EFFECTS OF KNOWLEDGE MANAGEMENT ON THE COMPETITIVE ADVANTAGE OF MILLERS IN KENYA: A CASE OF UNGA LIMITED

By

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DECLARATION

I declare that this is my original work and has not been presented for a degree in any other university.

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This project has been submitted for examination with my approval as university supervisor for and on behalf of Kenyatta University.

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DEDICATION

A special dedication of this work goes to my parents George Thande and Rosemary Thande, who encouraged and walked with me throughout the study period.
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First to the Lord God Almighty for his ever present help, protection and for the wisdom and favor He bestowed upon me throughout the study period of this course.

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ABSTRACT

The milling sector in Kenya has been plagued by very many challenges and problems. Whereas some of the problems can be linked to factors that are not of the making of the millers, some problems can be directly linked to the sectors inability to modernize by not only investing in technological infrastructure, but also by ensuring that the technology is used in conjunction with other organizational capabilities with the aim of building core competencies for the sector. Unga Limited’s market share and performance have been declining over time. It has become common to find several of their products missing from retail outlets. One other aspect that rings negative has been its chronic problem of high levels of employee turnover. Such turnover results in a loss of much needed intellectual capital, especially in the form of tacit knowledge. The purpose of this study was to investigate the effect of knowledge management enablers on the competitive advantage of the milling sector. A descriptive study was applied in this study. The population of interest was all the salaried employees of Unga Limited, who number 287 employees with 40 employees at management level and 247 junior staff. Stratified proportionate random sampling technique was used to select the sample. Primary data was collected through the use of structured questionnaires. The researcher analyzed the quantitative data using descriptive statistics in the form of the statistical package for social science (SPSS V.17.0). The qualitative data was analyzed using content analysis. In addition, the researcher conducted a multiple regression analysis so as to determine the effects of each of the four variables on competitive advantage. The information was presented by the use of tables and graphs. The study found that Unga Limited recognizes the need to become directly involved in the management of the new technology in the face of rapid change, but it does not know how Information technology encompasses the information that businesses’ create and use as well as a wide spectrum of increasingly convergent and linked technologies that process the information. The study concludes that a good organizational culture is important in order to succeed in managing knowledge. The study recommends that for successful knowledge management implementation, the visible leadership commitment of top management must be sustained throughout the knowledge management effort.
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OPERATIONAL DEFINITION OF TERMS

Centralization – This refers to the locus of decision authority and control within an organizational entity.

Collaboration - This is the degree to which people in a group actively help one another in their work.

Competitive advantage – This refers to a condition attained when a company moves into a position where it has an edge in coping with competitive forces and in attracting customers.

Culture - This is values, beliefs, norms and symbols. In general, culture highly values knowledge, encourages its creation, sharing, application and promotes open climate for free flow of ideas.

Explicit Knowledge – Knowledge that can be articulated codified and formalized in some electronic or physical form.

Formalization - This refers to the degree to which decisions and working relationships are governed by formal rules, standard policies, and procedures.

Knowledge – This is a fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knower’s.

Knowledge Management—Refers to a combination of processes that control and manage the creation, codification, dissemination and leveraging of knowledge in organizations,
with the key objective of ensuring that the right knowledge is available with the right person at the right time in a manner that enables timely decision making.

**Knowledge management enablers** – These are organizational mechanisms for fostering knowledge consistently, they can stimulate knowledge creation, protect knowledge and facilitate the sharing of knowledge in an organization.

**Leadership** – This is defined as the ability to influence and develop individuals and teams to achieve goals that have been set by the organization.

**Learning** - This is the acquisition of new knowledge by people who are able and willing to apply that knowledge in making decisions or influencing others.

**Tacit Knowledge** – Knowledge that resides in peoples’ minds and is relatively difficult to be expressed codified and documented.

**Trust** - This refer to maintaining reciprocal faith in each other in terms of intention and behaviors.
LIST OF ABBREVIATIONS

CA - Competitive Advantage

CSF - Critical Success Factors

ERP - Enterprise Resource Planning

GDP - Gross Domestic Product

IC - Intellectual Capital

IT - Information Technology

KM - Knowledge Management

ROA - Return On Assets

SPSS - Statistical Package for Social Sciences
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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Tanriverdi and Venkatraman (2005) indicate that knowledge has become the key economic resource and the dominant and perhaps even the only source of comparative advantage. The twenty-first century is the era of knowledge economy, in which most firms possess knowledge that enables them to improve corporate performance. How the corporation enhances organization value to boost internal performance and external competitiveness through the creation of effective knowledge management is a critical task (Mason & Pauleen, 2003). Knowledge generation can be defined as the process by which the firm obtains knowledge, either from outside the company or generated internally (Sharp, 2003). If organizations implement knowledge management practices successfully they are able to perform intelligently to sustain their competitive advantage by developing their knowledge assets (Yeh, 2006).

The information technology boom has caused organizations to realize the shift from the resource economy of controlling land, labour and capital to the knowledge economy of creating business value through the utilization of intangible knowledge. This has caused “knowledge management” to be of crucial importance in the public sector as well as the private sector both for organizations as well as for individuals. However, one of the key concerns that have emerged related to knowledge management is how to accomplish it successfully (Wiig, 1997). As enterprises start to manage their organizations’ knowledge they need to be clear of the factors that will influence knowledge management, which are known as knowledge management enablers and their relationship with organizational performance. Because enablers are the driving force in carrying out knowledge management, they do not just generate knowledge in the
organization by stimulating the creation of knowledge, but they also motivate the group members to share their knowledge and experiences with one another, allowing organizational knowledge to grow concurrently and systematically (Ichijo, 1998; Stonehouse & Pemberton, 1999).

Knowledge management is a key source of competitive advantage for organisations (Choy, 2006). Knowledge management is important as it enables organisations to gain insight and understanding from it is own experience and procedures. However for effective implementation of knowledge management in organizations, it is crucial for organizations to identify and understand the key factors that will influence the success of knowledge management initiatives as these may have profound effects on the organization performance. These factors are the driving force in carrying out knowledge management, they do not just generate knowledge in the organization by stimulating the creation of knowledge, but they also motivate the group members to share their knowledge and experiences with one another, allowing organizational knowledge to grow concurrently and systematically (Ichijo, 1998). Unfortunately, most organizations are not clear about such factors (Choy, 2006) hence the need for this study.

1.1.1 Knowledge Management Enablers

Knowledge management enablers (or influencing factors) are organizational mechanism for fostering knowledge consistently (Ichijo, 1998). They can stimulate knowledge creation, protect knowledge and facilitate the sharing of knowledge in an organization. They are also the necessary building blocks in the improvement of the effectiveness of activities for knowledge management (Ichijo, 1998; Stonehouse & Pemberton, 1999).

In the process of carrying out knowledge management, organizations have to face the varying conditions of corporate culture, workflow processes, and the integration of group members’
knowledge. They also need strong support from top management, because it is possible that during the process they will encounter resistance from employees. Organizations also need to increase the usage of information technology in order to alleviate the problem regarding the flow of information (Hedelin & Allwood, 2002). The knowledge management enablers under focus in this study include organizational culture, management commitment, people and information communication technology.

1.1.2 Competitive Advantage

Competitive advantage is attained when a company moves into a position where it has an edge in coping with competitive forces and in attracting customers (Porter, 1998). The positioning advantages or the competitive edge possibilities then would be said to include the highest quality product or services in the market, offering of superior customer service in comparison to rivals, having a product that does the best job in performing a particular function and offering the most value for money in terms of a combination of good quality, good service and acceptable price.

The perceived difference is what forces competitors to transform their business just to compete. The competitors are forced to transform if only to maintain viability and relevance when one company introduces competitive advantage. Competitive advantages give a company an edge over its rivals and an ability to generate greater value for the firm and its shareholders. The more sustainable the competitive advantage, the more difficult it is for competitors to neutralize the advantage.

This the competitors accomplish either by copying that advantage thus nullifying it and leveling the playing field or by introducing a new, unique competitive advantage of their own (Gartner, 2012). It is worth noting that no competitive advantage can be sustained other than by
ceaselessly pursuing new ways to compete, and changing one’s culture/norm to match the new needs. The beauty about competition is that it creates a cycle that drives business and industry transformation. In the banking industry, opportunities reside in the big culture of technology initiatives that require cultural and technological alignment to build a competitive advantage that erects a powerful barrier to entry.

Competitive advantage is thus the single most powerful weapon needed by firms to win and prosper in today’s world. As a lethal weapon, competitive advantage enables firms to enjoy unassailable positions in the market through erecting barriers to small local rivals and new entrants (Greenwald and Kahn, 2006). Porter (1998) argues that competitive advantage can help firms to erect entry barriers through economies of scale, proprietary products, synergistic alliances and expected retaliation. Knowledge is considered to be one of the most significant resources. While possession of more relevant knowledge make it easier for firms to win a competitive war, companies can in addition create sustainable competitive advantage by becoming champions of defining the pattern of successful innovation and executing against it.

1.1.3 Unga Limited

The idea to form the company was mooted in a meeting held by Lord Delamere, a prominent settler farmer, and other persons on 30 December 1908 at 9.00 pm at The Norfolk Hotel, Nairobi. Minutes recorded indicate that this was the first board meeting of Unga Limited. The company was subsequently incorporated on 16th January 1909 and commenced its business as millers of wheat, maize and manufacturers of animal feeds. Initially, Unga Limited went through many upheavals including financial difficulties and in 1928, the present day Unga Group Limited was incorporated as Unga (1928) Limited to take the operations of Unga Limited.
Unga (1928) Limited changed its name to Unga Limited in 1932, and went public in 1956. By then it owned 100% of Tanzania Millers Limited and 49% of Uganda Grain Milling Company Limited. The Tanzania and Uganda operations were involved in the same business as Unga Limited. On 30 July 1963, Unga (Kenya) Limited was formed as a subsidiary of Unga Limited and assumed the operations of the holding company. In order not to confuse the public as to which was the operating company, Unga Limited changed its name to Unga Millers Limited while Unga (Kenya) Limited changed its name to Unga Limited. In 1970, there was a major reorganization following which Unga Millers Limited changed its name to Mercat Limited.

Kenya National Mills Limited was formed in 1965 by Unga Millers Limited as a result of threats of nationalization and it took over Unga Limited and Maida Limited, the latter being a company formed in 1949 and owned by Maida Holdings Limited. The two subsidiaries had similar operations and were a mere duplication, such that in 1978 a decision was made to amalgamate their operations under Unga Limited. Maida Limited became a dormant company. Kenya National Mills Limited went public in 1967 but was wound up in July 2002.

