# EFFECT OF KNOWLEDGE MANAGEMENT ON PERFORMANCE OF SMALL AND MEDIUM ENTERPRISES IN KISUMU CITY, KENYA

BY

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## ABSTRACT

Knowledge management is a relatively new discipline in management; it is practiced in businesses including Small and Medium Enterprises (SMEs). Globally SMEs suffer a high failure rate of more than 50% in the first five years of coming into existence, in Africa 70% and in Kenya 60% of SMEs fail within their first three years of operation. Past studies have outlined various reasons for business failure, but no known studies have examined the effect of knowledge management on performance of SMEs in Kisumu City. The study area was chosen because of the 34% failure rate of SMEs in Kisumu City. The purpose of this study was to establish the effect of knowledge management infrastructure, processes, and role of knowledge management in performance of SMEs in Kisumu City, the specific objectives were to identify whether knowledge management infrastructure was in place in SMEs, to examine if knowledge management processes were used in SMEs, and to establish the role of knowledge management in contributing to performance of SMEs in Kisumu City. The independent variable was knowledge management with Knowledge Management Infrastructure (KMI) and Knowledge Management Processes (KMP) as its dimensions while the dependent variable was Organization Performance (OP) with profitability and sales growth as its dimensions. The researcher used cross sectional survey design suited for obtaining data at a defined time to conduct a survey in a sample population of 324 from a target population of 2047 SMEs chosen using simple random sampling technique. A questionnaire was administered to key informants of the SMEs. Reliability was tested using the test-retest technique; a Cronbach's alpha coefficient of 0.82 was calculated, suggesting a high internal consistency. Validity was tested using the predictive method; a Pearson's correlation coefficient of 0.79 was obtained which showed evidence of validity. Descriptive statistics was used, the mean for KMI was 3.46, standard deviation (SD) of 0.82 and 24% variability meaning that majority of responses in the variable KMI were neutral, the mean for KMP was 3.52, SD of 0.72 and 20% variability meaning that majority of responses in the variable KMP were in agreement, the mean for the OP was 3.33, SD of 0.74 and 22% variability in the responses meant that most responses were neutral. Inferential statistics was done using Spearman's rank correlation, the results show that there was positive ρ (Rho) value of 0.67 between KMI and KMP; a positive ρ value of 0.33 between KMI and OP; and a positive ρ value of 0.37 between KMP and OP, all showing a moderate association. The study concluded that KMI was underdeveloped, KMP were underused, and knowledge management contribution to organisation performance was minimal in SMEs in Kisumu City. The researcher recommends that SME owners improve knowledge management infrastructure by acquiring low cost ICT tools; that SME owners and employees acquire and continuously update their skills on the use of ICT tools and processes; that SMEs include knowledge management as a function in their management activities. The study may be significant in providing new insights on knowledge management practices in SMEs in Kisumu and contribute to the little knowledge management literature there is in SMEs in general.

# CHAPTER ONE: INTRODUCTION

This section provides the basis of the study. It provides the background of knowledge management in the SME context; it explicates the statement of the problem; it outlines the objectives and the research questions, scope of the study, justification and significance of the study.

## 1.1 Background of the study

Knowledge management is a relatively new discipline in management (Hick, 2006) and is probably still developing its theoretical home (Darroch, 2005). According to Gloet and Terziovski (2004), knowledge management is the formalisation and access of experience, knowledge, and expertise that creates new capabilities, enables superior performance, encourages innovation and enhances customer value. The main purpose of knowledge management is to enhance exploitation where existing knowledge is captured, transferred and deployed in other similar situations or exploration where knowledge is created (Levinthal & March, 1993). Knowledge management is about supporting innovation, the generation of new ideas and the exploitation of the organisation's thinking power (Parlby & Taylor, 2000). The definition of knowledge management adopted in this study is that knowledge management (KM) is the art of creating commercial value from intangible assets. In this study knowledge management was characterized by knowledge management infrastructure consisting of organization structure, and Information and Communication Technology (ICT); and knowledge management processes consisting of knowledge creation, knowledge capture, knowledge storage, knowledge sharing, and knowledge utilization.

Knowledge management is practiced with the support of organization structure. Organization structure may be considered as the anatomy of the organization which provides a foundation in which the organization functions. An organization can be equated to a building, the specific structure of a building will determine which activities or functions will be carried out in it and will influence behaviour in organizations, the influence while not as noticeable as a building, is assumed to be pervasive (Dalton *et al.*, 1980). A transparent organizational structure makes it easy for the organization to share corporate goals and plans with employees; it is within organization structure that managers make decisions. When organizations do not have a strong organizational structure, opportunities and complaints can

be lost, managers in SMEs are riddled with management incompetence because managers lack leadership ability and management knowledge (Desai, 2011).

ICT refers to the set of tools, processes, and methodologies used to create, store, exchange, and use information. ICT is an enabler for acquiring, organising, storing, and sharing knowledge. ICT has a greater positive influence on knowledge management when the quality of ICT tools, quality of information, user satisfaction, usage and accessibility is higher (Rasula *et al.*, 2012).

Dalton *et al.* (1980) and Desai (2011) discussed Knowledge management infrastructure in terms of organization structure while Rasula *et al.* (2012) discussed knowledge management infrastructure in terms of ICT, however the aforementioned studies do not delve into whether such infrastructure is actually in place since they propound what and why infrastructure should be in place.

Knowledge creation is the process of obtaining new knowledge from information; the new knowledge can be tacit or explicit knowledge. The new knowledge can be better used to generate new ideas and innovations in an organization which in turn can improve processes and thus perfect employees' capabilities (Marques & Simon, 2006).

Knowledge capture is retrieving tacit or explicit knowledge, according to Greenes Consulting (2010) knowledge capture is a process of identifying, eliciting, distilling, packaging and publishing knowledge. When accumulated knowledge such as experience by experts working in an organization is not captured it is lost.

Knowledge storage is the process of keeping knowledge whether physical or non-physical resources within an organization. Knowledge is lost where little effort has been put into storing it thus leading to poor decision making because the organization is littered with well-meaning but poorly targeted knowledge management activities (Robertson, 2004).

Knowledge sharing is distributing or disseminating knowledge. Knowledge sharing can promote knowledge diffusion, improve an organization's workflow and centralize knowledge. Improvement in working performance is also achieved through integration of knowledge from multiple sources (Ho, 2009).

Knowledge utilization is using or applying knowledge. Knowledge that is not utilized despite being captured and stored is as good as no knowledge; organizations that do not utilize knowledge lack innovation because they are stuck with old or little knowledge, furthermore utilized knowledge does not necessarily result in improved performance (Kalling, 2003).

Various studies have explicated the importance of knowledge management processes such as knowledge creation (Marques & Simon, 2006), knowledge capture (Greenes Consulting, 2010), knowledge storage (Robertson, 2004), knowledge sharing (Ho, 2009), and knowledge utilization (Kalling, 2003), however the foregoing studies expound the usefulness and importance while not looking at the actual usage or utilization of the practices or processes.

Knowledge management can play a role in performance of an organization in various ways and measured as covering perceived usefulness, market share, profitability and growth rate, innovativeness, customer satisfaction, sales growth, efficiency and effectiveness, return on investment, productivity, competitiveness, and cost performance (Zaied *et al.*, 2012). Knowledge management also plays a role in the success of organizations which utilize more and better knowledge than others but conversion of knowledge into improved performance is not automatic or even free from problems (Kalling, 2003).

Ingram (1996) defines performance in the context of the world of work as meaning either the way a business is conducted or a successful outcome; it is mostly understood to mean system outputs in organizations; it may also be characterized by the twin components of efficiency and effectiveness, he contends that managers must be concerned with the interpretation of how business is carried out and the success outcome because both processes and outcomes affect the success of an organization. He further explains that individuals are constantly assessing performance and outcomes everyday using personal sets of scales based on aspirations and previous performance implying that performance is many a time judged against subjective criteria that vary from person to person. In this study performance was characterized by profitability and sales growth.

