not viable.
General Information

The case study was conducted in Huawei Technologies (K) Limited and it sought to establish the highest level of education of the respondents.

Level of Education

*Figure 4.2: Highest Level of Education*

The findings as presented in figure 4.2 indicate that the majority of the respondents at 57.1% had a bachelors degree, 34.3% had a master’s while 8.6% had a College Diploma.
college level diploma. These findings show that a significant number of the respondents were university graduates and they would therefore, clearly understand the role of knowledge management and relate this to the creation of competitive advantage.

![Work Experience](image)

*Figure 4.3: Number of Years Employed*

The researcher sought to find out the number of years the employees had been in service in the current organization. The findings are presented in figure 4.3 above.

On the findings as regards to the number of years the respondents had been employed in the organization, the majority of the respondents at 65.7% had been employed in the current organization for between 2-5 years, 17.1% had been employed in the current organization for between 6-9 years, 14.3% had been employed in the current organization for less than 2 years while only 2.9% had been employed in the current organization for more than 10 years.

The researcher further established that a significant number of the respondents
had undergone at least four trainings in the last one year. These findings are in agreement with observations made by Argote (1999) that training is a significant tool for transferring knowledge to members of a group or an organization and in the use of observation on the performance of experts by employees over a period of time.

Presence of a Knowledge Management Department

The study aimed at finding out whether the respondents’ organization had a knowledge management department. The feedback from the study is presented in figure 4.4.

![Figure 4.4: Presence of a Knowledge Management Department](image)

Figure 4.4 shows that 94% of the respondents reported that there existed a knowledge management department at their organization while only 6% of the respondents indicated that a knowledge management department did not exist. This indicates that most of the respondents’ are aware that their organization had a knowledge management department.

The insignificant response (6%) may be attributed to the fact that the 2 respondents may have purposefully withheld the correct information because of the
policy of organization’s information security that considers this subject matter as confidential. The researcher also established that the knowledge management department was mainly in charge of identifying the knowledge needs in the organization and provided solutions that would help meet that need in the long term.

Contribution to Knowledge Generation

The researcher sought to find out ways in which the respondents had contributed to knowledge generation in their organization. These findings are presented in figure 4.5.

![Figure 4.5: Contribution to Knowledge Generation](image)

**Figure 4.5: Contribution to Knowledge Generation**

As Davenport and Grover (2001) argue, knowledge interacts with information to...
increase the state space of possibilities and provide new information, which can then facilitate generation of new knowledge. Knowledge creation can take different forms and can occur in many different scenarios. Publication, cases and training are some of the knowledge generation well known.

Percentage of Financial Resource that the Organization Commits to Knowledge Management

The study sought to establish the percentage of the overall budgetary resource that the organization committed to knowledge management. These findings are presented in the figure 4.6.

Figure 4.6: Resource the Organization Commit to Knowledge Management

Figure 4.6 presents the percentage of the financial resources committed by the organization towards knowledge management. From the feedback received, 28.6% of the respondents indicated that the organization had committed 0-5% of its resources to knowledge management, 34.3% indicated that the organization had committed 6-10% of its resources to knowledge management, 17.1% suggested that the organization had committed 11-15% of its resources to knowledge management and 20% (7) suggested
that the organization had committed 16-20% of its resources to knowledge management.

These findings indicate that the budgetary dedication by the organization to knowledge management shows the level of commitment that the management of the organization has to ensure that knowledge is used to attain competitive advantage. Value is obtained through the utilization of a combination of tangible resources such as finances with intangible resources such as application of knowledge, in the various elements of the organization that include policies, organizational culture and structure (Spender, 1996).

Knowledge management department as a strategic function in the organization

In an effort to find out whether the knowledge management department is regarded as a strategic function in their organization, the researcher obtained the responses as presented in figure 4.7.

![Pie Chart](image)

| Yes | 89% |
| Yes | 11% |

*Figure 4.7: Knowledge Management Department vs. Strategic Function*

From the findings presented in figure 4.7, the majority of the respondents at
88.6% reported that the knowledge management department was regarded as a strategic function in the organization while 11.4% said that the organization did not regard the knowledge management department as a strategic function.