In 1982/83 another re-organization was undertaken whereby the animal feeds business of Unga Limited was transferred to Unga Feeds Ltd (a dormant company incorporated in 1937 as the White Star Milling Company Ltd) and the maize business was transferred to Maida Limited under the name of Unga Maize Millers Limited. In summary the use of computers in Unga is wide spread, and in this case being a manufacturing company that has additionally adopted continual improvement the use of computers is inevitable to digest the amount of data and information collected and further reporting.
1.2 Problem Statement

The milling sector in Kenya has been plagued by very many challenges and problems. Whereas some of the problems can be linked to factors that are not of the making of the millers, some problems can be directly linked to the sectors inability to modernize by investing in and to heavily capitalizing on the use of technology. This in effect results in; high employee turnover leading to the loss of valuable knowledge, slim differentiation amongst millers since all of the seem to be competing along similar core competencies with very minor differences, inability to thwart the entrance of new competitors into the market, especially foreign companies that easily come into the market and take it over through their aggressive and superior advertising, products, prices and scalability. The local milling sector is also highly susceptible to climatic changes and the resultant reduced production of raw materials, there’s a lack of regulation regarding the change of use for land, changes in both local and international regulations and requirements in relation to products, technology, production methods and farming mechanisms are other factors that challenge the milling sector in Kenya.

Unga limited is a milling company that has been in the headlines lately for the wrong reasons. Its market share and performance have been declining, and a stroll into the supermarkets will reveal that it always has one or two of its products missing from the shelves. One other aspect that rings negative has been its chronic problem of high levels of employee turnover. Such turnover results in a loss of much required intellectual capital. For a company that dates back to 1908, one would have expected Unga limited to have gained from its monopolistic background, by having established systems that would have given it a strong base aimed at preparing for most eventualities.
It is quite true that Unga has over time invested heavily in information technology systems aimed at increasing efficiency, productivity and eliminating waste. It is one of the pioneers of implementing an ERP system in its operations. Unfortunately, it is quite clear that Unga limited has not established a knowledge management department. An organization that has a vibrant knowledge management system in place will exhibit the following characteristics: Enhanced decision making through just in time intelligence, improved work efficiency and intelligence, increased innovation of products, services and operations, improved competency and competitiveness, rapid generation of technical solutions to clients’ problems and increased responsiveness to customers (Jarrar, 2002; KPMG, 1998; Skyrme & Amidon, 1997; uit Beijerse, 1999). If Unga limited does not implement knowledge management, it will have no option but to wallow in the historical archives. This has made the study relevant, since Unga limited will have to apply knowledge management practices in order to get a competitive advantage over its competition and also for its survival and growth.

Just like all other firms, millers will have to adopt the knowledge management culture and practices if they are to enhance their competitive advantage and economic efficiency. At the time of the study, little was known regarding the extent to which Unga limited applied knowledge management as a source of competitive advantage. This study aimed at investigating the extent to which information technology, culture, top management commitment and organizational structure were being applied at Unga limited with an aim of achieving a competitive advantage.
1.3 Research Objectives

1.3.1 General Objective of the Study

The general objective was to investigate the effect of knowledge management enablers on the competitive advantage of Unga limited.

1.3.2 Specific Objectives of the Study

i. To establish the effect of information technology systems on the competitive advantage of Unga Limited.

ii. To find out how organizational culture affects the competitive advantage at Unga limited.

iii. To assess the effect of top management commitment to knowledge management practices on the competitive advantage at Unga limited.

iv. To find out how organizational structure affects the competitive advantage at Unga Limited.

1.4 Research Questions

The research questions that were answered by the study variables were;

i. How does information technology affect the competitive advantage of millers?

ii. To what extent does organizational culture affect the competitive advantage of millers?

iii. How does the commitment of top management affect the competitive advantage of millers?

iv. To what extent does the organizational structure of millers affect their competitive advantage?
1.5 Significance of the Study

The study would help the milling sector in Kenya realize the importance of making knowledge management a core capability, with the aim of giving them a competitive advantage. Since a core capability is not stagnant, the study would help Unga limited identify its strengths and weaknesses with the aim of adjusting and responding to its changing environment and market conditions. This would enable Unga limited to take advantage of the prevailing opportunities and minimize the threats facing them, thus, enabling them to keep ahead of the competition and to benefit from better linkages within its value chain.

There is a strong link between knowledge management and the creation of a sustainable competitive advantage because of the tacit nature of an organization’s knowledge. The study would therefore sensitize the organization on the ways in which it can utilize its tacit knowledge to its utmost benefit.

Other beneficiaries of the study would be the employees of Unga limited, who will understand the significant role that knowledge management plays in the creation of a competitive advantage for the company. They would be in a better position to understand the role that corporate culture plays in managing knowledge. They would understand how their attitudes, values and expectations in relation to knowledge management affect the competitive advantage of their firm.

Policy makers would also understand the role of knowledge management in the creation of competitive advantage for millers, and would therefore be better equipped to formulate policies that help millers attain and maintain stable operations and profitability levels.

The study also forms a foundation for further research in the area.
1.6 Assumptions of the Study

The assumptions of the study were that Unga limited was willing to avail all the information required to carry out the study. It was also assumed that respondents were friendly and provided accurate information. The respondents were assumed to have enough knowledge and experience to be able to answer all the questions competently.

1.7 Limitation of the study

This study focused on the effect of knowledge management enablers in Unga limited. It was a case study conducted at Unga limited only. It targeted employees at both management and junior levels.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction
This section aims at identifying and examining research that has already been carried out on the area under study. It is meant to form a framework within which the research findings will be interpreted. Its conceptual and empirical review will provide the literature necessary to show the reader how the study supplements the work that has already been done on the topic.

2.2 Theoretical Review
KM is viewed from the perspective of organizational capability as organising and making available important knowledge wherever and whenever it is needed. The resource-based view, the knowledge-based view and organizational learning theory are used as underlying theories for this research. According to resource-based views, firms perform well and create value when they implement strategies that exploit their internal resources and capabilities. With the growth of strategic management theory, there has been considerable interest in focusing on intangible resources or Intellectual Capital (IC) and their deployment in the firm (Wernerfelt, 1995).

Resource-based theorists consider IC to be a firm's strategic resource. KM Enablers and processes, including knowledge acquisition, knowledge conversion and knowledge application, were used to manage and increase Social Capital, to enhance Firm Performance and to sustain competitive advantages. The knowledge-based view of the firm considers knowledge as the most strategically significant resource of the firm (Grant, 1996). This view considers a firm to be a "distributed knowledge system" composed of knowledge-holding employees, and this view holds that the firm's role is to coordinate the work of those employees so that they can create knowledge and value for the firm (Spender, 1996). A firm's absorptive capacity could be
enhanced through KM processes that allow the firm to acquire, convert and apply existing and new knowledge by adding value to the Social Capital while remaining competitive in the market.

The next theory applied in this research is organizational learning theory. Garvin (1993) defined organizational learning as reflecting the skills of creating, acquiring, and transferring knowledge and modifying behaviour to reflect new knowledge and insights. This theory emphasises that organizational learning depends on individual learning but is more than the cumulative result of each employee's learning. Organisations acquire knowledge, not only through their own employees, but also through consultants and through formal and informal environmental scanning.

Knowledge management enablers can be classified according to a socio-technical theory. Socio-technical theory assumes that an organization or an organization work system can be described as a social-technical perspective (Bostrom & Heinen, 1977). According to this perspective, we can identify that enablers are made up of two jointly independent but correlative interacting systems. The technical system is concerned with processes, tasks, and technology. The social system is concerned with attributes of people, relationships among people, reward systems, and authority structures (Gupta & Govindarajan, 2000). Organizational structure, organizational culture, and people are considered as a social system, and information technology is considered as a technical system in this study.

2.2.1 Knowledge Management

Knowledge management is emerging as one of the most powerful management tools in today's business arena. In the traditional economy, knowledge was seen as external and unrelated to the economic process (Beijerse, 1999). Tangible assets were recognized as the main production
factors. However as competition increased, physical resources were found to be inadequate in providing distinct competitive advantage because they can be imitated and acquired by anyone on an equal basis. As knowledge emerges as the primary strategic resource in the 21st century, many firms in the various sectors including milling are beginning to introduce and implement Knowledge Management (KM). Organizations can certainly benefit from its application for enhanced decision support, efficiency and innovation, thus helping them to realize their strategic mission. Very few people consider knowledge management as a fad that would soon be forgotten. Many people consider knowledge management as a variable that is transforming the way businesses do their business, and concede to having a knowledge management initiative in their organizations (KPMG, 1998).

Many organizations are transforming themselves into knowledge-based enterprises, in which Knowledge Management (KM) is crucial. Various strands of disciplines are believed to have contributed to the emergence of KM. Kelly (2000) discussed its origin from the knowledge-based theory of the firm, which in turn was built upon a number of streams of research such as resource-based theory (April, 2002; Grant, 1991; Wernerfelt, 1984), organizational learning (Huber, 1991) and core competence (Prahalad & Hamel, 1990). Grover and Davenport (2001) on the other hand, traced its emergence from the evolution of information technologies. According to Liebowitz (2000), KM is a consolidation of ‘knowledge-based systems, artificial intelligence, software engineering, business process improvement, human resources management and organizational behavior concepts’. KM has become an important strategy for improving organizational competitiveness and performance. This is because the proper management and leveraging of knowledge can propel an organization to become more adaptive, innovative, intelligent and sustainable (Wong & Aspinwall, 2004a). According to Civi (2000) and Gupta,
Iyer, and Aronson (2000), the only competitive advantage that organizations will have in the 21st century is what they know and how they use it. However, KM is an emerging paradigm, and not many organizations have a clear idea of how to proceed with it. While knowledge management is not strictly a new movement, structured and formal approaches to leveraging knowledge are fairly new.

Knowledge is not easily measured or audited, so organizations must manage knowledge effectively in order to take full advantage of the skills and experience inherent in their systems and structures as well as the tacit knowledge belonging to the employees of the firm. KM is a managerial activity which develops, transfers, transmits, stores and applies knowledge, as well as providing the members of the organization with real information to react and make the right decisions in order to attain the organization’s goals (Abebe, 2012)

A high importance for effective Knowledge Management (KM) is well recognized in a number of milling enterprises. There is still, however, a clear need to further reinforce applications of KM methods & tools by effectively solving fundamental and specific problems related to KM practice in the milling industry. Knowledge sharing within an enterprise e.g. among different areas, departments, plants, different players in a company etc. is related to a number of fundamental and specific problems such as acceptance by employees and motivation issues, ontology problems, correlation of different types of knowledge, treatment of experience based and often incomplete and/or ill-structured knowledge etc. Management of tacit knowledge including its capturing, maintenance and sharing over different areas is still not efficiently solved in industrial practice. The problem in milling companies is very often that the knowledge is available, but it is not used either because it is not well structured, or because employees are not aware of its existence or trained to properly use it in their daily work. Communities of Practice
are often built horizontally e.g. over design departments of large companies, but rarely vertically e.g. between planning and shop-floor areas, including employees with different levels of expertise etc. (Fischer & Stokich, 2000).