Profitability is the state or condition of yielding a financial profit or gain as measured by price to earnings ratio. If a business is not making profit then it may not sustain itself in the long run and may wind down. Rising profits in some industries and declining profits in others reflect changes in societal preferences for goods and services. Rising profits indicates to

existing firms that it is time to expand production while declining profits signal producers that society wants less of a particular good or service, presenting existing firms with an incentive to reduce production or to exit the industry entirely (Webster, 2003).

Sales growth refers to the increase in sales over a specific period of time, typically from year to year. It has been found that businesses with high sales growth tend to be significantly more active in knowledge management than the others (Salojarvi *et al.*, 2005).

From the studies done by Zaied *et al.* (2012) and Kalling (2003), knowledge management is important in the success of organization, Zaied *et al.* (2012) outlines several parameters that can be used to measure knowledge management performance while Kalling (2003) acknowledges that knowledge utilization is significant to the success of an organization, however what they do not explicated is the role of knowledge management in contributing to profitability and sales growth.

Knowledge management practice transcends all organizations including Small and Medium Enterprises (SMEs); small businesses have a long history traceable to ancient cultures such as the Egyptians, Arabs, Babylonians, Jews, Greeks, and Romans. The first documentation about a small business dates back to about 4000 years ago when a bank loaned money to a small business with terms and conditions. In Babylon, Hammurabi the king of Babylon who ruled from 1792 to 1750 B.C.E introduced the first business laws to regulate the small businesses that were cheating customers and producing inferior goods and services ("History, definition and regional concepts of SMEs", 2012). Between 500 B.C.E and the Christian era Roman and Greek chariot and ox-cart drivers began to establish commercial contacts with Western and Sudanic Africans across the Sahara, the traders exchanged their copper, cloth, ironware, swords, beads and horses from the Mediterranean with ivory, slaves, precious stones and tropical wild animal products from Africa (Ochieng', 1992). In the 18$^{th}$ century small businesses were created in United States when the country started transitioning from an agricultural dominated society to an industrial society, this move changed self-employment statistics drastically so that by 1900 C.E, about 80% of the workforce was self-employed while about 20% worked for other firms (Safiriyu & Njogo, 2012), in England during the same period, the industrial revolution was evolving with the entrepreneurs synonymous with small business playing a critical role in risk taking and the transformation of resources

(Kuratko & Hodgetts, 2007). In pre-colonial Kenya, commerce was limited due to underdeveloped transport infrastructure. Over-production often meant that surpluses were not disposable, that however changed with the penetration of indigenous economies by capitalism in the 19th century when the communities such as the Akamba, Mijikenda, Kikuyu and Luo which lived along the Uganda railway line and the long distance trade routes began to produce surpluses to sell to travellers, traders, officials and missionaries, the surplus increase was more dramatic along the coast as a response to the huge developing commercial system of the Indian ocean linking East Africa, India, Arabia and Europe (Ochieng', 1992). The imposition of hut tax in 1902 provided strong stimulus for African household to get involved in commodity production for sale, the monetization of exchange continued so that by 1945 it was firmly embedded (Maxon, 1992). By 1960, Europeans dominated the Kenyan economy and owned large scale farms and businesses; followed by Asians (Indians, Pakistanis, Goans, and Arabs) who owned a large part of small-scale agricultural and industrial production, and handled the bulk of retail and wholesale trade throughout the country; the Africans were at the bottom as they were peasants who lived by subsistence farming in rural Kenya but by 1970 more than two thirds of the old European mixed farms had been given to 50,000 African families (Ochieng', 1992). According to the SME banking sector report compiled by Strategic Business Advisors (Africa) Limited in 2007, there were about 2.2 million micro, small and medium enterprises in Kenya, 88% of which were non-registered (Strategic Business Advisors [Africa] Limited, 2007).

The understanding of what comprises SMEs varies from country to country with the most accepted definition in the European Union being a business employing fewer than 250 persons and having an annual turnover not exceeding 50 million Euros and/or an annual balance sheet total not exceeding 43 million Euros ("Glossary with definition of SMEs", 2013). In the United States, the upper limit size for most manufacturing and mining industries for SMEs is 500 employees (US Small Business Administration, 2009). In Nigeria, businesses are classified according to the total capital employed and labour size with SMEs being defined as an industry with capital employed of 1.5 to 200 million Naira having between 11 to 300 workers (Safiriyu & Njogo, 2012). There is no agreement as to the definition of SMEs in Kenya, however the official policy framework of SMEs in Kenya contained in the Sessional Paper No 2 of 2005: Development of Micro and Small Enterprises for Wealth and Employment Creation for Poverty Reduction defines SMEs as enterprises

with between 1 to 50 employees (Republic of Kenya, 2005). The definition of an SME that was adopted in this study is that of an enterprise having 1 to 50 employees.

The governance structure of SMEs in Kenya involves the legal and regulatory framework that requires a company to be registered with the Registrar of Companies, acquire a Personal Identification Number (PIN), Value Added Tax (VAT) PIN from Kenya Revenue Authority (KRA), trade and local authority licenses from the Ministry of Trade and local authorities respectively. To register a business, a business owner or manager has to interact with various stakeholders such as the Registrar of Companies; Ministry of Trade; KRA; National Social Security Fund (NSSF); National Hospital Insurance Fund (NHIF); and local authorities like Nairobi, Mombasa, Kisumu City Councils, municipal councils in other towns; and National Environment Management Authority (NEMA) ("Institutional Framework", 2013). The other stakeholders in the SME business environment are consumers, suppliers, employees, special interest groups and society (Desai, 2011).

SMEs globally suffer a high mortality rate of up to 80% failure in the first year of being established mainly due to management incompetence and shortage of funds (Mason, 2009); other reasons for failure include lack of experience, outdated technology, inadequate and timely availability of finance and even when finance is available there is still poor financial control, lack of strategic planning, uncontrolled growth, locational disadvantage, poor inventory management, marketing problems, inadequate know-how, outdated production process, under-estimation of financial requirements, over-estimation of demand, poor capacity utilization, poor labour relations, defective pricing policy, lack of knowledge of marketing techniques, lack of market feedback and market research, poor resource management and financial planning, and lack of professionalism (Desai, 2011). In a research done by Small Business Administration (SBA) in United States, it was found that over 50% of new businesses fail within 5 years; in New Zealand, 53 percent of SMEs fail within the first three years (Mason, 2009). In Africa, 70% of SMEs fail in their first three years of operation (White, 2012). In Kenya, 60% SMEs fail within their first three years of operation according to Sessional Paper No 2 of 2005: Development of Micro and Small Enterprises for Wealth and Employment Creation for Poverty Reduction (Republic of Kenya, 2005). According to register of businesses of the Single Business Unit of the City Council of Kisumu, 34% of all types of businesses were closed or licences remained unpaid between the beginning of year 2011 and July 2013, this represents about 694 SMEs which may have been

closed or unpaid (City Council of Kisumu, 2013). It is against this backdrop that this study intends to evaluate the effect of knowledge management on performance in small and medium enterprises in Kisumu City.

### 1.2 Statement of the Research Problem

SMEs continue to fail globally with more than 50% failing within the first five years of establishment, in Africa 70% of SMEs fail in their first three years of operation and in Kenya 60% of SMEs fail within their first three years of operation due to various reasons such as poor management, shortage of funds, and lack of strategic planning among others. Several studies have shown that knowledge management positively affects the performance of large enterprises, however the aforementioned studies propounded what and why infrastructure should be in place but did not delve into whether such knowledge management infrastructure was actually in place, they have expounded the usefulness and importance of knowledge management processes while not looking at the actual usage or utilization of the practices or processes, and did not explicate the role of knowledge management in contributing to profitability and sales growth. Furthermore little is known about the link between the high collapse rate of SMEs with lack of knowledge management practice and no known studies have examined the effect of knowledge management on performance of SMEs in Kisumu City. This research intended to establish the effect of knowledge management on performance of small and medium enterprises in Kisumu City in light of the high failure rate of SMEs.

### 1.3 Objectives of the study

The general objective of this study was to establish whether there exists infrastructure to support knowledge management, to examine the usage of knowledge management practices or processes, and to establish the role of knowledge management in performance of SMEs in Kisumu City. The specific objectives were:-

i. To identify whether knowledge management infrastructure was in place in SMEs in Kisumu City.
ii. To examine if knowledge management processes were used in SMEs in Kisumu City.
iii. To establish the role of knowledge management in contributing to performance of SMEs in Kisumu City.

