DETERMINANTS OF EFFECTIVE KNOWLEDGE MANAGEMENT
PRACTICES IN SELECTED UNIVERSITY LIBRARIES IN NAIROBI AND
KIAMBU COUNTIES, KENYA

BY

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E83/13699/2009

A Thesis Submitted in Fulfillment of the Requirements for the Award of the Degree
of Doctor of Philosophy in the School of Education of Kenyatta University.

April 2014
DECLARATION

This thesis is my original work and has not been presented for degree in any other university.

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We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

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Signature  Date
DEDICATION

This work is especially dedicated to my beloved husband G.G. and our three children, Kristine, John and Esther for their invaluable and immense support, prayers, sacrifice, understanding and encouragement all through this academic journey.
ACKNOWLEDGEMENTS

I would wish to acknowledge, above alleles, God Almighty for enabling me to reach this far. Without His providence, guidance, wisdom, direction and Grace this study would not have been possible. Kenyatta University deserves special mention and acknowledgement for enabling me to realize this dream. Long Live KU.

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who tirelessly worked hard to distribute and collect the questionnaires used for data gathering in all university libraries. Special thanks to Mercy who tirelessly and diligently typed and formatted this work, for the entire period of time the study took.

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To you all, God bless you.
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<thead>
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<th>Description</th>
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<tr>
<td>AMREF</td>
<td>African Medical Research Foundation</td>
</tr>
<tr>
<td>CEO</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>CKO</td>
<td>Chief Knowledge Officer</td>
</tr>
<tr>
<td>CKMS</td>
<td>Client Knowledge Management Systems</td>
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<tr>
<td>CMS</td>
<td>Content Management System</td>
</tr>
<tr>
<td>CoP</td>
<td>Communities of Practice</td>
</tr>
<tr>
<td>CSFs</td>
<td>Critical Success Factors</td>
</tr>
<tr>
<td>CUEA</td>
<td>Catholic University of Eastern African</td>
</tr>
<tr>
<td>DOI</td>
<td>Diffusion of Innovation</td>
</tr>
<tr>
<td>FAQs</td>
<td>Frequently Asked Questions</td>
</tr>
<tr>
<td>GDNet</td>
<td>Global Development Network</td>
</tr>
<tr>
<td>IBM</td>
<td>International Business Machines</td>
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<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>IFLA</td>
<td>International Federation of Library Association</td>
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<tr>
<td>IM</td>
<td>Information Management</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>JKUAT</td>
<td>Jomo Kenyatta University of Agriculture &amp; Technology</td>
</tr>
<tr>
<td>KM</td>
<td>Knowledge Management</td>
</tr>
<tr>
<td>KMA</td>
<td>Knowledge Management African</td>
</tr>
<tr>
<td>KU</td>
<td>Kenyatta University</td>
</tr>
<tr>
<td>MDG’s</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MKU</td>
<td>Mount Kenya University</td>
</tr>
<tr>
<td>N.d</td>
<td>No Date</td>
</tr>
<tr>
<td>PACU</td>
<td>Pan African Christian University</td>
</tr>
<tr>
<td>P2P</td>
<td>Peer to Peer</td>
</tr>
<tr>
<td>SCESCAL</td>
<td>Standing of Conference of Eastern, Central and Southern Africa Library and Information Associations.</td>
</tr>
<tr>
<td>SECI</td>
<td>Socialization, Externalization, Combination &amp; Internalization</td>
</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
</tr>
<tr>
<td>UON</td>
<td>University of Nairobi</td>
</tr>
<tr>
<td>USIU</td>
<td>United States International University</td>
</tr>
<tr>
<td>LIS</td>
<td>Library Information Science</td>
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ABSTRACT