According to Nonaka and Konno (1999), knowledge can be categorized as being either tacit or explicit. Explicit knowledge can be easily articulated and transferred to others. In contrast, tacit knowledge is personal in nature and resides inside an individual’s head. It is difficult to codify, articulate, imitate and communicate (Gupta & McDaniel, 2002). Firm specific skills include knowledge about knowledge management. If competitors can imitate products or processes based on articulated explicit knowledge of the company, firm specific skills and tacit knowledge are not imitable and separable from the employees who perform them and their native environment. The imitating company would have to recreate such an environment and acquire all the key employees of the target company to map their expertise (Szulanski, 1996; Sbarcea, 1998). Knowledge management should involve offering continuous formal and informal educational programs for employees to keep the firm-specific skills and knowledge stock from becoming outdated and even counterproductive.

2.2.2 Competitive Advantage

There is a general consensus amongst practitioners from the various researches carried out that knowledge and its management is an important determinant of a firm’s performance and its competitiveness. This implies that making knowledge management a firm’s core capability is likely to give that firm a sustainable competitive advantage (Clarke & Rollo, 2001). Literature shows that there is a strong link between knowledge management and the creation of a sustainable competitive advantage, because of the tacit nature of an organization’s knowledge (Gupta & McDaniel, 2002). Barney (1991) noted that when an organization is implementing a
value creating strategy not simultaneously being implemented by any current or potential rivals, then the organization has a competitive advantage.

One of the basic prepositions of the resource based view of the firm is that firms differ as to their resource endowments (Wernerfelt, 1984; Rumelt, 1987). For knowledge management to be considered as a core capability resulting in superior performance and competitive advantage it must be a unique resource and it must constitute a high barrier to imitation. This implies that not all resources possessed by a firm are sources of competitive advantage. Tangible assets which were previously considered as the main production factors are no longer adequate to provide a distinct competitive advantage due to the increased level of competitiveness. The real value of organizations depends on their knowledge base and the ideas and insights that lie in the heads of their employees. Organizational knowledge is viewed as a strategic asset because it is valuable, rare, inimitable and non-substitutable (Bollinger & Smith, 2001). Non-strategic assets do not contribute to sustainable competitive advantage and the long term success of an organization, but strategic assets do (Meso & Smith, 2000).

2.3 Empirical Review

Knowledge embedded in products and services has been recognized as a primary source of sustainable competitive advantage (Clarke & Rollo, 2001). Globalization, the growth of networked organizations, as well as the knowledge intensity of new products and services has added to the importance of managing knowledge. Knowledge is becoming the most valuable strategic resource, and a firm’s ability to utilize knowledge to address problems and market opportunities is the most important capability. The more the firm knows about its customers, products, technologies and markets, the better it performs compared to its rivals (Empson, 1999).
For knowledge to provide a competitive advantage, it must exhibit the four dimensions of a core capability: skills and knowledge, physical systems, managerial systems and values and norms. Innovations that exploit an organization's assets are likely to add value to those resources, and the competitive advantage that results is likely to be sustainable.

One central measure of organizational effectiveness is the creation and continuance of a measurable competitive advantage. Many broad initiatives such as efficiency, core competency advancement, actualization of beneficiary centric products and services, and limitation of the fixed costs of doing business can help achieve a competitive advantage for millers in Kenya. Knowledge management is a targeted expertise designed to impact productivity and innovation in profound ways. It represents a new technology that is changing the competitive landscape of contemporary organizations (Sarvary, 1999). Knowledge management may exploit supply side or demand side economies of scale (Ofek & Sarvary, 2001).

One task of knowledge management is to help organizations to enhance and expand the innovation process (Karadsheh et al., 2009) to maintain their competitive advantage. According to Okunoye and Bertaux (2008), the benefit and strategic importance of knowledge management is in the ability of an organization to correctly identify which knowledge resources they can improve to gain competitive advantage. Also, since knowledge has been classified into different types (Gao et al., 2008; Hicks et al., 2006; Wiig, 2004), another task of knowledge management is not to manage all knowledge, but to manage the knowledge that is most essential to the development of the organization. From the strategic management viewpoint which focuses on understanding the sources of competitive advantage (Barney, 2001; Priem and Butler, 2001), a wide variety of factors have been shown having a significant impact on the ability of organizations to obtain competitive advantage, including the relative competence development of
an organization (Johannessen and Olsen, 2003), an organization’s ability to differentiate its products or services (Johannessen and Olsen, 2003; Teece et al., 1997).

Knowledge management has also been described for its possible role in creating sustainable competitive advantage for organizations (Johannessen and Olsen, 2003; Grant, 1996; Lado and Wilson, 1994). More specifically, the organization must possess the ability to effectively and efficiently exploit the full potential of its resources, in order to develop and maintain any potential competitive advantages (Barney, 1997; Adams and Lamont, 2003). Wright et al. (1994) showed that human resources (HR) meet the criteria for being a source of sustainable competitive advantage. Coff (1994) discussed that human resources are a main source of sustainable advantage because of causal ambiguity and systematic information making them inimitable. Gratton (1997) also recognized that sources of competitive advantage have turned from financial resources to technology resources and now to human capital. The theory of competence-based competition argues that core competencies are the source of sustainable competitive advantage (Hafeez et al., 2002). In other words, success of organizations in investigating the sustainable competitive advantage does not depend primarily on the size of the budget or the products supporting technologies. It really depends on employee’s attitudes, core competencies and skills (Al-Rfou and Trawneh, 2009).

Memon (2009) agrees that the strategic human resources management or the human capital is a means of gaining competitive advantage through one of the most important asset: its people as its crucial wealth, success and competitive advantage of the organization. Thus, to sustain competitive advantage, in other words, is to utilize the knowledge of people to contribute to the organization.
2.3.1 Information Technology Systems

Information technology has changed the way business is done by reducing the cost of obtaining, processing and transmitting information. It is crucial for all businesses, and none can escape it. As firms invest more of their time and capital into information technology, they are aware that it is no longer the exclusive territory of electronic data processing and information systems' departments. Most firms recognize the need to become directly involved in the management of the new technology in the face of rapid change, but they do not know how Information technology encompasses the information that businesses' create and use as well as a wide spectrum of increasingly convergent and linked technologies that process the information. In addition to computers, it also involves data recognition equipment, communications technologies, factory automation and other hardware and services.

The possibility that IT can contribute to firm performance and help to gain a competitive advantage (CA) has received a great deal of attention in recent years. Some scholars claim IT can be a source of competitive advantage and its impact can be either direct or indirect (Duh et al., 2006, Neirotti and Paolucci, 2007), others suggest IT cannot be a source of competitive advantage since it does not fulfill the requirements of the competitive advantage concept (Carr, 2005), finally, some even argue that IT has a negative impact on firm performance and thus on the created competitive advantage (Warner, 1987). Although a range of studies have been conducted, they show mixed and inconclusive findings. In line with Tippins and Sohi (2003), it shows that studies have not adequately captured and measured the effect of IT on the competitive advantage of firms. These variations in opinion seem to stem from the fact that there seems to be a lack of frameworks to both explain the profit impact of IT and to guide organizations in exploiting the IT resource as a source of competitive advantage. Information technology (IT) has
been greatly asserted to be a source of sustainable competitive advantage. Empirical evidence has shown that IT can improve a company’s performance and competitive position.

Recent studies have established that the successful use of information technology (IT) can improve a company’s performance and competitive position (Bharadwaj, 2000; Stratopoulos and Dehning, 2000). However, there is a widely held belief among the management community that any performance advantage granted by IT is short lived because computer-based information systems (IS) are easily replicated (Alter, 1998; Ballou and Slater, 1994). Competitors will attempt to neutralize the competitive advantage of the successful users by copying and possibly improving the IT used (Kettinger et al., 1994; Mata et al., 1995). In some cases, a competitor’s response may be immediate. Contrary to this belief is the theoretical literature on IT and competitive advantage that asserts that it is not effortless to duplicate the performance achieved through successful use of IT, and that IT-enabled strategies can lead to a sustainable competitive advantage (Feeny and Ives, 1990).

Overall there is a growing realization that firms can sustain strategic IT innovation and differentiate business success only by developing superior capabilities for enterprise IT management and use (Sambamurthy, 2000, p. 246). Building on the theory of monopolistic competition, Feeny and Ives (1990) link IT resource heterogeneity to competitive advantage. In this framework, generic lead-time, competitive asymmetry, and pre-emption potential are the primary factors that contribute to sustaining an IT-enabled competitive advantage. Generic lead-time affects how long a firm has before competitors can respond with a similar application. Competitive asymmetry refers to competitors’ ability to replicate the IT application. Pre-emption potential refers to the ability of first movers to effectively pre-empt retaliation by followers. The framework developed by Feeny and Ives is similar to the resource-based view of the firm (RBV).
espoused in the strategic management literature (Barney, 1991, 1997; Dierickx and Cool, 1989; Peteraf, 1993; Wernerfelt, 1984). RBV depicts companies as a collection of resources and capabilities required for product or market competition. Resources are the physical capital, human capital, and organizational capital owned or controlled by a firm that can be used to conceive of and implement strategies (Barney, 1991). Capabilities reflect a company’s ability to combine resources that the organization can muster in ways that promote superior performance in spite of the opposition stemming from the competition and circumstances (Teece et al., 1997). An IT-enabled strategy is a corporate strategy that uses IT at its core to support and enable major economic activities performed by the firm.

Theoretical and empirical evidence indicates that companies implementing an IT-enabled strategy are able to gain a competitive advantage over their direct competitors (Andersen, 2001; Bharadwaj, 2000; Feeny and Ives, 1990; Konsynski and McFarlan, 1990; Mata et al., 1995; McFarlan, 1984; Porter and Millar, 1985; Stratopoulos and Dehning, 2000). Selection, implementation, and adoption of the appropriate IT is a necessary condition for the success of such a strategy. During the last 15 years strong evidence and managerial belief have accumulated that IT, when it is effectively deployed, contributes to superior firm performance (Sambamurthy, 2000, p. 245). The theoretical argument that sustainability is possible can be attributed to certain IT resources and capabilities that are difficult to imitate.

When an IT-enabled strategy is combined with such resources and capabilities, firms will be able to gain a competitive advantage through barriers to entry, switching costs, and mobility barriers (Porter, 1979, 1980; Mata et al., 1995; McFarlan, 1984; Sambamurthy, 2000). These may include managerial IT skills, technical IT skills, and IT infrastructure. Managerial IT skills refer to management’s ability to conceive, develop, and exploit IT applications (Mata et al., 1995). There
are four primary reasons why managerial IT skills are believed to be a source of sustainable competitive advantage. First, these skills enable companies to manage the technical as well as market risks associated with investment in IT (Bharadwaj, 2000; Mata et al., 1995). Second, they are developed over time through the accumulation of experience (Katz, 1974). Third, they are tacit and causally ambiguous (Castanias and Helfat, 1991; Mata et al., 1995). Fourth, they are the result of socially complex processes (Mata et al., 1995).