### 1.4 Research questions

i. Was there knowledge management infrastructure in place in SMEs in Kisumu City?

ii. Were knowledge management processes used in SMEs in Kisumu City?

iii. Does knowledge management contribute to performance in SMEs in Kisumu City?

### 1.5 Scope of the study

The research study was conducted in small and medium sized businesses within Kisumu City; the researcher had anticipated that there would be time constraints of the semester and limited financial resources, recall bias, guarded answers or conversations, unforeseen and unanticipated occurrences.

### 1.6 Justification of the study

Little is known about knowledge management practices in Kenya and specifically the role of knowledge management in SMEs performance in Kisumu City in light of the failure rate of about 34% of SMEs being closed in Kisumu City. The study was thought to be significant because it intended to improve the understanding of the role of knowledge management in SMEs in Kisumu City and to improve literature on knowledge management in general as practiced in Kenya. The study may also impart knowledge to owners and managers of SMEs to improve the management of their business and thus improved services for the society at large.

## 1.7 Conceptual Framework

The relationship between the knowledge management and performance variables was conceptualized below in figure 1.1

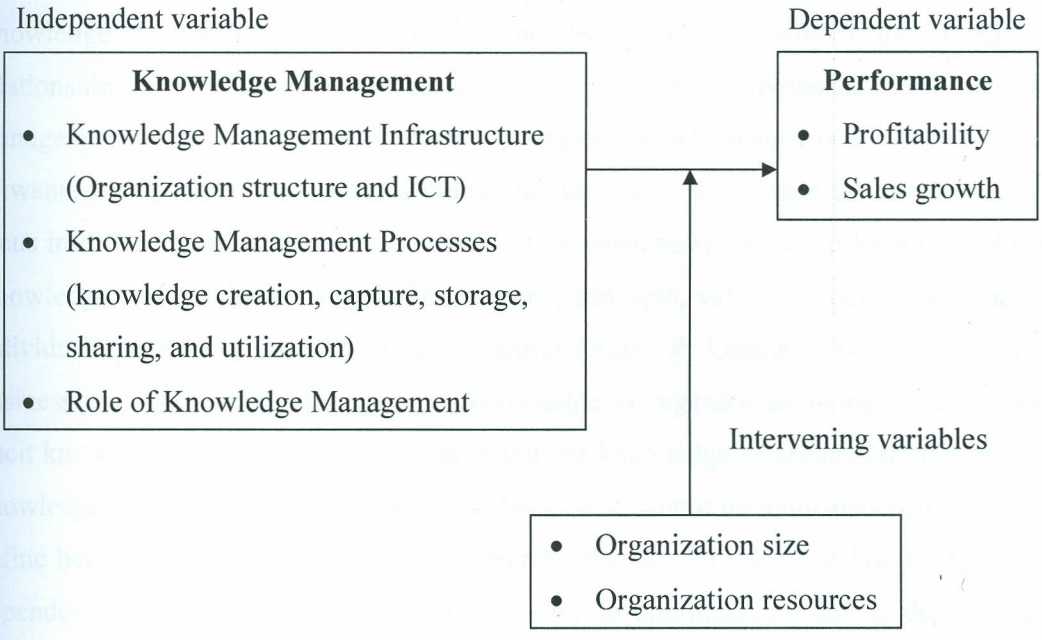


Figure 1.1: Effect of knowledge management on performance

Source: Self-conceptualization, 2013

In the conceptual framework postulated above, knowledge management was conceptualized as a composite construct having knowledge management infrastructure and knowledge management processes; knowledge management infrastructure in turn had two dimensions, namely organization structure and information and communication technology; knowledge management processes had knowledge creation, capture, storage, sharing, and utilization as its dimension. Performance had profitability and sales growth as its dimension. In this scheme, knowledge management was conceptualized as affecting an organization's performance but organization size characterized by the capital outlay and number of employees within the SME and resources intervened between knowledge management and performance.

# CHAPTER TWO: LITERATURE REVIEW

## 2.1. Theoretical Literature

### 2.1.1 Knowledge Management

Knowledge management has its roots in knowledge and especially in the interaction and relationship between tacit knowledge and explicit knowledge (Nonaka, 1994). Knowledge management is driven by an organization's strategy which in turn is driven by knowledge (Tiwana, 2000). Over the centuries many attempts have been made to classify knowledge, focus in different fields has been on different dimensions spanning philosophy and religion. Knowledge can be viewed as being experience, concepts, values, or beliefs that increase an individual's capability to take effective action (Alavi & Leidner, 2001; Allee, 1997). In business and knowledge management, knowledge is regarded as being tacit and explicit. Tacit knowledge is considered the most important knowledge to organizations since it is the knowledge that can create competitiveness because it cannot be replicated easily; it is hard to define because it is largely based on experience. Because of this, tacit knowledge is context dependent and personal in nature, it is not easy to communicate and is deeply rooted in action, commitment and engagement (Nonaka, 1994). On the other hand, explicit knowledge when formalized and codified is thus easily identified, stored, and retrieved, it is seen as less important than tacit knowledge by many theoreticians because of its simple nature and cannot engender the rich experience based on know-how. It is important to differentiate between knowledge, information and data, knowledge is a final product of information which in turn is a product of data, data is all raw facts or concepts, while information is processed data – computers have information, and information becomes knowledge when it is processed in the mind of an individual and articulated or communicated to others in text form – people have knowledge (Alavi & Leidner, 2001). From the foregoing, it is apparent that knowledge is slowly becoming the most significant factor of production alongside capital, land, and labour (Rasula *et al.*, 2012).

Although knowledge management is considered as a new management practice (Ho, 2008), organisations have always managed knowledge even if they did not use the term knowledge management, an example of knowledge management is when an experienced worker passes on knowledge to a new worker. The goal of knowledge management is to create knowledge, gather or capture it, code it, present it and share it with others with the aim of not having to

start from scratch each time an organization starts something new, thus knowledge management is about getting the right information to the right people, knowledge management is thus a discipline, designed to provide strategy, process, and technology to increase organizational learning (Ahmad & Idris, 2008), in order to achieve this knowledge, management must provide the knowledge management infrastructure and processes (Rasula et al, 2012; Zaied, 2012).

### 2.1.2 Knowledge Management in Africa

Ndugo *et al.* (2007) contend that decision making within communities in Africa is based on indigenous knowledge embodied in the local knowledge that is unique to a given culture or society, this indigenous knowledge is mostly tacit knowledge since it is passed on from generation to generation, as such some knowledge may be lost, this is aptly illustrated by an old African proverb that says that an entire library is burnt down when an old man dies (Mosoti & Masheka, 2010), this implies the need to codify, capture, share, and utilize the indigenous knowledge from the many communities in Africa. There are concerted efforts by Knowledge Management Africa towards creating a knowledge bank in Africa that links expertise and knowledge users. AMREF, although operating in only seven countries also contributes to the utilization of knowledge in the health sector in Africa to facilitate sharing of experiences and lessons learnt from different programmes internally and externally (Mosoti & Masheka, 2010).

### 2.1.3 Knowledge Management in Kenya

There seems to be fragmented efforts towards harnessing knowledge management by the Kenya government and the private sector in Kenya, this is seen when individual ministries independently chart their knowledge management routes such as when the Ministry of Environment and Mineral Resources (MOEMR) produced a document on knowledge management and capacity development in their national climate change action plan in 2012, in this document, the ministry recognizes the importance of knowledge management in crafting climate change strategies and responses (MOEMR, 2012).

AMREF Kenya also pioneers knowledge management utilization in Kenya as is evident in a presentation done by David Mutethia in a conference in 2005 in Uganda in which he said that AMREF had held workshops and trained participants drawn from water and sanitation programme, human resource management, information technology, technical support office

and senior management on how to improve documentation and share knowledge and information. Mutethia (2005) stated that AMREF had awareness in knowledge management, had formulated a knowledge management strategy, and had widely implemented knowledge management in their organization (Mutethia, 2005).