Recognition of the knowledge management department as a strategic function is important in affirming the organization’s commitment and the value it attaches to knowledge management practices. Further, understanding knowledge capabilities in the organization and the consequent placement and institutionalization of the same, can be utilized strategically to create wealth down the value chain (du Plessis, 2007).

As far as the level to which knowledge management department is considered a strategic function in the organization, the responses are as presented in figure 4.8 below.

Figure 4.8: The level to which knowledge management department is considered strategic

Management Levels

On the extent to which knowledge management department is considered a strategic function, 40% of the respondents indicated that the knowledge management department was considered strategic at the board of directors’ level, 45.7% answered
that it was considered strategic at the top management level while 14.3% indicated it was considered strategic at the mid-level management.

The level at which the knowledge management department was placed in the organizational functional hierarchy and its preceding consideration as a strategic function clearly shows the value that the management of the organization has placed on this function (Greiner et al., 2007).

The Board of Directors Support to Knowledge Management

To the question on whether the board of directors supported knowledge management in the course of their duties and responsibilities the responses were as presented in figure 4.9 below.

![Figure 4.9: The Board of Directors Support to Knowledge Management](image)

The majority of the respondents at 94% agreed that knowledge management received support from the board of directors in the course of their duties and responsibilities while only 6% were of a contrary opinion.

These findings were attributed to the fact that the board of directors was instrumental in ensuring that a certain percentage of the organizational financial
resources were committed to incorporating knowledge management in the overall corporate strategy, laying out performance targets on knowledge management to managers in the mid as well as top level and having a member in the board who exclusively oversaw decision making that focus on employee contribution to knowledge management through channels such as trainings, cases, publications and seminars.

The Role of Knowledge Management in Creating Competitive Advantage

The researcher sought to enquire on the respondents’ opinion on whether knowledge management in the organization helped in creating competitive advantage. The responses were as presented in figure 4.10 below.

![Figure 4.10: Knowledge Management Leads to Competitive Advantage](image)

The feedback received showed that the majority of the respondents at 85.7% agreed that knowledge management in the organization helped in achieving competitive advantage while 14.3% were of the opinion that knowledge management

49
did not lead to competitive advantage. From these findings, more than half of the respondents agreed that knowledge management led to competitive advantage.

Competitive Areas in which Knowledge Management Helps

The researcher wanted to find out how (in relation to the building blocks of competitive advantage), knowledge management in the organization helped in achieving competitive advantage. This is presented in figure 4.11 below.

![Bar Chart](image)

**Figure 4.11: Competitive Areas in which Knowledge Management Helps**

From the feedback received, 20% of the respondents indicated that knowledge management helped in customer responsiveness (service excellence), 22.9% indicated that knowledge management helped in superior quality (added value on products and services), 45.7% agreed that knowledge management helped in innovation (new and unique ways of doing things), 11.4% said that knowledge management helped in superior efficiency (seamless service).
From the findings, knowledge management contributed to all the competitive areas of the business. Although knowledge management contributes to all the competitive areas of business in Huawei Technologies (K) Limited, it is apparent that knowledge management led to competitive advantage with its dominance in innovation (new and unique ways of doing things) in this organization.

The researcher sought to establish how knowledge management practices were perceived by the employees in the organization on competitiveness. The findings were as presented in table 4.1 below.

| Table 4.1: Employees' Perception of Knowledge Management in the Organization |
|-----------------------------|------------------|------------------|
|                             | Frequency | Percent |
| Ineffective                | 3         | 8.6     |
| Moderately effective       | 8         | 22.9    |
| Effective                  | 14        | 40.0    |
| Highly effective           | 10        | 28.6    |
| **Total**                  | **35**    | **100.0**|

From the findings, the majority of the respondents at 40% perceived knowledge management practices adopted in their organization on competitiveness to be effective, 28.6% believed the practices to be highly effective, 22.9% observed the practices to be moderately effective whereas 8.6% said knowledge management practices adopted in the organization to be ineffective. Generally, a significant percentage of the respondents (91.4%) perceived knowledge management practices to be effective.

The perception of employees on the effectiveness of knowledge management practices in the organization portrayed the outcomes that the department had on the
employees’ individual career growth and attainment of the organizational goals. Knowledge management has become very important because when integrated with information technology and daily employee organizational duties and responsibilities, product development, processes and documentation databases, it helps facilitate individual growth as well as create value in the business in general (Gupta & Sharma, 2004).