Researchers and managers are interested in the relation between strategic actions that a firm takes and its performance relative to the competition (Rumelt et al., 1991). Firms that are successful in creating non-replicable complementarities across activities with an IT enabled strategy will enjoy superior financial performance by raising revenues or decreasing costs (Bharadwaj, 2000). Hence, traditional accounting variables are most likely to capture an IT-enabled competitive advantage. Return on assets (ROA) is used as a measure for competitive advantage. The most frequently used measure in the strategic management literature; ROA has been shown to be related to several other measures of financial performance and is the best overall measure of financial performance (Barber and Lyon, 1996; Keats and Hitt, 1988; Lenz, 1981). ROA has been used in studies on the relation between investment in IT and productivity as well as in recent studies on the relation between IT and competitive advantage (Bharadwaj, 2000; Barua et al., 1995; Hitt and Brynjolfsson, 1996; Weill, 1992; Stratopoulos and Dehning, 2000).

Building on the contributions of Penrose (1959) and Rubin (1973), Wernerfelt (1984) created the research agenda for resource-based studies. His remark that resources and products are two sides of the same coin (Wernerfelt, 1984, p. 171) is widely accepted. He pointed out that a firm can earn an above-normal return by identifying and acquiring resources that are critical to markets
and are, hence, strategic. In line with the RBV, strategic resources are crucial components of sustainable competitive advantage. The RBV became a useful tool for exploring the value of IT and its relationship to firm performance and competitive advantage and thus many scholars have recognized the value of RBV in IT research. However, on the other side, studies have shown that firms with the largest investments in IT rarely achieve the best financial results (Carr, 2003, 2004). Carr (2003) argues that the economic and strategic IT impact comes from the continual innovation of IT. He ascertains that many firms have gained important advantages through the innovative use and exploration of IT. For instance, eBay’s Internet auctions are a typical example of how the innovative use of IT can fundamentally change not just the firm itself but the whole industry.

The IT investment pool is not conditional on a firm’s revenues; the simple possession of IT will not improve strategic and other firm goals. Tippins and Sohi (2003) also draw their perspective from RBV literature. They argue that IT can only be a source of competitive advantage if firms understand and develop IT as IT capabilities. To achieve IT capability, they ascertain that three dimensions: IT knowledge; IT operations for example methods, skills, processes; and IT objects for example hardware, software, IT personnel are required and necessary components of IT capability for creating a competitive position. These three components represent co-specialized resources. In their research, the results show that these resources have an indirect impact on firm performance. Specifically, they show that organizational learning is a mediator between IT capability and firm performance. These findings are consistent with previous findings of Powell and Dent-Micaleff (1997) that show how IT can enhance IT performance through and only when it is used to leverage pre-existing, complementary human and business resources.
It is clear that IT alone will not improve performance or create a competitive advantage. In addition, the same applies to any other resource or capability of a firm. IT is essential, firms cannot work without it, the world so to speak cannot spin without it, naturally, as Tippins and Sohi argue (2003), the adoption and integration of IT have become a competitive necessity.

2.3.2 Organizational Culture

Many researchers have given different definitions of culture over time. Taylor (1871) defined culture as a complex whole which includes knowledge, belief, art, law, morals, custom and any other capabilities and habits by man as a member of society. Mathews (2001) defines culture as the system of shared beliefs, values, customs, behaviors and artifacts that the members of society use to cope with their world and with one another, and that are transmitted from generation to generation through learning. UNESCO (2002) defines culture as the set of distinctive spiritual, material, intellectual and emotional features that the members of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and belief.

Jackson (1995) states that organizational culture is a phenomenon of a different order from national culture in that membership to the organization is usually partial and voluntary unlike for national culture where membership is permanent and involuntary. According to him, organizational culture consists of practices rather than values. The practices can be managed by being changed. According to him, the values of employees cannot be changed since they were acquired when the employees were children. However, sometimes the employer can activate values which employees were not allowed to show earlier, like a desire for initiative and creativity, by allowing practices which were forbidden before.
Buellems, Kreitner and Kinicki (2001) argue that organizational culture is, in fact, a byproduct of national or societal culture. They also state that while culture has an impact on organizational behavior through employees' customs and language, at the same time, corporate culture effects on each individual's attitudes, values and expectations. A good organizational culture is important in order to succeed in managing knowledge. A company that lacks in trust and fails to reward or promote cooperation and teamwork will suffer the effects of its bureaucratic culture. Moreover, a company that cannot gain trust from its workforce will have trouble sharing knowledge among its workers within the company (Zand, 1997).

A lack of cultural awareness would be one of the key factors that would make knowledge management fail. Organizational cultures are hard to change since these cultures will normally have developed into general habits. The changing of an organizational culture must be carried out by top management and must be continuous and receive sufficient support from key persons within the organization. It takes the top management several years to maintain the attention and assess the culture (Jackson, 1995).

In Schein, (2004) organizational culture is defined as a “dynamic phenomenon that surrounds us at all times, being constantly enacted and created by our interactions with others and shaped by leadership behavior, and a set of structures, routines, rules, and norms that guide and constrain behavior”. A practical way to define organizational culture is the environment in which we work; these are the member’s behaviors, attitudes, beliefs, skills, perspectives, habits and prejudices. Some of these attributes have been molded by past leaders, either good or bad through years of indoctrination, influence, and reinforcement. The truth remains that leaders of organizations are responsible for the climate they create in their organization.
According to Martin (2000), the key to effective management of knowledge is to create an organizational culture that understands what knowledge is important and then to create processes to put that knowledge into action. Knowledge management aims at adding value for customers through the acquisition, creation, sharing, and reuse of any aspect of knowledge relevant to the organization and its environment, internal and external (Martin, 2000). Organizations need to think beyond what works today. They need to think outside the boundaries of current practices, products, services, organizations, and industries in order to keep up with the more rapid pace of change (Rastogi, 2000). This new business environment puts a premium on creativity and innovation more than ever before (Lahti and Beyerlein, 2000). As a result, organizations need to analyze and plan their business strategies in future business processes (Cross and Baird, 2000).

Effective knowledge management depends not merely on information and information technology, but more on the social environment within which people operate (Gupta and Govindarajan, 2000; Gummer, 1998).

Senior executives agree that people are an organization's most important resource, the most versatile and dynamic knowledge resource, and the basis for an organization's ability to know and learn (Wenger, 1998). For this reason, successful knowledge management must entail cultural considerations (Davenport and Prusak, 2000). Davenport and Prusak explain that a company is a collection of people organized to produce something, whether it be goods, services, or some combination of the two. Their ability to produce depends on what they currently know and on the knowledge that has become embedded in the routines and machinery of production (Davenport and Prusak, 2000). Therefore, the material assets of a firm are of limited worth unless people know what to do with them. If "knowing how to do things" defines what a firm is, then knowledge actually is the company in an important sense (Davenport and Prusak, 2000).
Martin (2000) argues that organizational culture holds the key to successful organizational learning and knowledge management, and that leadership plays a critical role in creating and sustaining this culture. Rastogi (2000) supports the importance of organizational culture in knowledge management by positing that knowledge management cannot be accomplished in the absence of a social environment that is built on trust, cooperation, sincerity, goodwill, help and care, shared values and vision. To gain a competitive advantage, knowledge management seeks to combine people, processes, information and technology together. Malhotra (1997) states “knowledge management caters to the critical issues of organizational adaptation, survival and competence in the face of increasingly discontinuous environmental change. It embodies organizational processes that seek the synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of human beings.”

One of the many responsibilities confronting an organization is the creation and maintenance of organizational characteristics that reward and encourage collective efforts. When managers acknowledge and accept the differentiation of their employees, they will be in a better position to create a company that will both attract and retain a productive workforce.

### 2.3.2.1 The Creation of a Knowledge Sharing Culture

This is about making knowledge sharing the norm. Members of staff must be encouraged to work together more effectively, to collaborate and to share, in order to make organizational knowledge more productive. Gurteen (1999) brings out some issues when he states that sharing knowledge is not just sharing information, the purpose of sharing knowledge is to help an organization reach its business goals and is not just sharing of the benefit of one department, sharing knowledge is as significant as learning to make knowledge productive and it is hard to
change culture. Information sharing is critical because intellectual assets increase in value with use. Properly stimulated, knowledge and intellect grow exponentially when shared. However, competition among professionals often inhibits sharing. The reasons for this reluctance originate from old habits of hoarding knowledge. Possible reasons are: Fear of layoffs - reluctance to share information about mistakes, Competition among professionals and the difficulty of assigning credit to intellectual contributions. Reluctance to share positive knowledge, believing that employee's value and, therefore, job security was tied to their personal expertise.

Getting people to share their knowledge requires not only new processes but also a new covenant between employer and employees (Hibbard and Carrillo, 1998). This requires an overhaul of the old knowledge equation: knowledge = power, so hoard it. The new equation is knowledge = power, so share it and it will multiply. Organizations have experimented with a few approaches like making knowledge related employee behavior a specific target of their projects. A large consulting firm (Davenport et al., 1998) in trying to change their employee's perceptions of their jobs from deliverers of consulting services to creators and distributors of management knowledge and made contributions to the firm's structured knowledge base a significant factor in compensation.

2.3.2.2 Motivating and Rewarding Knowledge Sharing

Both direct and indirect rewards must be put in place to encourage knowledge sharing. The behavior of knowledge sharing can be encouraged when the employees realize that knowledge sharing is valuable for them. Knowledge sharing increases employee effectiveness, it helps employees keep their jobs, helps them in their personal development and career progression and
also rewards them for getting things done (Newell et al., 2002). Successful knowledge sharing must be linked to a company’s reward system.

The organization culture as a leadership concept has been identified as one of the many components that leaders can use to grow a dynamic organization. Leadership in organizations starts the culture formation process by imposing their assumptions and expectations on their followers. Schein, (2004) states that as organizations stabilizes because of success in accomplishing its primary tasks, the leader’s assumptions become shared and embedding those assumptions can then be thought of more as a process of socializing new members. Organizational leaders achieve success by being consistent, in sending clear signals about their priorities, values and beliefs. Once culture is established and accepted, they become a strong leadership tool to communicate the leader’s beliefs and values to organizational members, and especially new comers. When leaders promote ethical culture, they become successful in maintaining organizational growth, the good services demanded by the society, the ability to address problems before they become disasters and consequently are competitive against rivals. Schein, (1999) informs that corporate culture matters, because the decisions made without the awareness of the operative culture forces may have unanticipated and undesirable consequences.