Global Health Knowledge Collaborative stated in their knowledge management case study article that health professionals in Kenya often lack access to up-to-date, practical, evidence-based information, that one of the barriers to such access is a lack of systems to search for and share information, this they said was being addressed by the Knowledge for Health project which aims to provide health professionals with easy access to the health information and knowledge they need (Lee, 2013).

### 2.1.4 Knowledge Management Infrastructure

According to Zaied *et al.* (2012) while studying the role of knowledge management in enhancing organizational performance of some Egyptian organizations, knowledge management infrastructure elements consist of technology, structure, culture and human resources. The technology aspect refers to the technical systems within an organization which enable knowledge access and transfer throughout the enterprise (Zaied *et al.*, 2012), Rasula *et al.* (2012) on the other hand goes into specifics and discusses knowledge management infrastructure in terms of ICT as an enabler of knowledge management. The structure of an organization will determine how knowledge related activities are encouraged by the people, organizational climate and processes. Culture is another enabler of knowledge management since it espouses the sharing of implicit values, norms and beliefs among members of an organization. Human resources element is important in applying knowledge within each employee's knowledge domain and in interacting with each other to share knowledge; the aforementioned elements of knowledge management infrastructure capability are the drivers of organizational effectiveness. The strength of evaluating knowledge management infrastructure in terms of its elements is that managers of organizations will know which specific element contributes the most to enhancing performance (Zaied *et al.*, 2012). Other studies done by Dalton *et al.* (1980) and Desai (2011) discuss knowledge management infrastructure in terms of the broader organization structure, the weakness being that specific elements of organization structure that enhance performance may be unknown in the broader organization structure, another weakness of this view point is that it is a narrow view or nub

of knowledge management infrastructure since organization structure alone cannot function without the technology to propagate knowledge within the organization, on the flip side, the strength of the view point is that organization structure is the foundation or bedrock on which other knowledge infrastructure is built. Rasula *et al.* (2012) discussed knowledge management infrastructure in terms of ICT without reference to organization structure, this foci presents a challenge since the underlying organizational structure is needed in order to underpin ICT. Overall, the aforementioned studies do not delve into whether such infrastructure is actually in place since they propound what and why infrastructure should be in place, it is one thing for infrastructure to be in place and it is another thing to utilise such infrastructure.

### 2.1.5 Knowledge Management Processes

The knowledge management processes involves an organization's ability to create, share, and utilise knowledge resources across functional boundaries, to achieve the aforementioned, an organization must execute the phases in the knowledge management life cycle of knowledge creation, knowledge capture, knowledge storage, knowledge sharing and knowledge utilization (Zaied *et al.*, 2012), however according to Birkinshaw and Sheehan (2004) no company can realistically aim to be active in all stages of the life cycle and that many companies have struggled, usually in vain, trying to span all the stages of knowledge management life cycle.

To create knowledge, Nonaka and Takeuchi (1997) proposed the SECI (Socialization, Externalization, Combination, Internalization) model for knowledge creation; the model explicates the knowledge creating process to understand the dynamic nature of knowledge creation, and to manage such a process effectively. Socialization involves converting new tacit knowledge through shared experiences principally between individuals who socially interact on a day-to-day basis; externalization involves articulating tacit knowledge among individuals within a group into explicit knowledge so that it can be shared by others to become the basis of new knowledge, combination involves collecting explicit knowledge from inside or outside the organization and then combining, editing, or processing it into a more complex form and systematic explicit knowledge, and internalization involves converting explicit knowledge created and shared throughout an organization into tacit knowledge by individuals (Nonaka & Takeuchi, 1997).

Knowledge capture is a common method of transferring knowledge, a variety of methods are used and they vary according to each organisation's requirements but range from interviews and mind mapping to blogs and wikis, all these is done with the goal of mitigating loss of organisational knowledge due to an aging workforce, retirement of senior experts, generation gap, non-electronic publishing, limited dissemination possibilities and translating from another language (Nonaka & Takeuchi, 1997).

Knowledge storage ensures that knowledge is kept within an organization in physical resources such as reports, minutes, books, user manuals, and charts and so on, besides non-physical resources such as computer hard disks, tapes and compact disks (Nonaka & Takeuchi, 1997).

Knowledge sharing involves propagating knowledge within an organization through libraries and the intranet, or through knowledge practice groups which have been formed to focus on specialized domains. Knowledge utilization is the pervasive goal of knowledge management; this is the phase where knowledge is put to use in the organization so as to achieve the organization's objective (Nonaka & Takeuchi, 1997).

Various literature reviewed under the theme of knowledge management processes have explicated the importance of knowledge management processes such as knowledge creation (Marques & Simon, 2006), knowledge capture (Greenes Consulting, 2010), knowledge storage (Robertson, 2004), knowledge sharing (Ho, 2009), and knowledge utilization (Kalling, 2003), and even Nonaka & Takeuchi (1997) discussed the SECI model, however the foregoing studies expound the usefulness and importance of knowledge management processes while not looking at the actual usage or utilization of the practices or processes since the ultimate aim of knowledge processing is utilization.

### 2.1.6 Role of Knowledge Management in performance

Zaied *et al.* (2012) summarized knowledge management performance measures as covering perceived usefulness, market share, profitability and growth rate, innovativeness, customer satisfaction, sales growth, efficiency and effectiveness, return on investment, productivity, competitiveness, and cost performance. Organization performance could be looked at in many different ways including from the stakeholders' perspective, financial perspective, customer perspective and internal process perspective; it could be measured in both financial

measures such as profit and non-financial measures such as market share and sales growth (Rasula *et al.*, 2012).

According to Kalling (2003) although successful organizations utilize more and better knowledge than others, conversion of knowledge into improved performance is not automatic or even free from problems. Ho (2008) contends that performance should not only dwell on financial dimensions but should also focus on customer relationship in order to promote competitive advantage.

From the studies done by Zaied *et al.* (2012) and Kalling (2003), knowledge management is important in the success of organization, Zaied *et al.* (2012) outlines several parameters that can be used to measure knowledge management performance while Kalling (2003) acknowledges that knowledge utilization is significant to the success of an organization, however what they do not explicated is the role of knowledge management in contributing to profitability and sales growth.

### 2.1.7 Organization performance - profitability

The pursuit of profitability is the major goal of all business ventures. A business will not survive in the long run without profitability thus measuring past, current and future profitability is of great significance (Webster, 2003). There are several models for determining profitability depending on the field that it originates from and the economic world view such as in industrial organization, financial economics and economics of exhaustible resources, each view singles out a different factor as the principal determinant of profitability (Slade, 2003). Profitability is measured with an income statement using a listing of income and expenses usually over a year or period of time. Regardless of whether profitability is recorded for the past period or projecting it for the future, measuring profitability is the most important measure of success of the business. A business that is highly profitable has the ability to survive and reward it owners with a good return on their investment while the opposite is also true that a business that is not profitable cannot survive. To measure the financial health of a business, a variety of profitability ratios can be used, these ratios which are created from the income statement can be compared with industry benchmarks (Webster, 2003).

### 2.1.8 Organization performance - Sales growth

Sales growth may be considered as the most important indicator of performance if a single indicator were to be chosen from many indicators, it is usually measured as a percentage. Sales growth is nevertheless not the perfect indicator of growth for all purposes because it is sensitive to inflation and currency exchange rates; it is not always true that sales lead the growth process (Delmar, Davidsson & Gartner, 2003). There are various factors that influence sales growth which range from promotion, internal motivation and retaining talented employees to the implicit opportunities for investments in new technologies and equipment in the production process. To be meaningful, sales growth should be considered within the context of industry conditions and trends as well as local, regional and national economies. If an enterprise grows at rates that challenge its financial leverage, it may actually suffer financial problems due to its growth rate (Sam, Fazli, Hoshino & Yasuo, 2013). It has been found that businesses with high sales growth tend to be significantly more active in knowledge management than the others (Salojarvi *et al.*, 2005).