The phenomenon of KM was first hailed as a great idea in the business world where businesses embraced it to give them a competitive advantage in the 1990s (Maponya, 2004). Great multinational businesses such as Microsoft, Xerox, Hewlett-Packard, Shell, Buckman Laboratories, Siemens have embraced and invested heavily in KM to their great advantages. In the library world the phenomena has also been hailed as a great idea. International, regional as well as national forums and conferences have addressed this phenomenon. A lot of studies have also been conducted on how KM can be applied in the library world. Unfortunately these studies have concentrated more on corporate and business libraries. Secondly studies on critical success factors (CSFs) on KM in the business world are many and none concerned itself to the libraries. These were gaps the study endeavored to fill. Yet Shanghong (2000) argued that the library in the knowledge economy era should become a treasure house of human knowledge, participate in knowledge innovation and become an important link in knowledge innovation chain. It is against this background that this study was conceived and executed with a view to identify and examine determinants that have influenced KMP in university libraries. Such knowledge was to be used as a basis to recommend measures for enhanced accessibility and utilization of knowledge assets in university libraries. This study aimed to determine KM practices in place, leadership involvement and interest in KM, Staff perception of KM, organizational disposition to KM, knowledge sharing culture and the appropriateness of IT to enable a KM effort. The study adopted the descriptive research design using a survey approach as the study was to help establish an accurate profile of the determinants influencing KM practices in university libraries and report findings as they were without changing the environment. The study location was Nairobi and Kiambu counties. The area was selected because reviewed literature showed that KM studies in Kenya had concentrated in the same area and this gave the researcher confidence to rightly assume that there was KM awareness in the region hence a fertile ground for the current study. The target population was 209 library staff made up of general library staff, university librarians and the deputy university librarians. A total of seven libraries were used out ten that formed the target library population. Quantitative and qualitative data was collected through use of questionnaires and interview schedules respectively. A total of 137 staff returned their questionnaires constituting 80.1% response rate. The study findings established that KM per se was not a function of libraries and neither had it been formally introduced and any understanding of KM as a term was from literacy sources. Despite this fact KM practices were rated as good (62.3%) and very good (10.7%). The library staff (88%) also agreed that they had means of identifying and capturing knowledge. These practices were however more for information management than KM. The identification, capture and acquisition of tacit knowledge were informal and unsystematic. Lack of leadership involvement, motivational aids, budget, benchmarks, strategies/policies, and appointment of CKO influenced state of KM. The study also established that lack of certain skills such as building knowledge taxonomies, and ability to map internal and external knowledge (see Table 4.10) among others contributed to the state of KM. Lack of leadership drive was identified as the most crucial determinant of them all. A conceptual model of 11 determinants of effective KM practices in university libraries is captured in chapter five. On the basis of the findings the researcher concluded that KM per se in university libraries was weak as it had not been well understood to be embraced and supported. KM education and awareness forums, setting KM strategies and policies as well as working in partnership with IT department to upgrade them to KMS, and upgrading the institutional repositories to KM repositories were among the recommendations made.
CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, states the problem for investigation, purpose of the study, research objectives and questions, significance of the study, delimitations and limitations, assumptions, theoretical and conceptual frameworks.

1.1 Background to the Study

Knowledge Management (KM) is an emerging field much touted and hyped since early 1990’s (Wen, 2005). Jain (2009) stresses that “since the early 1990’s, Knowledge Management has been a popular issue, relevant and discussed amongst all disciplines at all levels including the business, service, private and governmental sectors as well as libraries and information centers” (p.1). Shawar (2008) concur that KM has become extremely popular and the concept has been paid a lot of attention. Choy (2005) asserts that “KM is getting significant attention in both the academic and business world” (p. 132). Wong (2005) stressing that knowledge had become one of the critical driving force for business observed and said that, “organizations are becoming more knowledge intensive, they are hiring “minds” more than “hands” and the needs of leveraging the value of knowledge are increasing” (p. 261).