To fully understand the meaning of culture, Schein, (1999) characterizes organizational culture as consisting of three levels. The first level, the behavior and artifacts level represents the most visible level, which is characterized by our behavior and artifacts around us. This observable level of culture consists of behavior patterns and outward manifestations of culture. These cultural characteristics can be observed in the physical layout of work environments, dress codes, and levels of technology, the attitudes and behaviors of the people. The second level the espoused values of an organization to a large extent determine behavior (Schein, 1999). These
values are not observable as our physical behaviors and artifacts. These values are the difference between stated values and operating values. For example, this company values quality, we value our customers and so on (Weber, 2000).

The operating value on the other hand is the actual manifestation of value that is truly in force. Most people in the organization will attribute their behavior to the stated value. To truly understand culture according to Schein, (1999) we have to get to the deepest level the level of assumptions and beliefs. The essence of culture is the learned values, beliefs, and assumptions that become shared and taken for granted as the organization continues to be successful. These components are taken for granted as long as the members of the organization agree that these values, beliefs and assumptions of their founders and leaders led the organization to continued success, and is therefore correct. The opposing question confronting most organizational leaders is whether established cultures can be changed. Organizational cultures are created, maintained, and transformed by people (Kaplan, 2000).

An organizational culture is in part, also created and maintained by the organization’s leaders. Organization founders and leaders at the executive level are the principal source for the generation and reinfusion of organizations ideology, articulation of core values and specific norms. Organizational values express preferences for certain behaviors or outcomes. Organizational norms express behaviors acceptable by others, and are culturally acceptable ways of pursuing goals. Leaders also establish the parameters for formal lines of communication and the formal interaction rules for the organization. Values and norms, once transmitted through the organization, establish the permanence of the organization’s culture. The primary mechanisms: In support of moral and ethical behavior (Award and Ghaziri, 2003).
Leaders must operate from a foundation of high morality and ethical discipline in the organization at all times. They must personally act in accordance with productive values and beliefs, and they must teach, others to do the same. They must establish and promote the culture. With the awareness of culture in today’s organizations, and its strong impact on employee behavior, leaders in organizations can create a culture that supports strong moral and ethical behavior. Over the years, there has been a growing concern in the way many organizations have chosen to do business. With many scandals that have drawn public and media attention to many organizations for participating in illegal and unethical behavior, organizational ethics has developed as a professional and academic disciplines to address some of these concerns. Organizations are now being challenged to be more accountable to their stakeholders and not just their shareholders, and this has made organizations begin to examine the relationship between management and their boards of directors. Moral simply stated is concerned with social practices defining right and wrong (Beauchamp & Bowie, 2004). These practices of right and wrong are transmitted within cultures and institutions from generation to generation.

Organizational ethics on the other hand studies the ethical issues relevant to ways in which organizations influence their members, and the ways in which these members influence each other and the organization Horvath, (1995). Organizational ethics studies organizational culture, and the standards that are relevant in guiding behavior. These standards are derived from the organizations core values, such as honesty, trust, and loyalty. Organizational ethics perceives an organization as a community or culture, focusing on its strengths both past and present. It address the need for an organization to be run in a manner that takes into consideration each member of the organization and how their interactions affect one another as well as the organization (Senge, 1994; Hartman, 2001). Moral and ethical issues, in organizations are not
Organization culture as driver, new to society. Northouse (2004) states that ethics is central to leadership, leaders who engage followers to accomplish mutual goals by nurturing ethical and moral behaviors in their organizations significantly reinforce organizational values. Hartman, (1996) asserts that culture includes laws, rules and systems as well as language, history, formal and informal practices, beliefs and rituals. Therefore, organizational ethics works on the whole of the moral culture of the organization. Corporate culture is the means of inducing any sort of behavior in the organization and is a vehicle for imparting and maintaining the moral principles and the values that govern life in the organization. Schein, (2004) one of the top management thinkers in organizational culture, has recommended five primary embedding mechanisms which leaders can use as major tools to teach their organizations how to perceive, think, feel, and behave, based on their own conscious and unconscious convictions. These primary mechanisms are listed as; what leaders pay attention to, measure, and control on a regular basis; how leaders react to critical incidents and organizational crises; how leaders allocate resources, rewards and status; deliberate role modeling, teaching and coaching and; how leaders recruit, select, promote and excommunicate (Schein, 2004).

Organizational leaders are confronted with many issues on how to generate organizational achievements. The organizational culture stands out as one of the important components that leaders can employ to sustain performance, build ethical and moral organizations and maintain competitive advantage. The leader who understands his organizational culture, and takes it seriously, will be capable of predicting outcomes, and making decisions to counter anticipated consequences. Organizational culture stands out as one of the key components for sustaining performance and attaining a competitive advantage.
2.3.3 Management Commitment

The term top manager usually refers to the chief executive and those reporting to him or her. One of the key assets of enterprises and organizations is their knowledge and top management’s commitment to KM. Top management commitment includes activities such as: active support to KM, setting personal example, communicating company’s KM value, reinforcing knowledge messages, meeting with the work force and the customers, giving formal and informal recognition of KM, personal training, and training others (Schein, 2004).

Top management commitment becomes a reality when a manager of a company or division accepts the responsibility for the successful implementation of the business plan. The manager should get involved and add the expertise and special talent that made him president. You’ll be surprised how much common sense will prevail and how much of it has. Top managers develop and facilitate the achievement of the mission and vision, develop values required for long term success and implement these via appropriate action and behaviors, and are personally involved in ensuring that the organizations management system is developed and implemented. Another important responsibility of top management is establishment of an environment in with performance is rewarded.

In the present postindustrial society, Knowledge has become a key resource. However, organizations face innumerable challenges in nurturing and managing knowledge. Knowledge activities are difficult to monitor and control, because only a part of knowledge is internalized by the organization, the other part is internalized by individuals. This duality between individual knowledge and organizational knowledge demands different sets of management strategies in knowledge management’s success for the organization. The “commitment of top management” is
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one of the important factors for this success. Inkpen (1998) notes that the importance of knowledge in sustaining and enhancing an organization’s competitive advantage places the management of an organization’s knowledge at the top managerial priority.

Assessing the tangible assets of an organization against the intangible ones (KM, forms part of the intangible assets), in 1982 were 62%: 38% and by 1992, these figures just reversed (Blair, 1996). It is estimated that the book value of intangible assets accounted for more than 80% of company’s market values (Weber, 2000). Thus, there is a clear shift in strategy for creating value from tangible asset to knowledge-based strategies that creates and deploys organizations intangible assets (Kaplan, 2000). So, we can see that the world economy is in transition due to the shift in KM. More than half the total GDP in the rich economy is now knowledge based. High-tech industries have nearly doubled their share of manufacturing output over the past two decades to about 25 percent, and knowledge-intensive services are growing even faster.

Knowledge workers from brain surgeons to journalists accounts for eight out of 10 new jobs (Hlupic, 2002). Based on research and experiences from leading global knowledge management case studies critical success factors (CSF) for knowledge management can be broadly categorized into four classes: people, process, technology and sustained strategic commitment. While all four are critical to build a learning organization and get business results from knowledge management. A majority of the organization worldwide implementing knowledge management have found it relatively easier to put technology and process in place, where as the “people” and “sustained strategic commitment” have paused greater challenges.

It is important that senior management send a message that KM is critical to the company’s success. To do this they will; identify what types of knowledge are most important to the
company, describe their vision of how knowledge can make a difference to the organization, behave in a way that is consistent with that vision and provide funding and other infrastructural resources to enable people to act in accordance with their good intentions (Kaplan, 2000).

In businesses known to be managing knowledge effectively, Davenport et al. (1996) identified three further factors that enable the organization to apply maximum effort and commitment to creating, explicating, sharing, applying, and improving its knowledge; understanding the strategic knowledge requirements, devising a knowledge strategy appropriate to the firm’s business strategy, and implementing an organizational and technical architecture appropriate to the organization’s knowledge processing needs.

The contextual motivator at the global management level is a mix of emotional buy-in to the value of knowledge supported by intellectual rationale outlined in the strategy. However, what motivates a leader’s emotional belief in KM initially? This is not clear. Davenport et al. (1998) tell us that knowledge projects differ from other change initiatives because senior management commitment in the early stages is often at a more conceptual level. It rests on an implicit belief in the benefits of KM rather than any firm evidence of realized benefits. In the context of conflicting and competing foci of commitment, it is perhaps important to be aware that small setbacks may have a disproportionately detrimental effect on the durability of commitment that is based solely on conceptual belief. At the local level, any preliminary emotional commitment of individuals who have to implement the strategy is likely to be undermined if they do not have the right tools and resources to do the job. Award and Ghaziri (2003) consider the following factors as top management activities to support KM implication success:
1. Economics and Strategic Planning

For an organization to anticipate its future technology needs, it is extremely important to do long-range strategic planning. Wiig (1997) found that most enterprises pursue one or more of the following Knowledge Management strategies: Knowledge strategy as business strategy, intellectual asset management strategy, personal knowledge asset responsibility strategy, knowledge creation strategy and knowledge transfer strategy. The choice of which KM strategy to pursue is typically based on other strategic thrusts and the value discipline that the enterprise pursues, challenges it faces, and opportunities it wishes to act upon.

2. Training

It is safe to claim that people should be the main driver of KM, Civi (2000), Gooijer (2000), Robertson and Hammersley (2000), Soliman and Spooner (2000). If a KM system is anywhere on the organization’s horizon, human resources should being training knowledge engineering. In terms of human resource training, the focus is placed on developing people who are capable of tapping internal and external information and turning it into useful organizational knowledge.

3. Compensation and Reward

Domain experts must be recognized and rewarded in ways that make them feel it is worth their time to cooperate. The compensation and reward system focuses on promoting knowledge exchange and group collaboration.
4. Performance Appraisal

The performance appraisal apart from providing the input to KM activities, also aims at bringing organizational improvement through effective directing of the employee’s behavior. For successful knowledge management implementation, the visible leadership commitment of top management must be sustained throughout the knowledge management effort. It is thereby posited that the visible top management leadership commitment is critical to successful knowledge management implementation hence a competitive advantage (Abebe, 2012).

2.3.4 Organizational Structure

The organizational structure within a firm can either inhibit or encourage social dialogue between employees, a practice that is vital to effective knowledge creation. Concentrated decision-making authority invariably thwarts the creative process, whereas the dispersion of power facilitates freedom of expression, spontaneity, and experimentation, essential for knowledge creation. A decentralized environment facilitates an organizational environment where employees are encouraged to spontaneously participate in the knowledge building process. The structures must be flexible to encourage and promote these social interactions as well as to give the firm flexibility to adapt to ever-changing business environments. Knowledge creation de-emphasizes work rules and formal policies and structures. Low formalization allows for organizational openness and variation, which encourage new ideas and behaviors (Schein, 2004).