## 2.2 Review of Empirical Studies

According to Rasula *et al.* (2012) who conducted a study on the impact of knowledge management on organisational performance in Croatian and Slovenian companies, knowledge management should be used to harness employees' knowledge so that it is not lost if an employee departs from the organization meaning the key management objective should be to improve the process of acquisition, integration and use of knowledge, to accomplish this, the research outlines the knowledge management process of creating, accumulating, organizing, and utilizing knowledge in order to enhance organizational performance. The researchers set out to contribute to knowledge management field through understanding the critical factors of knowledge management, their interrelation and the role of information technology in achieving improved business performance (Rasula *et al.*, 2012).

In a research conducted in 329 Croatian and Slovenian companies with more than 50 employees, it was found that those organizational outcomes such as innovation, product and employee improvement are positively affected by knowledge management. A newly defined knowledge maturity model that consisted of three information technology, organization elements and knowledge resulted from the research and a suggestion was made for these components to be developed, managed and integrated into organizational processes and practice in order to have a positive effect on organizational performance. Another finding was

that knowledge management heavily relies on technology and that knowledge management practices have a positive impact on organizational performance. It was shown in the research that the selected constructs present a good measure for the knowledge management construct (Rasula *et al.*, 2012).

Although the research shows that organizational performance alone could be gauged in many ways based on either financial or non-financial indicators, the findings are still important to this study because it proves that there is a link between knowledge management and performance. The research done in Croatia concentrated on three components of knowledge outlined as information technology, organization elements and knowledge whereas this study sees the components as either an enabler of knowledge management or a process in knowledge management (Rasula *et al.*, 2012).

Zaied *et al.* (2012) while researching on the role of knowledge management in enhancing organizational performance in medium and large organizations investigated the correlation between knowledge management in terms of infrastructure and processes and organizational performance, they defined knowledge management infrastructure elements as technology, structure, culture, and human resources while the knowledge management process elements as acquisitions, conversions, applications storing and protections; knowledge management performance measures were productivity, market share, profitability, innovativeness, sales growth, cost performance, and competitiveness. The organizations types that were examined were governmental with about 36% responding to the questionnaire, private organizations were about 43% and public organizations accounting for 21% of the respondents. When respondents were examined based on the sector, the services industry accounted for about 64.2%, oil was 14.3%, information technology was 7.2% and the industrial sector was about 14.3%. In the study done by Zaied *et al.* (2012), the researchers found that large organization had better knowledge management capabilities compared to the medium organizations; in large organizations, technology was the greatest contributor to performance while in medium organizations it was human resources that contributed most to performance. The information technology sector achieved the highest value of knowledge capabilities and processes making the researchers conclude that the IT sector had better organizational performance than the other three sectors. Zaied *et al.* (2012) concluded that management performance improves significantly if the quality of knowledge is good; secondly, the type and size of an

organization affects the level of knowledge management adoption while sector type affects the role of knowledge management in enhancing organizational performance; third, many organizations still view knowledge management as dealing with software.

The research done by Zaied *et al.* (2012) is relevant to this research because it narrows down to looking at the infrastructure and process elements of knowledge management which this research also did. The research is also useful in that it points out the importance of focusing on creating a knowledge environment constituted of appropriate technology, cultural, structural and human resource elements. Zaied *et al.* (2012) focuses on medium and large organizations or enterprises in their research while this research focused on small and medium sized enterprises.

In a case study of knowledge management in Kenya done by Mosoti and Masheka (2012), the duo looked at knowledge management in 16 non-profit organizations and 53 for profit organizations with a 100% response rate to their questionnaires; the research was conducted in Nairobi and focused on knowledge creation, knowledge management policies and strategies, monetary and non-monetary incentives, and communication in organizations.
Mosoti and Masheka (2012) found that knowledge management practice is a new discipline and that the practice is not well understood by most organizations in Nairobi; however some organizations use knowledge management practice despite challenges in creating and implementing knowledge management practice as part of organizational culture, strategy and leadership. They also found that tacit knowledge capturing and conversion to explicit knowledge is impeded by organizational politics, ethnic diversity, and emotions. From Mosoti and Masheka's research, it is not clear what size of organizations they were conducting research on, nonetheless their research was done in a Kenyan City similar to what this research did, their research is useful to this research because it is a pointer to what to expect in the Kenyan context.

This research differs from Mosoti and Masheka's research because the latter dwell on knowledge management practice as a composite construct while this research looked at knowledge management in terms of infrastructure and processes.

In a study of the effect of knowledge management practices on firm performance of 222 firms in the biotechnology and telecommunications industries in Spain with an average number of employees of 123, Marques and Simon (2006) studied the connection between knowledge management practices and firm performance, they identified the dimensions of knowledge management practices as the orientation towards the development, transfer and protection of knowledge, continuous organizational learning, viewing the organization as a global system, development of innovative research and development culture, individual based approach, and development and management based competence. On the other hand, firm performance construct had five dimensions, namely capital profitability, growth, operational and financial efficiency, stakeholder satisfaction and competitive position.
Marques and Simon (2006) in their study received a response rate of 45.1% from 102 firms in the biotechnology industry and 14.2% response rate from 120 firms in the telecommunications industry reflecting a relatively low response rate. They found that the approach based on individuals and management based on competencies had the highest weight among the six dimensions of the knowledge management construct suggesting that the human dimension is more important than development of an innovative culture in developing an effective knowledge management strategy. Overall they concluded that there is a strong and positive relationship between the adoption of knowledge management practices and firm performance.

Marques and Simon (2006) do not state the size of the organizations they studied, however since the study had an average of 123 employees for the 222 sample of firms, it can be concluded that the organizations studied were majorly SMEs because Spain is in the European Union which defines SMEs as entities with less than 250 employees. The study is important to this research because it suggested paying attention to the human dimension.

The study done by Marques and Simon (2006) does not aggregate the various dimensions into either enabling infrastructure or processes, this distinction is important so as to show stakeholders what aspect of the knowledge management is to improve when implementing a knowledge management strategy.

In a qualitative study done in an anonymous European manufacturing multinational company with more than 60 production units in some 30 countries predominantly in Western Europe

and employing 50 to 300 employees, Kalling (2003) set out to explain the relations between knowledge, knowledge utilization, and performance and also to elucidate how the chain of events are affected by the managerial and other mechanisms. He asserted that knowledge management process involves the development, utilization, and capitalization of knowledge; he further argued that despite the availability of knowledge, knowledge is not always utilized and if utilized, it does not necessarily result in performance improvement, and that knowledge conversion into improved performance is not always automatic or free of problems.

Kalling (2003) found that overall, knowledge management led to improved financial performance specifically improvement in profit but there was no performance improvement at the corporate level. He claims that the link between knowledge and performance might not always exist because managers and staff are not keen enough on using knowledge.

The research done by Kalling is useful to this study because it brought out the qualitative aspect of knowledge management and showed that if there were no development, utilization and capitalization of knowledge, the existence of improved organisation performance may not be there (Kalling, 2003). Whereas Kalling's research focused on processes, this research focused on both knowledge infrastructure and processes.

**2.3 Summary**

Knowledge has always existed as tacit knowledge within individuals and in groups as indigenous knowledge, it is a product of information while information is a product of data processing; people possess knowledge while information is mainly processed and stored in computers. To harness knowledge, knowledge needs to be captured, stored and utilized using various enabling infrastructure and processes. Knowledge management is a relatively new business practice in strategic management of organizations and more so in Kenyan firms. Various studies have discussed knowledge management infrastructure in terms of organization structure and ICT, however the studies do not delve into whether such infrastructure is actually in place since they propound what and why infrastructure should be in place. Other studies have explicated the importance of knowledge management processes such as knowledge creation, knowledge capture, knowledge storage, knowledge sharing, and knowledge utilization, however the those studies expound the usefulness and importance while not looking at the actual usage or utilization of the practices or processes. From other

studies knowledge management has been found to be important in the success of organization; however what they do not explicated is the role of knowledge management in contributing to profitability and sales growth.

# CHAPTER THREE: METHODOLOGY

This section presents an overview of the methods used in the study. Areas covered included research design, population, sample and sampling techniques, data collection and analysis.