The definition of the term knowledge is just as difficult as that of knowledge management. The term is commonly used as synonymous to data and information. For
purposes of this study the relationship between the three terms as understood by some authors will be used. Data is raw information. Groff and Jones (2003) agree when they asserted that “the nature of data is raw and without context” (p.2). AMREF (2010) concur that “data represent observations or facts out of context, and is therefore not directly meaningful” (p.1). Data however forms the base on which information and knowledge is developed. Information is “data that have been given meaning by way of context’ (Groff & Jones 2003, p.3). Data becomes information when put in a meaningful context. When information is received and applied in the performance of activities it becomes knowledge. Groff and Jones (2003) add that knowledge is information combined with understanding and capability (p.3).They went on to assert that “knowledge guides action, whereas information and data can merely inform or confuse” (p.3).This knowledge is of two kinds: Tacit and Explicit. Fig.1 below depicts the relationship between data, information and knowledge.
Initially, KM was popularized in the corporate world “with many organizations’s executives touting it as a great idea” (Maingi, 2007, p. 1). Lee (2005) holds that this hype was necessitated by the recognition “that in the new knowledge economy, the possession of relevant and strategic knowledge and its continued renewal will enable citizens to gain competitive advantage” (p.1). Maponya (2004) concurred with the above sentiments by acknowledging that KM had become a highly debated topic by various researchers and authors for a long time. Maingi (2007) is of the view that since the year 2000 many organizations have been using KM “to leverage their competitiveness in their respective industries” (p.2). The recognition of the potential of KM in transforming business led to its widespread appreciation in the private, public and nongovernmental
organizations. At the international front, Maingi (2007) was of the view that “Shell, Chevron, and BP Amoco are leading the pack in the oil and energy sector” (p.2). Maingi also acknowledges that “many of the UN bodies have over the year taken to KM in a bid to streamline their worldwide operations” (p.2). Townley (2001) also recognizes that organizations with large knowledge assets also lead KM effort such as Microsoft, IBM, and Dow Chemical among others. The great impact of KM in these businesses led the CEO of Hewlett-Packard, Lew Platt, to acclaim and say: “If Hewlett-Packard knew what Hewlett-Packard knows now, we would be three times profitable” (Townley 2001, p.45).

Maingi (2007), observing that KM was being “touted as the ultimate solution to most organizations’ competitiveness in this era that is the knowledge edge” (p.1) carried out a study to determine how ready organizations, universities and banks in Kenya were for KM. For his research, he developed “an index dubbed Knowledge Management Readiness Score (KMRS) which was a measure on a scale of 0-1 of how well an organization was prepared for knowledge management based on six parameters” (p.2) namely:

i. Financial indicator analysis;

ii. Non-financial indicator analysis;

iii. Internal performance indicator analysis;

iv. External performance indicator analysis;

v. Project oriented indicator analysis; and
vi. Organizational oriented indicator analysis.

Results of the above survey revealed that among the universities sampled (University of Nairobi, Kabarak, Strathmore, and Egerton) only the University of Nairobi (UON) was ready for KM based on the cited parameters. Unfortunately, the study was geared towards establishing how well prepared or not the institutions were for KM based on the above parameters, and did not provide information as to the nature of KM practices in place. What Maingi’s study brought out to the fore however was that organizations need to make deliberate efforts to implement and practice KM and to provide adequate support, finance and otherwise as well as creating a conducive environment for the same. The role of the leader in directing, supporting and setting aside appropriate resources cannot be underestimated. The issue of concern for the current study was to establish whether university librarians and their deputies had laid ground for KM and whether they were championing KM effort in the provision of needed support and direction.

A research study carried out by Chinho et al. (2005) on Knowledge Management Gaps identified KM gaps viewed from different perspectives. Wild et al. (2002) quoted by Chinho, et al. (2005) defined a knowledge gap as the quantitative and qualitative difference between the knowledge needed and available in the organization. In other words, a knowledge gap is the difference between the organization’s current capability and the capabilities required for KM. A study by Lorrich and Piece (1984) cited by Chinho, et al. (2005) identified two distinct categories of gaps attributes: transitional attributes which are more related to the social economic dispensation of an organization
and secondly the situation-specific attributes which are driven by policy and relevant personal motivations. Chinho, et al. (2005) identified six KM gaps viewed from four different aspects namely:

i. Strategic aspect

ii. Perception aspect

iii. Planning aspect

iv. Implementation aspect

The strategic aspect gap means that there is failure on the part of the enterprise to understand its internal and external environment so as to determine the knowledge required to enhance KM’s effectiveness. Chinho, et al. (2005) holds that to “fail to do so may result in a gap between the knowledge required to enhance the competitiveness of an enterprise as perceived by the top managers and the knowledge actually required” (p.3).