Organizational structure that promotes individualistic behaviors where locations, divisions and functions are rewarded for hording information inhibits effective knowledge management within the organization. The structure of an organization can be defined as the formal relationships and allocation of activities and resource among people. Many studies have examined two major structural dimensions of centralization and formalization from a traditional point of view (Tata
and Prasad, 2004). Centralization refers to the hierarchical level that has the authority to make a decision within an organization. Formalization refers to written documentation, rules and procedures in the organization that affect the communication of knowledge. It also refers to the degree to which formal rules, standard polices and office procedures are controlled (Lee and Choi, 2003).

Centralization usually prevents section interactions, knowledge sharing and knowledge application. It refers to the focus of decision making authority and control in the organization. Decentralization on the other hand, is structural factor that improves knowledge sharing by giving personnel the necessary authorization (Hurley & Green, 2005). However, decentralization may lead to disorderliness and redoubled work. The knowledge domain and distribution must be in line with organization structure and personnel policies. The more flexible the organization structure is, the more important the distribution and the more limited their thinking will be.

Organizational structures are not usually made to be responsive to knowledge management needs. Geographical or functional obstacles may make knowledge distribution difficult or even impossible. Companies need structures based on specific subjects or interests such as capability centers or learning scenes in addition to geographical or functional structures (Probast et al, 2000).

2.4 Research Gap

Very many studies have been carried out on knowledge management and competitive advantage. Despite this, very few have been carried out on the milling sector and none at Unga limited. Amongst the few studies carried out on the linkage between knowledge management and the competitive advantage of firms, there has always been a dispute on the best approach to measure
the effect of KM on competitive advantage. From the available research, there's a clear research gap on the link between KM practices and CA especially in the milling sector.

One task of knowledge management is to help organizations to enhance and expand the innovation process (Karadsheh et al., 2009) to maintain their competitive advantage. According to Okunoye and Bertaux (2008), the benefit and strategic importance of knowledge management is in the ability of an organization to correctly identify which knowledge resources they can improve to gain sustainable competitive advantage. Also, since knowledge has been classified into different types (Gao et al., 2008; Hicks et al., 2006; Wiig, 2004), another task of knowledge management is not to manage all knowledge, but to manage the knowledge that is most essential to the development of the organization.

From the strategic management viewpoint which focuses on understanding the sources of sustainable competitive advantage (Barney, 2001; Priem and Butler, 2001), a wide variety of factors have been shown having a significant impact on the ability of organizations to obtain sustainable competitive advantage, including the relative competence development of an organization to differentiate its products or services (Johannessen and Olsen, 2003; Teece et al., 1997), etc. Knowledge management has also been described for its possible role in creating competitive advantages for organizations (Johannessen and Olsen, 2003; Grant, 1996; Lado and Wilson, 1994). Although the proposition that knowledge management might be able to create sustainable competitive advantage for organizations is agreeable, efforts in this issue are still relatively underdeveloped, from both theoretical and empirical perspectives.

Ong and Ismail (2008) emphasized that firms can achieve a competitive advantage by information technology facilities. He sees that even if a firm owned the most sophisticated
information technology facilities which are impossible for the competitors to imitate or substitute, and for sure it is rare, but if there is no knowledgeable personnel in the organization, or the knowledgeable personnel in the organization is not willing to utilize these facilities, these facilities would not generate any value to the organization. Obviously, to achieve sustainable competitive advantage, knowledge, willingness to use (operations) and availability of facilities must co-exist. Thus, the question is “how should the organizations develop a knowledge management system to coordinate people, technology and infra-structure to create advantages, competitiveness and sustainability in business environments?”

There are a few authors currently researching on this significant aspect of knowledge management-link to CA, including Kong (2007), Safa et al. (2006) and Hurley & Green (2005). Achieving competitive advantage through management of knowledge in the Milling sector is an area demanding more research and this research will help in contributing to this small but growing pool of knowledge.

2.5 Conceptual Framework

In the diagram below, the independent variable is knowledge management enablers and comprises of the following enablers; information technology system, organizational culture and management leadership commitment. The dependent variable is competitive advantage which will be studies from the perspectives of; market share, profitability of the firm and level of research and development within the milling company.

KM is believed to influence CA. A favorable KM environment will have a positive effect on the CA of the firm, while the reverse is true for a negative environment. A positive environment will
result in greater efficiency, effectiveness and performance in the organization as compared to other firms within the same sector.
Figure 2.1: Conceptual framework

**Information technology systems**
- IT knowledge
- IT operations
- IT infrastructure
- Customer relationship management
- E-learning

**Organizational culture**
- Collaboration
- Trust
- Leadership
- Learning
- Risk taking

**Management commitment**
- Economics and Strategic Planning
- Training
- Compensation and Reward
- Performance Appraisal
- Communication

**Organizational Structure**
- Hierarchical arrangement of lines of authority
- Organizational size
- Number of hierarchical levels
- Formalization
- Centralization

**Competitive advantage**
- Market share
- Profitability of the firm
- Level of research and development (best practices)
- Employee attraction and retention

Independent Variable

Dependent Variable

Source: Author, (2013)

In the diagram above, the independent variable is knowledge management which comprises of the following enablers; information technology systems, organizational culture, management...
commitment and organizational structure. The dependent variable is competitive advantage. Knowledge management is believed to influence competitive advantage. A favourable knowledge management environment affects competitive advantage positively, while an unfavourable KM environment affects it negatively.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
This chapter presents the description of the study design, population of interest, the sample, the sampling design, data collection method and the data analysis techniques which was applied in the study.

3.2 Research Design
According to Adams and Schvaneveldt (1985), research design refers to a plan, blueprint or guide for data collection and interpretation. From the objectives, it is evident that the research is both of a quantitative and qualitative nature.

A descriptive study was applied in this study. Descriptive research gives researchers the opportunity to use both quantitative and qualitative data in order to find data and characteristics about the population or phenomenon that is being studied (Mugenda & Mugenda, 1999). The data collection for descriptive research presented a number of advantages since it can provide a very multifaceted approach using interviews, observations, questionnaires and participation.

3.3 Population of Study
Trochin (2000) describes a research population as a group that the researcher wants to generalize and a sample as the group that are selected to be in the study. It is a subset of the population in question (Sekran, 2000). It comprises of a selection of members from that particular population. The population of interest was all the salaried employees of Unga Limited, who number 287 employees with 40 employees at management level and 247 junior staff (Unga Limited payroll, December, 2012).
Table 3.1: Target population

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>40</td>
</tr>
<tr>
<td>Junior Staff</td>
<td>247</td>
</tr>
<tr>
<td>Total</td>
<td>287</td>
</tr>
</tbody>
</table>

Source: Unga Limited payroll, December (2012)

3.4 Sample and Sampling Design

Stratified proportionate random sampling technique was used to select the sample. According to Deming (2006) stratified proportionate random sampling technique produce estimates of overall population parameters with greater precision and ensures a more representative sample is derived from a relatively homogeneous population. Stratification aims to reduce standard error by providing some control over variance. The sample size was determined using Yamane’s formulae as shown below (Yamane, 1967).

\[ n = \frac{N}{1 + (N) e^2} \]

Where:

- \( n \) is the sample size
- \( N \) is the target population, in this case 287, divided into 40 and 247 respectively.
- \( e \) is the standard of error, which is a standard value of 0.05.
Calculation of the sample size based on the figures above gives a sample size of 23 for the management staff and 144 for the junior staff. Based on these calculations, a sample size of 167 employees was used in this study. The sample is shown in the table below.

\[
40 / (1 + (287)^{0.05^2}) = 23 \quad \text{and} \quad 247 / 1.715 = 144
\]

**Table 3.2: Sampling Frame**

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
<th>Ratio</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management</td>
<td>40</td>
<td>0.6</td>
<td>23</td>
</tr>
<tr>
<td>Junior Staff</td>
<td>247</td>
<td>0.6</td>
<td>144</td>
</tr>
<tr>
<td>Total</td>
<td>287</td>
<td>0.6</td>
<td>167</td>
</tr>
</tbody>
</table>

**Source:** Author, (2013)

### 3.5 Data Collection

Both primary and secondary data were collected. Primary data was collected through the use of structured questionnaires, because of the nature of the variables where the opinions, perceptions and feeling of the respondents were sought. The respondents to the questionnaires were also literate. The study instruments were distributed among the targeted respondents using various points of reference like the managers of departments. Sufficient support was provided to managers who will share it with the study respondents to understand and answer the questions asked accurately. The questionnaire comprised of questions related to both the dependent and independent variables. To enhance reliability and accuracy of the data, respondents were assisted and facilitated during the questionnaire filling time. This ensured that few questionnaires were rejected.
Secondary data was collected from both internal and external sources. Internal sources include data collected by the milling company while external sources include data originating from outside the milling company such as the government, commercial sources, millers association, inter and intra industry sources, academic libraries and institutes of economic surveys amongst other sources.

3.6 Validity and Reliability

Validity is the ability of an instrument to measure what it is intended to measure (Gay, 1987). Peers doing research in different areas and others who have successfully completed their research projects and a lecturer from the Kenyatta University were involved in the validation process. The instruments were given to my supervisor and three peers. Two of the peers have successfully completed their research projects while the other one is carrying out their project in a different field. They were asked to validate the instruments on the basis of content and face validity. They helped to ensure that the items in each questionnaire captured the intended information accurately according to the objectives of the study.

A pilot test was carried out with a sample of 25 respondents at Unga Limited's Nairobi branch. The pilot test helped in identifying problems that respondents encounter and ensures that the items in the research instruments yield the required data for the main study. Returned questionnaires helped the researcher to refine the survey instruments. To improve the comprehensibility and clarity of the questionnaires, difficult words were substituted with simpler words; some items were reworded to ensure that the understanding level was more appropriate.
3.7 Data Analysis

The returned questionnaires were checked for consistency, cleaned, and the useful ones coded and analyzed using the Statistical Package for Social Sciences (SPSS) computer software. After collecting data responses from the questionnaire, the researcher analyzed the quantitative data using descriptive statistics by applying the statistical Package for Social Science (SPSS V.17.0) and presented through percentages, means, standard deviations and frequencies. The use of structured questionnaires enabled the researcher to quantify quantitative data using the size, frequency distribution, and association of variables in the study population and answers to questions that could be counted and expressed numerically. The qualitative data was coded thematically and then analyzed statistically. Content analysis was used for data that is qualitative nature or aspect of the data collected from the open ended questions and the focus group discussions. The information was displayed by use of tables, graphs and in prose-form.