Integration of Knowledge Management Practices and Performance

The study sought to establish the extent to which the integration of knowledge management practices in the organization had an effect in the overall organization performance. The findings from the research were as presented in the table 4.2 below.

Table 4.2: Effect of Integration of Knowledge Management Practices in Overall Organizational Performance

<table>
<thead>
<tr>
<th>Knowledge Sharing (publications, cases, trainings)</th>
<th>None effective</th>
<th>Least effective</th>
<th>Moderately effective</th>
<th>Effective</th>
<th>Very effective</th>
</tr>
</thead>
<tbody>
<tr>
<td>F %</td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
<td>31%</td>
<td>61%</td>
</tr>
<tr>
<td>Knowledge generation (identifying types of knowledge)</td>
<td>3%</td>
<td>0%</td>
<td>0%</td>
<td>9%</td>
<td>26%</td>
</tr>
<tr>
<td>Knowledge management strategy</td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
<td>9%</td>
<td>26%</td>
</tr>
<tr>
<td>Knowledge application (innovation and improvement)</td>
<td>3%</td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
<td>46%</td>
</tr>
</tbody>
</table>

52
A five point likert scale was used to interpret the respondents’ feedback. According to point allocation, 1 was awarded to those practices that were considered to be non-effective on the organizational performance, while 5 was awarded to those knowledge management practices that were considered to be very effective on the overall organizational performance. In between the continuum were points 2 for least effective, 3 for moderately effective and 4 for effective.

On knowledge sharing (publications, cases, trainings, meetings) practices, the majority of the respondents at 49% indicated that these knowledge management practices were very effective in improving the overall organizational performance, 17% indicated that these practices were effective in improving organizational performance, 31% observed that these practices’ effect on the overall organization performance was moderately effective, 3% said it was to the least extent while 0% answered none at all. Overall, adding the very effective and effective categories, it can be concluded that knowledge sharing was effective on the organizational performance with of the respondents having this view.

On knowledge generation (identifying types of knowledge) practices, the majority of the respondents at 37% suggested that these practices were very effective, 34% said that these practices were effective, 26% indicated that the practices’ effect on the overall organization performance was moderately effective, 0% to a least extent while 3% answered that these practices had no effect at all. In general adding the very effective and effective categories, it can be concluded that knowledge
generation practice was effective on the overall organizational performance with 71% of the respondents having this view.

Concerning knowledge management strategy practice, the majority of the respondents at 63% indicated that this practice was very effective, 26% of the respondents indicated that this practice was effective, 9% of the respondents specified that the practice’s effect on the overall organizational performance was moderately effective, 3% answered that the practice was least effective while 0% answered none at all. It can be concluded that knowledge management strategies were effective on the overall organizational as 89% agreed to this view.

Finally on knowledge application innovation practices, 17% of the respondents indicated that these practices were very effective, 26% of the respondents indicated that these practices were effective, the majority at 46% indicated that the practices’ effect on the overall organizational performance was moderately effective, 3% of the respondents answered that these practices were least effective while 9% of the respondents answered that the practices had no effect at all.

Generally, the majority of the respondents at 89% agreed that knowledge management application practices were effective on the overall organizational performance. As noted from the research findings, there existed a linear relationship in the integration of knowledge management practices with the overall organizational performance in terms of knowledge sharing, generation, strategy management and application.
Challenges Faced in Managing Knowledge in the Organization

The study also sought to find out some of the challenges faced in managing knowledge in the organization. The research findings are presented in the figure 4.12 below.

![Challenges Faced in Managing Knowledge in the Organization](image)

Range

**Figure 4.12: Challenges Faced in Managing Knowledge in the Organization**

From the findings as presented in the figure above, the majority of the respondents at 68.6% agreed that they faced challenges in managing knowledge in the organization while 31.4% reported that they did not face any challenges. Some of the challenges faced in managing knowledge in the organization as commonly cited by the respondents included employee turnover, language barrier, culture and lack of goodwill from employees in knowledge sharing.