The same authors also identified perception of KM activities amongst employees of differing levels and positions as acting as a gap. How do top management and other staff perceive KM and its implementation? The other gap identified was planning aspect. This involves top manager’s failure to enact a proper plan for KM implementation. Chinho, et al. (2005) continues to opine that the inability to identify and resolve any gaps prior to the implementation process will greatly impact the implementation process. Any KM implementation should fit the plan. The lesson put across is that without a strategic plan, KM strategies and policies in place coupled with a positive perception of KM, KM practices would not be effectively implemented. The current study was to establish
whether such gaps existed in university libraries in Kenya and if they did, whether they had been addressed in order to ensure successful implementation of KM. To stress on the value of identifying gaps before KM implementation they emphasized the need for an enterprise, to build a framework that would analyze the corporate knowledge needs, evaluate the implementation activities of KMS and identify any inhibitors to success (Chinho, et al., 2005, p. 37).

In the library context, proponents for KM are many. Kumar (2010) is of the view that the growing need for knowledge management has influenced every component and operation of a library and that the concept of knowledge based economy has generated tremendous interest even in libraries. He adds that KM has moved beyond the stage of trend and has established itself as a key part of many libraries knowledge strategies. Kumar goes on to stress that in this new knowledge age a library’s status is no longer measured by the collection it houses but also by the online resources it possesses and their seamless accessibility. Townley (2001) is of the view that the emerging field of KM offers academic libraries the opportunity to improve effectiveness both for themselves and their parent institutions. Kim (2000) reminds librarians that as a major function of their organizations they need to know what the organization’s corporate knowledge assets are and how to manage and make use of these assets to get maximum return. Jain (2009) emphasizes that KM is no more an optional luxury for the C21st librarian “but a mandatory discipline for libraries if they want to survive or the least remain relevant in the digital era” (p.1). Kumar (2010) holds that because KM is a form of expertise-
centered management it helps to draw out tacit knowledge making it accessible for specific purposes to improve the performance of the library. Wen (2005) holds that the need for KM implementation is no choice to academic libraries. Chinho, et al. (2005) asserts that knowledge is one of the critical assets to use when pursuing enterprise competitive advantage. Jain (2009) quoting Duffy (2000) corroborates these sentiments when she stressed that it is imperative that all managers “appreciate fully the scope and opportunity that knowledge management (KM) offers to the extended enterprise because KM can be used as a competitive tool” (p.1). All the above literature goes to point to one fact that KM in libraries is not a choice but a mandatory responsibility and a key function if libraries wish to continue to hold the pivotal role of supporting the goals, mission and vision of their parent organizations in this knowledge economy. Because of KM’s impart on organizations this research was aimed at establishing critical factors that could have influenced successful implementation of KM in university libraries.

A study carried out by Jain (2007) with the sole aim of establishing whether academic libraries in East and South Africa were practicing Information Management or Knowledge Management revealed that most (65%) of all the participating librarians considered themselves as information managers. Such findings, emanating from libraries, institutions that by all means should lead in application of KM, was good justification to undertake this study to establish what could have influenced such outcome. The question begging for an answer was why librarians were not keen in implementing KM as a library function. Could it be a case of lack of KM awareness and understanding, assumption,
perception, leadership gap, or simply cheer rejection? These were among the issues this study set out to investigate.

A cursory review of related literature has also shown that much literature has been written on KM in libraries and KM awareness has also been made through global, regional and national forums (IFLA 2003; SCESCAL 2004, 2006, 2008, and 2012; KMA 2007). Jain (2009) lauded the increased awareness of KM among libraries and information professionals and their potential contribution to KM. She was categorical in asserting that KM was no longer an option for the information professionals but a mandatory discipline in this the knowledge age. KM literature reveals that a lot has been written on various aspects of KM in libraries and information professionals. For example, Aswath and Gupta (2009) addressed the issue of KM tools and academic library service; Wen (2005) on implementing KM in libraries using existing resources; Maponya (2004) on KM Practices in Academic Libraries: A case study of the university of Natal, Pietermaritzburg; Jain (2009) on KM for the 21st century Informational Professional; Parirokh et al. (2009) on the development of Client Knowledge Management System (CKM) for Academic Libraries; Chinho, et al., (2005) addressed the issues of Knowledge Gaps and Kumar (2010) on KM and New Generation of Libraries Information Services among others. A lot of research papers on KM have also been presented in many forums and have continued to be presented to date pertaining to various aspects of KM.
Unfortunately, and despite above awareness forums and documentation on KM, reviewed literature attest to a scenario where much of the KM research in libraries has been carried in special libraries, and particularly those in business and corporate sectors (Townley, 2001; Wen 2005). Indeed a study carried out by Sarrafzadeh et al (2006) in Canada revealed that the libraries and LIS professionals involved in KM projects were those within the corporate sector. In Canada, they continued to add that corporate librarians were involved in designing of the information infrastructure, development of taxonomies, and content management for the organization’s intranet as well as doing their familiar roles such as providing information for the intranets, gathering information for competitive intelligence, and provision of research services among other KM roles.