In addition, the researcher conducted a multiple regression analysis so as to determine the effects of each of the four variables on competitive advantage. The regression equation was:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Where: \( Y = \) Competitive advantage

\( \beta_0 = \) Constant

\( X_1 = \) Information technology systems

\( X_2 = \) Organizational culture

\( X_3 = \) Management commitment

\( X_4 = \) Organizational Structure

\( \varepsilon = \) Error Term
3.7 Ethical Considerations

Consent was sought from the human resource manager in conjunction with the finance director for the entire project including the distribution of the questionnaires to the respondents. Each respondent was made fully aware of the nature and purpose of the research. They were assured of the anonymity of their responses. These conditions were acceptable to all the respondents. Undertakings were made to the managers involved that no information was made public without prior consent, after they had been provided with an opportunity to review the findings of the research. The final research report was made available to the staff of Unga Limited who expressed an interest in reading it, and was also available at the Kenya University library.
4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research methodology. The study findings and discussions are presented on to investigate the effect of knowledge management enablers on the competitive advantage of Unga limited.

4.1.1 Response Rate

The study targeted a sample of 167 respondents. As Table 4.1 below shows, 120 respondents filled in and returned the questionnaire giving a response rate of 71.86%. This commendable response rate was made a reality after the researcher made personal visits to remind the respondent to fill-in and return the questionnaires. This response rate was excellent and representative and conforms to Mugenda and Mugenda (2010) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.
Table 4.1: Response Rate

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responses</td>
<td>120</td>
<td>71.86</td>
</tr>
<tr>
<td>Non-responses</td>
<td>47</td>
<td>28.14</td>
</tr>
<tr>
<td>Total</td>
<td>167</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013

4.2 Demographic Information

4.2.1 Gender

The study sought to establish the gender of the respondents. From the findings 4.1 below, 92% of the respondents indicated that they were male while those who indicated that they were female were 8%.

Table 4.2: Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>22</td>
<td>92</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013
4.2.2 Age Bracket

The study also sought to determine the age bracket of the respondents. From the findings, 40% of the respondents indicated that they were aged between 26-35 years, 30% were aged between 46-55 years, 20% were aged between 18-5 years while 10% were aged 36-45 years.

Table 4.3: Age Bracket

<table>
<thead>
<tr>
<th>Age Bracket</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25 years</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>26-35 years</td>
<td>48</td>
<td>40</td>
</tr>
<tr>
<td>36-45 years</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>46-55 years</td>
<td>36</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013

4.2.3 Highest Education Level

From the findings, 60% of the respondents indicated that they had a postgraduates degree, 35% of the respondents indicated that they had a bachelors degree while 5% of the respondents indicated that they had a diploma.
Table 4.4: Highest Education Level

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Bachelors</td>
<td>42</td>
<td>35</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>72</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013

4.2.4 Years of Service/Working Period

According to the findings, 88% of the respondents had served for between 1-10 years, 7% of the respondents had served for between 10-20 years while 5% of the respondents had served for between 20-30 years.

Table 4.5: Years of Service/Working Period

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10 years</td>
<td>106</td>
<td>88</td>
</tr>
<tr>
<td>20-30 years</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>10-20 years</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013
4.3 Information Technology Systems

Table 4.6: Information Technology Systems

<table>
<thead>
<tr>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0417</td>
<td>1.19707</td>
</tr>
<tr>
<td>3.9167</td>
<td>4.26224</td>
</tr>
<tr>
<td>3.6789</td>
<td>1.21584</td>
</tr>
</tbody>
</table>

Our company has the necessary IT infrastructure already in place. (i.e. personal computers, phones, videoconferencing technologies, data bases).

The company has created space and places that aid face to face transfer of tacit knowledge.

The IT infrastructure in place has user friendly tools that facilitate the capture, communication and collaboration of knowledge.

There is consistent and adequate training on the use of knowledge technologies.

Source: Survey Data, 2013

From the findings, the respondents strongly agreed that the company had the necessary IT infrastructure already in place. (i.e. personal computers, phones, videoconferencing technologies, data bases) as shown by a mean score of 4.7083, the respondents also agreed that the IT infrastructure in place had user friendly tools that facilitated the capture, communication and collaboration of knowledge, that the company had created space and places that aid face to face transfer of tacit knowledge and that there was consistent and adequate training on the use of knowledge technologies as shown by a mean score of 4.0417, 3.9167 and 3.6789 respectively.
4.4 Management Commitment

Table 4.7: Management Commitment

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge management activities that facilitate knowledge creation through the creation of insights, skills and relationships are in existence.</td>
<td>3.8333</td>
<td>1.57885</td>
</tr>
<tr>
<td>There is ease of access to and ease of transmission of information to those who need it within organization.</td>
<td>4.7080</td>
<td>1.23285</td>
</tr>
<tr>
<td>Acquired information is easily integrated into the organization for use as needed.</td>
<td>4.3333</td>
<td>1.30773</td>
</tr>
<tr>
<td>Appropriate reward systems that encourage knowledge sharing have been put in place.</td>
<td>4.7917</td>
<td>1.53167</td>
</tr>
<tr>
<td>Appropriate learning systems have been implemented.</td>
<td>4.2083</td>
<td>1.31807</td>
</tr>
<tr>
<td>The organization’s human resource policy encourage the hiring of employees who accommodate the knowledge management principle of knowledge transfer and sharing</td>
<td>4.0343</td>
<td>1.3454</td>
</tr>
<tr>
<td>The company hire employees with a solid educational background with a high absorptive capacity</td>
<td>4.5432</td>
<td>1.2456</td>
</tr>
<tr>
<td>The company have policies in place that institute training, job rotation and avail learning opportunities for its employees</td>
<td>4.3452</td>
<td>1.5678</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013
From the findings, the respondents strongly agreed that appropriate reward systems that encouraged knowledge sharing had been put in place, that there was ease of access to and ease of transmission of information to those who needed it within organization and that the company hired employees with a solid educational background with a high absorptive capacity as shown by a mean score of 4.7917, 4.7080 and 4.5432 respectively. The respondents also agreed that the company had policies in place that instituted training, job rotation and avail learning opportunities for its employees, that acquired information was easily integrated into the organization for use as needed, that appropriate learning systems had been implemented, that the organization's human resource policy encouraged the hiring of employees who accommodated the knowledge management principle of knowledge transfer and sharing and that Knowledge management activities that facilitated knowledge creation through the creation of insights, skills and relationships are in existence as shown by a mean score of 4.3452, 4.3333, 4.2083, 4.0343 and 3.8333 respectively.
4.5 Organizational Culture

Table 4.8: Organizational Culture

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The organization corporate culture creates a learning environment that encourages knowledge activities and values knowledge</td>
<td>3.5450</td>
<td>0.88465</td>
</tr>
<tr>
<td>The employees are willing to contribute to and use knowledge management systems</td>
<td>3.5833</td>
<td>1.01795</td>
</tr>
<tr>
<td>The company culture tolerate risk taking</td>
<td>3.6258</td>
<td>1.20911</td>
</tr>
<tr>
<td>The organization is open to external ideas</td>
<td>3.7083</td>
<td>0.95458</td>
</tr>
<tr>
<td>The culture show commitment and support to knowledge management activities</td>
<td>3.7567</td>
<td>1.32698</td>
</tr>
<tr>
<td>Solid educational background and training that enhances its absorptive capacity</td>
<td>3.7231</td>
<td>1.0945</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013

According to the findings, the respondents agreed that the culture showed commitment and support to knowledge management activities, that solid educational background and training enhanced its absorptive capacity, that the organization was open to external ideas, that the company culture tolerated risk taking, that the employees were willing to contribute to and use knowledge management systems and that the organization corporate culture created a learning environment that encourages knowledge activities and values knowledge as shown by a mean score of 3.7567, 3.7231, 3.7083, 3.6258, 3.5833 and 3.5450 respectively.
## 4.6 Organizational Structure

### Table 4.9: Organizational Structure

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of business units</td>
<td>3.5667</td>
<td>0.96309</td>
</tr>
<tr>
<td>Functional coordination (with responsibility for key functions unified under the business unit manager)</td>
<td>3.6333</td>
<td>0.70196</td>
</tr>
<tr>
<td>Management dominance</td>
<td>3.7532</td>
<td>1.18872</td>
</tr>
<tr>
<td>Hierarchical arrangement of lines of authority</td>
<td>3.9583</td>
<td>0.69025</td>
</tr>
<tr>
<td>Organizational size</td>
<td>3.7083</td>
<td>1.08264</td>
</tr>
<tr>
<td>Number of hierarchical levels</td>
<td>3.7167</td>
<td>1.34864</td>
</tr>
<tr>
<td>Level of formalization</td>
<td>3.5432</td>
<td>0.43214</td>
</tr>
<tr>
<td>Degree of centralization</td>
<td>3.6522</td>
<td>0.56784</td>
</tr>
</tbody>
</table>

**Source: Survey Data, 2013**

According to the findings, the respondents agreed that hierarchical arrangement of lines of authority, management dominance, number of hierarchical levels, degree of centralization, functional coordination (with responsibility for key functions unified under the business unit manager), number of business units and level of formalization as shown by a mean score of 3.9583, 3.7532, 3.7167, 3.6522, 3.6333, 3.5667 and 3.5432 respectively.
4.7 Trend of the Following in Business for the Last Five Years

Table 4.10: Trend of the Following in Business for the Last Five Years

<table>
<thead>
<tr>
<th>Market share</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability</td>
<td>4.2716</td>
<td>.56106</td>
</tr>
<tr>
<td>Level of research and development (best practices)</td>
<td>4.2373</td>
<td>.63552</td>
</tr>
<tr>
<td>Sales turnover</td>
<td>4.1925</td>
<td>.68253</td>
</tr>
<tr>
<td>Employee attraction and retention</td>
<td>4.3166</td>
<td>.49875</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013

According to the findings, the respondents indicated that sales turnover, market share, profitability and level of research and development (best practices) had improved in the last five years as shown by a mean score of 4.3166, 4.2716, 4.2373 and .1925 respectively, the respondents also indicated that employee attraction and retention had decreased in the last five years as shown by a mean score of 2.4269.