Summary of Key Findings

This chapter is about the presentation and interpretation of the findings from the study which were presented in form of tables, charts and figures. The analysis
endeavored to answer all the five objectives of the study, namely to identify the types of knowledge that was generated by Huawei; to establish the different ways in which the generated knowledge was managed by Huawei; to determine the effect of knowledge management on competitiveness by Huawei and to find out the challenges faced by Huawei in the management of the generated knowledge.
CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents a discussion of the key data findings, conclusion drawn from these findings and highlights recommendations in relation to these conclusions. The conclusions and recommendations were centered on the main purpose of the study which was to establish the role of knowledge management in creating competitive advantage with a specific focus on the objectives of the study: to identify the types of knowledge that is generated by Huawei; to establish the different ways in which the generated knowledge is managed by Huawei; to determine the effect of knowledge management on competitiveness by Huawei; to find out the challenges faced by Huawei in the management of the generated knowledge.

Discussions of the Key Findings

In an effort to find out the types of knowledge generated in Huawei Technologies (K) Ltd, 80% of the respondents agreed that they had contributed to knowledge generation in the organization through cases and trainings. Polanyi (1966) categorizes this type of knowledge as explicit because it is easy to articulate, capture and distinguish in different formats.

With an aim of finding out how this knowledge was managed in Huawei Technologies (K) Ltd, 94% of the respondents reported that a knowledge management department existed and its main role was to identify knowledge needs in the organization and provide solutions to fulfill these needs in the long term.
On whether knowledge management was considered a strategic function, 87% of the respondents established that the knowledge management department was regarded as a strategic function in the organization. Recognition of the knowledge management department as a strategic function was important in affirming the organization’s commitment and the value it attaches to knowledge management practices. Further, understanding knowledge capabilities in the organization and the consequent placement and institutionalization of the same, could be utilized strategically down the value chain (duPlessis, 2007).

With regard to the effect of knowledge management on competitiveness, the study revealed that knowledge management contributed to all competitive areas of business that includes customer responsiveness, superior quality, innovation and superior efficiency. Forty seven point seven percent (45.7%) of the respondents agreed that innovation (improvement and development of new products) dominated in terms of competitive advantage created by use of knowledge.

The main challenge in knowledge management initiatives is the definition of what constitutes knowledge in the organization and how to operationalize the concept through encouragement of socialization among employees. As a result, knowledge will be generated and shared leading to an enrichment of the defining process (Kalkan, 2008). From the findings of the study, 68.6% of the respondents agreed that there were challenges faced in managing knowledge in the organization. The respondents cited some of these challenges as employee turnover, language barrier, organizational culture and lack of good will from employees in knowledge sharing.
Conclusions

The following conclusions were made:

Huawei Technologies (K) Ltd generated two types of knowledge. Explicit knowledge which is easy to articulate, capture and distribute in different formats and tacit knowledge which is difficult to capture, codify, adopt and distribute because individuals cannot easily articulate this type of knowledge. This knowledge is generated from employees who contributed their ideas and technical skills to a central information database for dissemination and use in the organization by other employees.

That knowledge management department was considered strategic at the board of directors’ level and it was the responsibility of this function to identify the knowledge needs and find solutions that would meet these needs. The department managed knowledge through ensuring that employees contributed their technical knowhow and innovative ideas through channels such as cases, trainings, seminars and publications, which were very instrumental in gaining competitive advantage.

The competitive areas in which knowledge management highly contributed towards competitive advantage include customer responsiveness (service excellence), superior quality (added value on products and services), innovation (new and unique ways of doing things) and superior efficiency (seamless service).

That knowledge management practices employed in the organization were effective on the overall organizational performance. Through these knowledge
management practices, the organization was able to create competitive advantage which is difficult to imitate. This provided room for the organization to reach out to more customers with unique products and services.

There were challenges faced in managing knowledge in the organization. These challenges included employee turnover, language barrier, organizational, culture and lack of good will from employees in knowledge sharing.

Recommendations

The study therefore recommends that:

1) The company diversifies the on utilization of the types of knowledge generated within the organization to cover the latest developments on the Market. This is specifically so because of the highly competitive nature of information technology companies in the country. This will help the company in staying ahead of competition.

2) To effectively manage knowledge, the Company ensure 100% board of director support on the management of knowledge generated. This could be done by improving talent management so that the employees with special talents are maintained in the organization.