Another research conducted in the USA by Marouf (2004) cited in Sarrafzadeh et al (2006) revealed that KM initiatives in libraries had gone little beyond traditional IM practices. In Taiwan, a study by Chen (2005) still cited in Sarrafzadeh et al (2006) revealed that there was insufficient participation by information service units in corporate KM projects including website and intranets. Albert (2000) and Klubas (1997) both cited in Sarrafzadeh et al (2006) argued that though the most successful and visible players in KM were from LIS professionals in comparison with other competing professionals such as IT and business management, LIS professionals had generally not fared well in KM space. The research gap that this study aims to fill is why LIS professionals in academic libraries are not visible in the KM space.
Research findings in Kenya on KM are scanty. The study by Maingi (2007) on KM and his use of the Knowledge Management Readiness Score Matrix revealed a bleak picture of the level of readiness to implement KM among the universities, academic and banking institutions in Kenya. Similarly a study carried out by Ngéno and Odero (2009) on KM in public university libraries in Kenya only addressed the aspect of knowledge sharing and how it could be integrated in libraries core business activities. Yet another study by Jain (2007) on KM in academic libraries in East and South Africa which had as its aim to establish whether the academic libraries were practicing IM or KM revealed that most of all the participating librarians (65%) considered themselves as IM.

With all the literature available for KM in libraries and the reported success stories for KM in the business world it was imperative to investigate how far university libraries in Kenya had embraced KM in their operations as they play a cardinal role in support of the universities mission and corporate plans as well as establishing what could have contributed to the current state of KM. As Kumar (2010) advocates that knowledge embedded in the organization’s processes and the employee skills provide the firm with unique capabilities to deliver customers with a product or service, the current study also aimed at establishing whether university libraries were tapping and drawing out tacit knowledge from their stakeholders to help in the maximum utilization of organizational knowledge for improved performance and if not establish the factor hindering the practice.
Knowledge Management is not an easy concept to define and many definitions have been put forth. This could be largely because it is a recent development of the 1990s and it is also multidisciplinary in approach drawing upon a vast number of diverse fields. Definitions are therefore varied as they depend on the interest of the author. Witt et al. (2007) define KM as the explicit and systematic management of vital knowledge and its associated process of creation, organization, dissemination, use and exploitation. Groff and Jones (2003) define KM in business as tools, techniques, and strategies to retain, analyze, organize, improve and share business expertise. Menkoff et al (2003) view KM as the totality of organizational strategies aimed at creating an intelligent organization, which is able to leverage upon its tangible and intangible assets. Flynn (2004) on the other hand defined KM as a systematic and organized approach to making relevant knowledge visible and widely accessible so that learning can occur. A close scrutiny of the above definitions and others not captured here point to one fact, that KM whether in business or information world is a strategic process that uses strategic tools and techniques to help identify, capture, acquire, store, transfer, and use knowledge both explicit and tacit to improve organizational performance. This view reinforces what Kim (2000) asserted when he said that KM is a combination of information management (managing the documentary form), communications and human resource management (managing the expression of knowledge). What these definitions are clearly bringing out is that KM is both a process and a function that enables an organization to leverage the exploitation of its information and knowledge assets both tangible and intangible.
Tangible or finite assets include the outputs of research and development teams, databases, internal procedures, organization websites, training manuals and courses, strategic information about customers and from customers, products, services, suppliers and competitors among others. Intangible or infinite assets on the other hand, include the competences and knowledge resources of human capital within an organization as well as culture and corporate memories. It is important to note that the staffs in all organizations are the main carriers of knowledge and experiences from their daily activities. Hence KM is a discipline that focuses specifically on understanding and structuring the organization so that the knowledge contained within it can be exploited and in particular knowledge held by people. For the purpose of this study, KM will be viewed as “a discipline that promotes an integrated approach to identifying, managing and sharing all of an organization’s knowledge assets including, unarticulated expertise and experience resident in individual workers” (Kim, 2000, p.3).