4.8 Regression analysis

In this study, a multiple regression analysis was conducted to test the influence among predictor variables. The research used statistical package for social sciences (SPSS V 17.0) to code, enter and compute the measurements of the multiple regressions.
The multiple regression model was:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Where:  
- \( Y \) = Competitive advantage  
- \( \beta_0 \) = Constant  
- \( X_1 \) = Information technology systems  
- \( X_2 \) = Organizational culture  
- \( X_3 \) = Management commitment  
- \( X_4 \) = Organizational Structure  
- \( \varepsilon \) = Error Term

Table 4.11: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.863</td>
<td>.647</td>
<td>.578</td>
<td>.0096</td>
</tr>
</tbody>
</table>

**Source: Survey Data, 2013**

R-Square (coefficient of determination) is a commonly used statistic to evaluate model fit. R-square is 1 minus the ratio of residual variability. The adjusted \( R^2 \), also called the coefficient of multiple determinations, is the percent of the variance in the dependent explained uniquely or jointly by the independent variables. 64.7% of the changes in competitive advantage could be attributed to the combined effect of the predictor variables.
Table 4.12: ANOVA (Analysis of Variance)

<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>801.503</td>
<td>9</td>
<td>89.056</td>
<td>45.6252</td>
<td>.000a</td>
</tr>
<tr>
<td>Residual</td>
<td>214.713</td>
<td>110</td>
<td>1.9519</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1016.216</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013

a. Predictors: (Constant), Information technology systems, Organizational culture Management commitment and Organizational Structure

b. Dependent Variable: Competitive advantage

The ANOVA table shows that the residual sum of squares (the sum of squared deviations from the least squares line) is 214.713, while the total sum of squares (the sum of squared deviations from the mean) is 1016.216. The probability value of 0.001 indicates that the regression relationship was highly significant in predicting how information technology systems, organizational culture, management commitment and organizational Structure affect the competitive advantage of Unga Limited. The F critical at 5% level of significance was 3.671 since F calculated is greater than the F critical (value = 45.6252), this shows that the overall model was significant.
Table 4.13: Estimated Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients (B)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Const.</td>
<td>28.19</td>
<td>1.25e-09 **</td>
</tr>
<tr>
<td>Information technology</td>
<td>0.412</td>
<td>0.0104 **</td>
</tr>
<tr>
<td>Management commitment</td>
<td>0.332</td>
<td>0.0387 **</td>
</tr>
<tr>
<td>Organizational culture</td>
<td>0.221</td>
<td>0.0234 **</td>
</tr>
<tr>
<td>Organizational structure</td>
<td>0.310</td>
<td>0.0112 **</td>
</tr>
</tbody>
</table>

Source: Survey Data, 2013

** Significant at 5%

The “coefficients” table provides the regression equations. Under “unstandardized coefficients,” the “Constant” (28.19) is the “$\beta_0$” coefficient. The remaining values in this column are the “$\beta_{1-4}$” coefficients. Rewriting this in standard algebraic form, the unstandardized regression equation is:

\[ Y = 28.19 + 0.412X_1 + 0.332X_2 + 0.221X_3 + 0.310X_4 + \varepsilon \]

A unit change in information technology systems will lead to a 0.412 change in competitive advantage. A unit change in management commitment will lead to a 0.332 change in competitive advantage. A unit change in organizational culture will lead to a 0.706 change in competitive advantage. While a unit change in the organizational structure will lead to a 0.710 change in competitive advantage.
Table 4.13 shows that information technology systems, organizational culture, management commitment and organizational Structure at 1% and 5% level of significance, they are significant in explaining the variations in competitive advantage.
CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This chapter presented the discussion of key data findings, conclusion drawn from the findings highlighted and recommendation made there-to. The conclusions and recommendations drawn were focused on addressing the objective of the study.

5.2 Summary of Findings
The study sought to establish the effect of knowledge management enablers on the competitive advantage of Unga limited.

5.2.1 Information Technology Systems
The study deduced that the company had the necessary IT infrastructure already in place. (i.e. personal computers phones, videoconferencing technologies, data bases .The study also deduced that IT infrastructure in place had user friendly tools that facilitated the capture, communication and collaboration of knowledge and that the company had created space and places that aid face to face transfer of tacit knowledge and that there was consistent and adequate training on the use of knowledge technologies.

5.2.2 Management Commitment
The study further established that appropriate reward systems that encouraged knowledge sharing had been put in place, that there was ease of access to and ease of transmission of information to those who needed it within organization and that the company hired employees with a solid educational background with a high absorptive capacity. The study also revealed that
the company had policies in place that instituted training, job rotation and avail learning opportunities for its employees, that acquired information was easily integrated into the organization for use as needed, that appropriate learning systems had been implemented, that the organization’s human resource policy encouraged the hiring of employees who accommodated the knowledge management principle of knowledge transfer and sharing and that Knowledge management activities that facilitated knowledge creation through the creation of insights, skills and relationships are in existence.

5.2.3 Organizational Culture

The study established that the culture showed commitment and support to knowledge management activities, that solid educational background and training enhanced its absorptive capacity, that the organization was open to external ideas, that the company culture tolerated risk taking, that the employees were willing to contribute to and use knowledge management systems and that the organization corporate culture created a learning environment that encourages knowledge activities and values knowledge.

5.2.4 Organizational Structure

This study also revealed that hierarchical arrangement of lines of authority, management dominance, number of hierarchical levels, degree of centralization, functional coordination (with responsibility for key functions unified under the business unit manager), number of business units and level of formalization affected competitive advantage.

5.3 Conclusion

Unga Limited recognizes the need to become directly involved in the management of new technology in the face of rapid change, but does not know how Information technology
encompasses the information that businesses’ create and use as well as a wide spectrum of increasingly convergent and linked technologies that process the information.

The study further concludes that a good organizational culture is important in order to succeed in managing knowledge. A company that lacks in trust and fails to reward or promote cooperation and teamwork will suffer the effects of its bureaucratic culture.

5.4 Recommendations

The study recommends that for successful knowledge management implementation, the visible leadership commitment of top management must be sustained throughout the knowledge management effort. It is thereby posited that the visible top management leadership commitment is critical to successful knowledge management implementation hence a competitive advantage.

It is important that senior management send a message that KM is critical to the company’s success. To do this they will; identify what types of knowledge are most important to the company, describe their vision of how knowledge can make a difference to the organization, behave in a way that is consistent with that vision and provide funding and other infrastructural resources to enable people to act in accordance with their good intentions.

The manager should get involved and add the expertise and special talent that made him president.

Knowledge has become a key resource. However, organizations face innumerable challenges in nurturing and managing knowledge. Knowledge activities are difficult to monitor and control, because only a part of knowledge is internalized by the organization, the other part is internalized by individuals. This duality between individual knowledge and organizational knowledge demands different sets of management strategies in knowledge management’s success for the
organization. The “commitment of top management” is one of the important factors for this success.

5.5 Recommendations for further studies

From the study and related conclusions, the researcher recommends that a study should be carried out to establish the factors that affecting knowledge management enablers. A study should also be carried out to find out the importance of organizational culture in knowledge management.

Moreover a study on the challenges facing the knowledge management enablers on the competitive advantage is also recommended.
REFERENCES


APPENDICES

Appendix I: Introduction letter

Kenyatta University,
P.O. Box 43844-00100,
Nairobi, Kenya.

Unga Limited,
P.O. Box
Nairobi, Kenya.

RE: INTRODUCTION LETTER

Dear Sir/ Madam,

I am an MBA student at Kenyatta University. I intend to carry out a research on EFFECTS OF KNOWLEDGE MANAGEMENT ENABLERS ON THE COMPETITIVE ADVANTAGE OF MILLERS IN KENYA. Your institution has been identified as a rich source of information. I therefore request you to allow me to collect data required for the study from your area of jurisdiction. The information provided will be confidential and will only be used for academic purpose.

Thanks in advance.

Yours faithfully

PATRA WAMBUI THANDI
28th October, 2013

TO WHOM IT MAY CONCERN:

REF: KU/MBA-PHD/RECOMM. LETTERS/VOL IV (9)

RE: PATRA WAMBUI THANDI – D53/CTY/PT/21278/2010

This is to confirm that the above named is a Master of Business Administration (Strategic Management Option) student in the School of Business, Kenyatta University.

She is through with course work and has successfully defended her MBA Project proposal (Effects of Knowledge Management on the Competitive Advantage of Millers of Kenya: A Case of Unga Limited). I confirm that she has done all the corrections that were pointed out by the examiners during the defense and she is now embarking on data collection.

Any assistance accorded her will be much appreciated by this office.

Thank you.

JAMES KILIKA (PhD)
DOCTORAL AND MBA PROGRAMME COORDINATOR

JMK/nt
Appendix II: Questionnaire

EFFECTS OF KNOWLEDGE MANAGEMENT ENABLERS ON THE COMPETITIVE ADVANTAGE OF MILLERS IN KENYA

The purpose of this questionnaire is to help collect data for an MBA project in Kenyatta University. All respondents and information provided will be treated as confidential.

Respondent no.................................................................

SECTION A: Background of respondents

Please answer the following questions by placing a tick ( ) where necessary in the spaces provided

1) What is your age?
   18 - 25 [ ] 26 - 35 [ ]
   36 - 45 [ ] 46 - 55 [ ]
   56 and above [ ]

2) What is your gender? Male [ ] Female [ ]

3) What is your highest academic qualification?
   Certificate [ ] Diploma [ ]
   Bachelor’s degree [ ] Post graduate [ ]

4) How many years have you served at Unga Limited?
   Less than 1 year [ ] 1-5 years [ ]
6-10 years [ ]  
11-15 years [ ]  

More than 15 years [ ]
SECTION B: KNOWLEDGE MANAGEMENT ENABLERS AND COMPETITIVE ADVANTAGE

5) Please indicate by ticking the appropriate box the extent to which you agree with each statement. Use a scale of 1-5 where 1=strongly agree, 2= agree, 3= neutral, 4= disagree and 5= strongly disagree

<table>
<thead>
<tr>
<th>Information technology systems</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our company has the necessary IT infrastructure already in place. (i.e. personal computers phones, videoconferencing technologies, data bases).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The company has created space and places that aid face to face transfer of tacit knowledge.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The IT infrastructure in place has user friendly tools that facilitate the capture, communication and collaboration of knowledge.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is consistent and adequate training on the use of knowledge technologies.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Management commitment</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge management activities that facilitate knowledge creation through the creation of insights, skills and relationships are in existence.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is ease of access to and ease of transmission of information to those who need it within organization.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquired information is easily integrated into the organization for use as needed.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate reward systems that encourage knowledge sharing have been put in place.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriate learning systems have been implemented.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The organization’s human resource policy encourage the hiring of employees who accommodate the knowledge management principle of knowledge transfer and sharing.

The company hire employees with a solid educational background with a high absorptive capacity.

The company have policies in place that institute training, job rotation and avail learning opportunities for its employees?

**Organizational culture**

The organization corporate culture creates a learning environment that encourages knowledge activities and values knowledge.

The employees are willing to contribute to and use knowledge management systems.

The company culture tolerate risk taking.

The organization is open to external ideas.

The culture show commitment and support to knowledge management activities.

Solid educational background and training that enhances its absorptive capacity.

**Organizational Structure**

Number of business units

Functional coordination (with responsibility for key functions unified under the business unit manager).

Degree of management dominance

Hierarchical arrangement of lines of authority

Organizational size

Number of hierarchical levels

Level of formalization
6) What is the trend of the following in your business for the last five years?

<table>
<thead>
<tr>
<th></th>
<th>Greatly Improved</th>
<th>Improved</th>
<th>Constant</th>
<th>Decreasing</th>
<th>Greatly decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level of research and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>development (best practices)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales turnover</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee attraction and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>retention</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

THANK YOU VERY MUCH FOR YOUR CO-OPERATION