3) To continue having a competitive advantage on knowledge generation and management, the company increases its investments in knowledge generation and management to make sure it stays ahead of its competitors on the market.
Areas for Further Studies

This study concentrated on the role of knowledge management in creating competitive advantage using a case study of Huawei. To allow for generalization of findings to whole industry, further research could be conducted on all information technology companies to establish how knowledge management affected their competitiveness. This will allow for generalization of the findings to the whole population of information technology companies in Kenya.
REFERENCES


APPENDICES
Appendix I: Questionnaire

My name is Lorna Misoi, a student at Daystar University pursuing a Master of Business Administration (MBA) Degree. I am carrying out a research on: THE ROLE OF KNOWLEDGE MANAGEMENT IN CREATING COMPETITIVE ADVANTAGE.

Your assistance is requested to help me assess the link between knowledge management and competitive advantage in your organization.

I would like to emphasize that this is an academic research and any data collected thereof shall be used for academic purposes only and your response to this questionnaire will be treated with confidentiality. Your participation in facilitating the study will be highly appreciated.

Section A: General Information

1. Highest Level of education (Check only one)
   - High School
   - College Diploma
   - Degree
   - Masters
   - Other (specify)……………………………

2. How long have you been working for your current organization?
   (Check only one)
   - Less than 2 years
   - 2 – 5 years
   - 6 – 9 years
   - More than 10 years
3. How many trainings have you undergone for the last one year? .............

4. Does your organization have a knowledge management department?
   Yes [ ] No [ ]
   If yes, kindly explain the purpose of the knowledge management department...
   In what ways have you contributed to knowledge generation in your organization?
   □ Cases
   □ Training
   □ Publications
   □ Other (specify)
   Explain in detail the knowledge generated...

5. How many knowledge cases have been generated within the entire organization in the last one year? ........................................
   Describe each of this knowledge created
   a.
   b.
   c.
   d.

6. Which department(s) has been instrumental in knowledge generation?
   a.
   b.
7. What percentage (%) of the overall budgetary resource does your organization commit to knowledge management?

- [ ] 0 – 5%
- [ ] 6 – 10%
- [ ] 11 – 15%
- [ ] 16 – 20%
- [ ] Other (specify) ...................

Section B: Strategic Importance of knowledge management

8. In your own opinion, is knowledge management department regarded as a strategic function in your organization?

Yes [ ]  No [ ]

If yes, to what level is it considered strategic? (Check only one)

- [ ] Board of directors
- [ ] Top Management
- [ ] Mid-level management

9. In your opinion, do you think the board of directors supports knowledge management in the course of their duties and responsibilities?

Yes [ ]  No [ ]

Please explain your answer .................................................................................................................................
........................................................................................................................................................................
........................................................................................................................................................................

10. In your own opinion, what is the best knowledge management practices adopted in your organization?

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Section C: Role of knowledge management in achieving competitive advantage

11. Do you think knowledge management in your organization helps in creating competitive advantage?
   Yes [   ] No [   ]
   If yes, in which competitive areas does knowledge management help?
   □ Customer responsiveness (service excellence)
   □ Superior Quality (Added value on products and services)
   □ Innovation (new and unique ways of doing things)
   □ Superior efficiency (seamless service)
   □ Superior employee psychological contract (commitment/loyalty)
   □ Other (specify) .................................................................

12. Explain how competitive advantage has been achieved with regard to the question above ............................................................

13. How do employees perceive the knowledge management practices adopted in your organization on competitiveness? As:
   □ Ineffective
   □ Moderately effective
   □ Effective
   □ Highly effective
   Explain your response to the question above .................................

.................................................................
14. Kindly indicate the extent to which the integration of knowledge management practices in your organization has had an effect in the overall organizational performance in the below outlined aspects:

<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>Knowledge Sharing (publications, cases, trainings, meetings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Knowledge generation (identifying types of knowledge)</td>
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<tr>
<td>Knowledge management strategy</td>
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<tr>
<td>Knowledge application (innovation - new and improvement - existing of</td>
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<tr>
<td>Products and services)</td>
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</table>

5 – Very effective; 4 – effective; 3 – Moderately effective; 2 – Least effective; 1 – None at all

15. With the help of examples, kindly explain how knowledge management has helped your organization in creating competitive advantage.

16. Do you face challenges in managing knowledge in your organization?
   Yes [ ] No [ ]

If yes, state at least three of these challenges

a.

b.

c.

Thank you for your help
Appendix II: Research Clearance Permit