KM is therefore a discipline that would enable individuals, teams and entire organizations to collectively and systematically identify knowledge that is vital to them, capture it, improve it, organize it and apply it and make it available in the most efficient manner to those who need it so that they can exploit it creatively to add value and achieve their goals. To realize its mandate KM therefore concentrates on processes such as creating, identifying, acquiring and sharing knowledge and the cultural and technical bases that support them. Through the practices of KM, an organization focuses on the systematic exploitation and reuse of knowledge.
Sarrafzadeh et al (2006) notes that there seems to be a perceived overlap between the activities of KM and IM and some people have opined that KM is nothing more than IM. He argues that KM is not Information Management (IM) though they are closely related. Kim (2000) supports the above opinion by pointing out that KM is not about managing or organizing books and journals or searching the internet for clients or arranging for the circulation of materials though she contends that the above activities could be in some way part of the KM spectrum and processes. Sarrafzadeh et al (2006) and Kim (2000) concur that KM is broader in scope and different in information management owing to KM’s concern with management and with organizational issues and also its emphasis on less tangible and elusive resources like human expertise. Accordingly he continues to add that KM is a combination of three elements namely, IM (for managing the documentary form), HR (for managing the expression of knowledge) and Communications. Thus as much as IM is an important component of KM, KM is broader in scope and aims at harnessing the knowledge resources and knowledge capabilities of the organization in order to enable the organization adapt to its changing environment (Auster & Choo 1995, cited in Kim 2000). The authors continue to contend that as much as IM is very much part of KM environment, it is only one part and can only be truly effective when applied with an understanding of the full KM picture. This understanding is paramount for effective application and exploitation of KM in libraries that have had a history of managing information, will be adopted.
1.2 Statement of the Problem

As illustrated in the above background, the need for KM in libraries for enhanced service delivery has been recognized both locally and globally. Roknuzzaman and Katsuhiro (2008) even hold that KM should be a very common practice in day-to-day library work because of the libraries long tradition with the dissemination of information and/or knowledge. The foregoing discussions also revealed that the studies that have been done on KM in libraries addressed the“how” of KM and have not addressed the level of KM application in libraries. This was a research gap that this study sought to fill. Reviewed literature also identified various factors that have motivated KM practice in both library and business world. Wen (2005) referred to these factors as impetus for embracing KM in academic libraries. Debowski (2006) on her part postulated five factors that interact and influence KM practices in the business sector and called these factors organizational drivers of knowledge as they support the implementation of knowledge practices. Existing literature is also full of studies addressing critical success factors (CSFs) to the implementation of KM (Wong 2005; Hasanali 2003; Choy&Suk, 2005; Ajmal 2010; Conley 2007, Wei, et al.,2006).These studies identified CSFs for implementing KM in different and diverse organizations. For example Wong (2005) addressed CSFs for implementing KM in Small and Medium enterprises; Wei, et al (2006) on CSFs in Malaysian Telecommunications industry; Ajmal (2010) on CSFs for KM in Project Business and Choy (2005) addressed CSFs to KM implementation in organizations from a general perspective among others. The studies reviewed derived their KM motivators or KM drivers or simply CSFs for implementing KM from business related organizations’
perspectives and had not considered the CSFs for libraries in general. This was a research gap that the study identified. The factors derived from these studies were used and acted as checklists and indicators to analyze and evaluate the state of knowledge management practices in the university libraries and the factors contributing to the state of knowledge management.

It was against this background that this study was conceived with a view to identify and evaluate the current KM practices in university libraries and analyze factors that could have contributed to the state of KM practices. Such a study would be used as a basis to recommend measures to enhance KM acceptability, and improve the accessibility and utilization of knowledge assets in university libraries. The current study was therefore geared to finding out the status of KM in university libraries and establishing the major elements and perceptions that could have influenced the effectiveness of KM in university libraries. The questions that begged for answers were: Have university libraries applied KM in their operations? If so, to what extent and what has contributed to that state of affairs? If not, what could have contributed to that position?