## 3.1 Research Design

The study used cross sectional survey design to establish the effect of knowledge management on performance in SMEs in Kisumu City. A survey generally entails investigating populations by selecting samples and discovering occurrences, a cross sectional survey was suited for this research because the researcher needed to obtain primary quantitative data at a defined moment in time about SMEs. consequently, a cross sectional survey was done in order to achieve the objectives set out by the research which were to identify whether knowledge management infrastructure was in place in SMEs in Kisumu City, to examine if knowledge management processes were used in SMEs in Kisumu City, and to establish the role of knowledge management in contributing to performance of SMEs in Kisumu City.

## 3.2 Target Population

The research study was conducted on 324 SMEs in Kisumu City; the SMEs were located in 8 business zones in the city. The target population was 2047 SMEs in Kisumu City (City Council of Kisumu, 2013).

## 3.3 Sampling Size and Frame

The sample consisted of 324 SMEs selected from the target population of 2047 SMEs in Kisumu City. This number 324 was chosen according to the formula in equation 3.1 below:-

$$n = \frac{Z^2 * p * q * N}{e^2(N-1) + Z^2 * p * q}$$

Equation 3.1: Sample size equation

Source: Kothari (2004)

Where: n = the desired sample size

N = the estimate of the population size

Z = the standard normal deviate at the required confidence level

p = the proportion in the target population estimated to have characteristics being measured

q = 1- p

e = the level of statistical significance

It was assumed that the confidence level was 95% e.g. Z= 1.96, p = 50% e.g. 0.5, e = 5% e.g. 0.05, substituting the values in the above formula, n was calculated as below:-

$$n = \frac{1.96^2 * 0.5 * (1 - 0.5) * 2047}{0.05^2 * (2047 - 1) + 1.96^2 * 0.5 * (1 - 0.5)}$$

n = 323.59

Therefore the final sample size was rounded up to 324.

### 3.4 Sampling Technique

The researcher used simple random sampling which is a probability sampling technique. Simple random sampling refers to a technique where every subject or number of the accessible population is given a number which are then placed in a container and any number is picked at random. The subjects corresponding to the numbers picked are included in the sample. Other ways of obtaining random subjects involves using random number tables found in Statistics books or numbers generated by using a computer program (Mugenda & Mugenda, 2003). In this research simple random sampling was used to collect data from SMEs and was preferred because SMEs are widely dispersed in Kisumu City.

### 3.5 Data Collection

This section discusses the sources of data, the procedure for collecting data, and the data collection instrument.

#### 3.5.1 Sources of Data

The focus of the study was on attitudes, views, opinions, feelings and perceptions thus the primary data was to be collected using a questionnaire.

#### 3.5.2 Data Collection Procedure

The initial visit of the researcher to the selected SMEs was to introduce himself, familiarize himself with those SMEs as well as to seek the consent of the owners or managers for the study. Quantitative data was collected using self-administered questionnaires to key informants who were the business owners or managers from a sample of 324 SMEs from the target population of 2047 SMEs during data collection in August 2013. The researcher was assisted by data assistants to collect data because of the need to cover SMEs spread over the whole city in a short time.

### 3.5.3 Instrument for Data Collection

The researcher used a questionnaire with matrix questions. A five-point Likert scale was used in order to specify the respondents' level of agreement to statements. The labels of the five-point Likert scale were completely disagree, disagree, neutral, agree, and completely agree with assigned weights or ranks ranging from 1 to 5 respectively.

### 3.5.4 Reliability Test(s) for the Data Collection Instrument

The data collection instrument was tested for reliability using the test-retest technique which involved administering the same questionnaire twice to the same group of respondents in an interval of two weeks. The Cronbach's alpha statistic which is a measure of internal consistency was calculated to gauge how closely related a set of questionnaire items are as a group, the result was an alpha coefficient of 0.82, suggesting that the items had relatively high internal consistency.

### 3.5.5 Validity Test(s) for the Data Collection Instrument

To ascertain whether the data collection instrument measured the content they were intended to measure and measured what they purported to measure, the instrument was tested for validity using the predictive method which involved piloting questionnaires and administering the same questionnaires to the same group of respondents in an interval of two weeks. The Pearson's r which is a measure of correlation was calculated based on values from the first and subsequent questionnaires, the result was a correlation coefficient of 0.79, the strong correlation of 0.79 indicated that the instrument showed evidence of validity.

## 3.6 Data Analysis

Data was tabulated and exported into a comma delimited text file format suitable for statistical analysis, followed by data cleansing, verification and validation. Frequencies were calculated and cross-tabulation was used to describe the demography of all respondents. Descriptive statistics was applied to measure central tendencies and dispersion of the data, the Likert scale means were interpret based on the scale of 1.00 to 1.49 meaning completely disagree, 1.50 to 2.49 meaning disagree, 2.50 to 3.49 meaning neutral, 3.50 to 4.49 meaning agree, 4.5 to 5.00 meaning completely agree. While inferential statistics using Spearman's rank correlation was used to predict and describe the association between knowledge management and performance.

### 3.7 Data Presentation

Tables were used to show the mean for respondents answering the various composite questions and results of running the correlation function.

# CHAPTER FOUR: RESULTS AND DISCUSSION

This chapter presents the results of the analyses and the discussion of findings of the study. This study set out to establish the effect of knowledge management on performance of SMEs in Kisumu City, this was in light of continued failure of SMEs globally with more than 50% of SMEs failing within the first five years of establishment, the research was carried out because there were few studies linking the high collapse rate of SMEs with lack of a management practice such as knowledge management, and there being no known studies examining the effect of knowledge management on performance of SMEs in Kisumu City. The data collection instrument of the study was administered within a period of three weeks. The data collected was analysed using descriptive and inferential statistics.

## 4.1 Presentation of findings

The first objective of this study was to identify whether knowledge management infrastructure was in place in SMEs in Kisumu City; the second was to examine if knowledge management processes were used in SMEs in Kisumu City; and the third was to establish the role of knowledge management in contributing to performance of SMEs in Kisumu City. To achieve these objectives, the respondents were asked to share their attitudes and perceptions of knowledge management in terms of organizations structure, ICT, and knowledge management processes in contributing to organizational performance. Data collected was analysed based on the questions which dwelt on the types of knowledge management infrastructure in place in SMEs in Kisumu City, the knowledge management processes used in SMEs in Kisumu City, and whether knowledge management contributed to performance in SMEs in Kisumu City. The results are presented in the sub-sections below.

### 4.1.1 Background characteristics

A total of 324 questionnaires were successfully completed and returned, data collected from the questionnaires represented a response rate of 100%, meaning that the SME owners or managers were available and accepted to respond to the questionnaires. Of interest to the study was the type of industry the respondents operate in, the industry demographics are tabulated below.

Table 4.1: Distribution of respondent's industry

| Industry | Frequency (f) | Percentage (%) |
|---|---|---|
| Agriculture | 8 | 2.5 |
| Beauty | 18 | 5.6 |
| Communication | 20 | 6.2 |
| Consultancy | 2 | 0.6 |
| Entertainment | 9 | 2.8 |
| Finance | 9 | 2.8 |
| Fishing | 1 | 0.3 |
| Garage | 1 | 0.3 |
| Hardware | 21 | 6.5 |
| Health | 7 | 2.2 |
| Hospitality | 42 | 13.0 |
| ICT | 3 | 0.9 |
| Insurance | 1 | 0.3 |
| Learning Institution | 12 | 3.7 |
| Oil | 2 | 0.6 |
| Other | 11 | 3.4 |
| Retail Shop | 101 | 31.2 |
| Supermarket | 1 | 0.3 |
| Transport | 7 | 2.2 |
| Wholesale | 27 | 8.3 |
| Workshop | 21 | 6.5 |
| | **n = 324** | **100** |

From the distribution presented in Table 4.1, the largest number of respondents operated in retail shops 101(31.2%), followed by the hospitality industry 42(13.0%) and third was the wholesalers 27(8.3%), this implies that majority of the SMEs in Kisumu City were retail shops.

The respondents who participated in the study were asked questions about their attitudes, views, opinions, feelings and perceptions on various questions and the results are shown in the themes outlined below.

### 4.1.2 Existence of Knowledge Management Infrastructure

To address the first research question which sought to identify whether there was knowledge management infrastructure in place in SMEs in Kisumu City, the eight Likert item questions from question A1 to B4 in the questionnaire were analysed as a composite Likert scale called Knowledge Management Infrastructure (KMI), the mean for KMI was 3.46 whereas the

standard deviation was 0.82 and a coefficient of variation of 0.24 implying a 24% variability in responses. This is shown in the table 4.2 below.

Table 4.2: Knowledge management infrastructure

| Mean | Standard deviation | Coefficient of variation | Variability (%) |
|---|---|---|---|
| 3.46 | 0.82 | 0.24 | 24 |

The results in this study indicate that SMEs do not have a well-developed knowledge management infrastructure since the mean for KMI was 3.46, this meant that majority of responses in the composite variable KMI were mainly neutral, the standard deviation of 0.82 and therefore a coefficient of variation of 0.24 suggested that there was a variation of 24% of respondents' responses which implied that there was a lower variability in the responses and therefore higher consistency in the responses. The under-development of knowledge management infrastructure in SMEs is consistent with the study done by Zaied *et al.* (2012), the researchers found that large organization had better knowledge management capabilities compared to the medium organizations, and that the type and size of an organization affects the level of knowledge management adoption, this implies that the smaller the organisation the less developed the knowledge management capability. The under-development of knowledge management means that the utilisation of information and communication technology is also low; this also agrees with the finding that knowledge management heavily relies on technology and that knowledge management practices have a positive impact on organizational performance (Rasula *et al.*, 2012).

### 4.1.3 Use of Knowledge Management Processes

To address the second research question which sought to examine if knowledge management processes were used in SMEs in Kisumu City, the six Likert item questions from question C1 to C6 in the questionnaire were analysed as a composite Likert scale called Knowledge Management Processes (KMP), the mean for KMP was 3.52 whereas the standard deviation was 0.73 and a coefficient of variation of 0.21 implying a 21% variability in the responses. This is shown in the table 4.3 below.

Table 4.3: Knowledge management processes

| Mean | Standard deviation | Coefficient of variation | Variability (%) |
|---|---|---|---|
| 3.52 | 0.73 | 0.21 | 21 |

The results in this study indicate that SMEs sparingly use knowledge management processes, this is shown by the mean for KMP of 3.52 meaning that majority of responses in the composite variable KMP were barely in agreement that knowledge management processes were in use, this shows low utilization of knowledge management processes since the mean of 3.52 is very close to the lower bound of 3.5 for responses in agreement, the standard deviation of 0.73 and thus a coefficient of variation of 0.21 implied a 21% variability in the responses and thus higher consistency in the responses. The low utilisation of knowledge management processes found in this study compares well with what Mosoti and Masheka (2012) found out, that knowledge management practice is a new discipline and that the practice is not well understood by most organizations in Nairobi. A study done by Marques and Simon (2006) also concluded that there is a strong and positive relationship between the adoption of knowledge management practices and firm performance, the inverse of the aforementioned also proved true in this study that low adoption of knowledge management practices or processes impacts negatively on firm performance.

### 4.1.4 Role of Knowledge Management in Contributing to Performance

To address the third research question which sought to establish whether knowledge management contributed to performance in SMEs in Kisumu City, the four Likert item questions from question D1 to D4 in the questionnaire were analysed as a composite Likert scale called Organisation Performance (OP), the mean for OP was 3.33 whereas the standard deviation was 0.74 and a coefficient of variation of 0.22 implying a 22% variability in the responses. This is shown in the table 4.4 below.

Table 4.4: Role of knowledge management in contributing to performance

| Mean | Standard deviation | Coefficient of variation | Variability (%) |
|---|---|---|---|
| 3.33 | 0.74 | 0.22 | 22 |

The results in this study indicate that SMEs did not rate themselves highly in relation to organisation performance; this is shown by the mean for OP which was 3.33 which meant that most responses were neutral. The standard deviation of 0.74 and consequently a coefficient of variation of 0.22 connote 22% variability in the responses meant higher consistency in the responses. The low organisation performance can be attributed to guarded answers to sensitive financial information on the part of the respondents who mainly gave a

neutral response resulting in a rate of between 41.0% to 54.6% neutral response in all the organisation performance questions.

Inferential statistics was done using the Spearman's rank correlation to predict and describe the association between knowledge management and performance. A mean of responses to several Likert items in each theme was done to create ranks and run on Spearman's correlation function. The results of the computation are shown below in table 4.5.

Table 4.5: Correlation Matrix of Knowledge Management and Performance

| | KMI | KMP | OP |
|---|---|---|---|
| KMI | 1.00 | 0.67 | 0.33 |
| KMP | 0.67 | 1.00 | 0.37 |
| OP | 0.33 | 0.37 | 1.00 |

The results in obtained in this study showed that there was positive ρ value of 0.67 between Knowledge Management Infrastructure and Knowledge Management Processes which indicates a moderate association; a positive ρ value of 0.33 between Knowledge Management Infrastructure and Organisation Performance showing a moderate association; and a positive ρ value of 0.37 between Knowledge Management Processes and Organisation Performance showing a moderate association. Overall, it is clear that the effect of knowledge management in contributing to performance in SMEs in Kisumu City is moderate as shown by the moderate associations between the themes, although the findings about association between knowledge management and performance is moderate, the trend nonetheless agrees with the study done by Marques and Simon (2006) who concluded that there was a strong and positive relationship between the adoption of knowledge management practices and firm performance. Kalling (2003) found that overall, knowledge management led to improved financial performance, he further argued that despite the availability of knowledge, knowledge is not always utilized and if utilized, it does not necessarily result in performance improvement, the underutilisation of knowledge management seems to be the case in SMEs in Kisumu City thus leading to moderate performance, this is agreement with what Kalling (2003) found in his study which showed that the link between knowledge and performance might not always exist because managers and staff were not keen enough on using knowledge.

# CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Summary of findings

This section summarises the findings of the study that was conducted to establish the effect of knowledge management on performance of SMEs in Kisumu City. The study found that for the first research objective which was to identify whether knowledge management infrastructure was in place in SMEs in Kisumu City, the mean for KMI was 3.46 meaning that majority of responses in the composite variable KMI were neutral with a standard deviation of 0.82 and 24% variability in the responses. A positive ρ value of 0.33 showed a moderate association between Knowledge Management Infrastructure and Organisation Performance, the foregoing results mean that knowledge management infrastructure was not well-developed.

The second objective was to examine if knowledge management processes were used in SMEs in Kisumu City, the mean for KMP was 3.52 meaning that majority of responses in the composite variable KMP were in agreement with a standard deviation of 0.72 and 20% variability in the responses. A positive ρ value of 0.37 showing a moderate association between Knowledge Management Process and Organisation Performance meant that knowledge management processes utilization was low.

The third objective was to establish the role of knowledge management in contributing to performance of SMEs in Kisumu City, the mean for the composite variable OP was 3.33 which meant that most responses were neutral with a standard deviation of 0.74 and 22% variability in the responses. The variability of between 20-24% in the themes implies a high consistency rate in respondents' responses. There was also a moderate association which ranged from 0.33 to 0.67 between KMI, KMP, and OP meaning knowledge management contributes to performance but is minimal in SMEs in Kisumu City.

## 5.2 Conclusions

This research intended to establish the effect of knowledge management on performance in SMEs in Kisumu City; this was in relation to the high collapse rate of SMEs. The study specifically sought to identify whether knowledge management infrastructure was in place in SMEs in Kisumu City, to examine if knowledge management processes were used in SMEs in Kisumu City, and to establish the role of knowledge management in contributing to

performance of SMEs in Kisumu City. The study established that majority of responses in the composite variable Knowledge Management Infrastructure were neutral, majority of responses in the composite variable Knowledge Management Processes were in agreement, in the variable Organization Performance most responses were neutral, and there was also a moderate association between Knowledge Management Infrastructure, Knowledge Management Processes, and Organization Performance. In view of these findings the study concluded that Knowledge Management Infrastructure was underdeveloped, Knowledge Management Processes were underused, and Knowledge Management contribution to organisation performance is minimal in SMEs in Kisumu City.

### 5.3 Recommendation

The researcher recommends that SME owners improve knowledge management infrastructure by acquiring low cost ICT tools such as smart mobile phones with capability of laptop computers since knowledge management infrastructure need not be expensive ICT equipment; that SME owners and employees utilize knowledge management processes in SMEs so as to improve performance of businesses by acquiring and continuously updating their skills on the use of ICT tools and processes; that SMEs include knowledge management as a function alongside others functional areas by formalising knowledge management practice in their management activities so as to realise the benefits of knowledge management in contributing to organizational performance.

### 5.4 Limitations of the study

This study heavily relied on the evaluation and self-reporting of the business owner or manager on their views of financial performance of their business without reference to the business financial records thus such reports may have been at best rough estimates because the accuracy of the reported data could not be confirmed.

### 5.5 Suggestion for further research

The researcher recommends that future research on knowledge management verses organization performance be based on actual financial records rather than self-reporting by business owners, managers or their assignees.

# REFERENCES


Ahmad, A. R., & Idris, M. (2008). Managing knowledge management through strategic management perspectives, *International Business Information Management Association*, 71-77.

Alavi, M., & Leidner, D. (2001). Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly: Reviews, 25*(1), 107-136.

Birkinshaw, J., & Sheehan, T. (2002). Managing the knowledge life cycle, *MIT Sloan Management Review, 44*(1), 75-83.

City Council of Kisumu (2013). Register of businesses in Kisumu City, Revenue Section, Single Business Permit, City Council of Kisumu.

Dalton, D., Todor, W., Spendolini, M., Fielding, G. & Porter L. (1980). Organization structure and performance: A Critical review, *The Academy of Management Review*, *5*(1), 49-64.

Darroch, J. (2005). Knowledge management, innovation and firm performance, *Journal of Knowledge Management, 9*(3), 101-115.

Delmar, F., Davidsson, P., & Gartner, W. (2003). Arriving at the high growth firm. *Journal of Business Venturing, 18*(2), 189-216.

Desai, V. (2011). Sickness in Small-Scale Industries. In Fundamentals of entrepreneurship and small business management, (pp. 630-636). Himalaya Publishing House.

Gloet, M., & Terziovski, M. (2004). Exploring the relationship between knowledge management practices and innovation performance, *Journal of Manufacturing Technology Management, 15*(5), 402-409.

Glossary with definition of SMEs. (2013). Retrieved July 16, 2013 from: hecpevc.wordpress.com/pevc-glossary/

Hick, R. C. (2006). The five tier knowledge management hierarchy, *Journal of Management Practice, X*(1), 1-9.

History, definition and regional concepts of SMEs. (2012). Retrieved July 21, 2013 from: http://ckbooks.com/management/sme-management/history-definition-and-regional-concepts-of-smes/

Ho, C. (2009). The relationship between knowledge management enablers and performance, *Industrial Management & Data Systems, 109*(1), 98-117.

Ingram, H. (1996). Linking teamwork with performance, Team Performance Management: *An International Journal, 2*(4), 5-10.

Institutional Framework in SMEs in Kenya. (2013). Retrieved July 9, 2013 from: http://www.entrepreneurstoolkit.org/index.php

Kalling, T. (2003). Knowledge management and the occasional links with performance, *Journal of Knowledge Management, 7*(3), 67-81.

Kothari, C. R. (2004). Sampling fundamentals. In Research methodology, methods and techniques, (2nd ed., p. 179). New Age International Publishers.

Kuratko, D. F., & Hodgetts R. M. (2007). The evolution of entrepreneurship. In Entrepreneurship in the new millennium, (p. 41), South-Western.

Lee, C. (2013). Knowledge management case study, *Global Health Knowledge Collaborative, K4Health.* Retrieved from: www.k4health.org

Levinthal, D., & March, J. G. (1993). The myopia of learning, *Strategic Management Journal,14, 95-112.*

Marques, D. P., & Simon, F. J. G. (2006). The effect of knowledge management practices on firm performance, *Journal of Knowledge Management, 10*(3), 143-156.

Mason, M. K. (2009). Research on small businesses, Retrieved from: http://www.moyak.com/papers/small-business-statistics.html

Maxon, R. M. (1992). The establishment of the colonial economy, In Ochieng' W. R., & Maxon R. M. (Eds.), An Economic History of Kenya, (pp. 64-74), East African Publishers Ltd, English Press Ltd, Nairobi.

Mosoti, Z., & Masheka, B. (2010). Knowledge management: The case for Kenya, *The Journal of Language, Technology & Entrepreneurship in Africa, 2*(1), 107-133.

Mugenda, O. M., & Mugenda, A. G. (2003). Research methods quantitative & qualitative approaches, (p. 45), Acts Press, Nairobi.

Mutethia, D. (2005). Knowledge management case study – AMREF Kenya, WEDC Conference, Uganda.

Ndugo, S. *et al.* (2007). Indigenous tools of capturing knowledge: Trachoma bead system. Paper presented at The Knowledge Management Africa (KMA) second biennial conference, Nairobi.

Nonaka, I. (1994). A dynamic theory of organizational knowledge creation, *Organization Studies, 5*(1), 14-37.

Nonaka, I., & Takeuchi, H. (1997). Organizational knowledge creation, 13th edition conference proceedings, Rio de Janeiro, Campus.

Ochieng', W. R. (1992). European mercantilism and imperialism in Kenya before colonial rule. In Ochieng', W. R., & Maxon, R. M. (Eds.), An Economic History of Kenya, (pp. 49-62), East African Publishers Ltd, English Press Ltd, Nairobi.

Parlby, D., & Taylor, R. (2000). The power of knowledge: A business guide to knowledge management, Retrieved July 14, 2013 from: www.kpmgconsulting.com/index.html

Rasula, J., Vuksic, V. B., & Stemberger, M. I. (2012). The impact of knowledge management on organisational performance, *Economic and Business Review, 14*(2), 147-168.

Republic of Kenya (2005), Sessional Paper No 2 of 2005: Development of Micro and Small Enterprises for Wealth and Employment Creation for Poverty Reduction, Government Printer, Nairobi, Kenya.

Robertson, J. (2004). Developing a knowledge management strategy, *KM Column*, Retrieved August 13, 2013 from: www.stepto.com.au

Safiriyu, M. A., & Njogo, B. O. (2012). Impact of small and medium scale enterprises in the generation of employment in Lagos State, *Kuwait Chapter of Arabian Journal of Business and Management Review, 1*(11), 107-141.

Salojarvi, S., Furu, P., & Sveiby, K. (2005). Knowledge management and growth in Finnish SMEs, *Journal of Knowledge Management, 9*(2), 103-122.

Sam, M., Fazli, M., Hoshino, & Yasuo (2013). Sales growth, profitability and performance: empirical study of Japanese ICT industries with three Asean countries, proceedings of ASBBS (Vol. 20, No. 1), ASBBS Annual Conference: Las Vegas 554.

Slade, M. E. (2003). Competing models of firm profitability, presented at the annual meeting European Association for Research in Industrial Economics, Helsinki, Finland.

SME Banking Sector Report (2007). Kenya Market Analysis of the Enterprise Sector, Strategic Business Advisors Ltd., Nairobi, Kenya.

Tiwana, A. (2000). Practical techniques for building a knowledge management system. In The knowledge management toolkit, Prentice Hall, Upper Saddle River, NJ.

US Small Business Administration (2009). "Size Standards" in Frequently Asked Questions Retrieved July 24, 2013 from: http://web.sba.gov/faqs/faqIndexAll.cfm

Webster, T. J. (2003). Introduction. In Managerial economics theory and practice, (pp. 16, 27-30), Academic Press, San Diego, California.

White, B. (2012). Investor profile GroFin: Why 30% of SMEs survive their first three years of operation, Retrieved August 4, 2014 from: http://vc4africa.biz/blog/2012/05/24/investor-profile-on-grofin-why-30-of-smes-survive-their-first-three-years-of-operation,

Zaied, A. N. H., Hussein, G. S., & Hassan, M. M. (2012). The Role of knowledge management in enhancing organizational performance, *I.J. Information Engineering and Electronic Business, 5*, 27-35.