1.3 Purpose of the Study

The purpose of this study was to identify and examine the determinants that have influenced Knowledge Management Practices (KMP) in university libraries in order to have a basis to recommend measures for enhanced accessibility and utilization of knowledge assets in university libraries that would culminate to improved performance.
1.4 Objectives of the Study

The following objectives guided the study.

i. To identify KM practices that university librarians employ as part of their KM initiatives.

ii. To determine the perception of different levels of library staff on KM as a function of their libraries.

iii. To assess the effectiveness of the libraries’ culture and environment in enhancing knowledge sharing among library stakeholders.

iv. To determine the degree of involvement of library leadership in KM activities.

v. To identify the appropriateness of the available information technologies in enhancing KM process.

vi. To assess the effectiveness of the organizational framework in support of KM effort.

vii. To propose a KM model for KM application in libraries.

1.5 Research Questions

i. What KM practices are in place in the selected university libraries?

ii. What is the perception of the different levels of library staff on various aspects of KM?

iii. How efficient is the corporate library culture and environment in facilitating KM?
iv. How well disposed is the library leadership to provide needed KM support and direction?

v. How effective is the ICT infrastructure in facilitating KM process?

vi. How well aligned is the overall organizational framework in providing infrastructural support to KM?

1.6 Significance of the Study

This study will be of great benefit to the universities as a whole as the findings of the study will be instrumental in helping the libraries develop skilled manpower in KM. Such manpower will in turn be able to identify expert sources and other resources within the libraries and universities and be in a position to direct and guide on ways of acquiring and appropriately coding tacit knowledge. Such knowledge base will help the universities exploit their intellectual assets cheaply and gain a competitive advantage. Through the use of K-maps, yellow pages and the hypertext, libraries will increase their knowledge base tools and be in a better position to support the goals of their universities. Effective KM will ensure that everyone in the libraries and universities as a whole will have access to appropriate and highest quality of information available when needed.

Due to the enhanced collaboration and knowledge sharing that will become a norm among many stakeholders within the library and without, the libraries will earn a new enhanced status, more visibility, wider access to information, more funding and support and this will help them improve services to their communities and propel them to great
heights of performance. Library staff will also gain new skills and competences needed in this age of information and knowledge and they will be able to acknowledge their expanded roles of Knowledge Managers.

The users will also benefit from enhanced stakeholders experiences and relationships as a culture of knowledge sharing will be formally inaugurated. This study will contribute to the general growth of new knowledge in KM.

1.7 Delimitations and Limitations

This section outlined the delimitation and limitation of the study.

Delimitations

It would have been ideal for this study to cover other types of libraries for comparison purposes and even a larger geographical region. However due to financial and logistical considerations the study was limited to selected chartered main campuses university libraries in Nairobi and Kiambu Counties in Kenya. The study limited itself to identifying the visible attributes, features, activities, systems and procedures that pointed out to the existing state of knowledge management practices in the university libraries under investigation. Factors affecting KM practices in other categories of academic libraries were not investigated. The study focused on the views expressed by library staff only. The views of other library stakeholders were not considered as they were not found to have a direct impact on the current study as the decision to implement and apply KM wholly rests with the librarians.
**Limitations**

There was scanty literature on KM in libraries in Kenya for purposes of reviewing literature and help lay the foundation of understanding the current research study. Lack of such cases meant that there were few local benchmarks for reference purposes. Another limitation was that some university librarians were unavailable for the interviews and this constrained the study as the researcher was not able to interview all the targeted university librarians. The study findings may be limited in terms of generalisability because of the limited area of focus. The study was only in Nairobi and Kiambu counties and only on chartered main campus libraries.

**1.8 Assumptions of the study**

The researcher made several assumptions which underlie the study:

i. That there was to some extent, KM practices in university libraries in Nairobi and Kiambu Counties.

ii. That library staff was aware of KM through different forums and channels of Communication but equated KM to Information Management (IM).

iii. That there was adequate technology and other supportive infrastructure that could support effective KM practices.

iv. That what lacked was KM champions and leadership guidance.
1.9 Theoretical Framework

The study was based on one primary theory. The Diffusion of Innovation Theory (DOI) was popularized by Everest Rogers, a professor of communication studies in his book “Diffusion of Innovations” first published in 1962 and now in its fifth edition (2003). The theory also referred to as the Diffusion Theory or Diffusion of Innovations Theory is a theory that seeks to explain how, why, and at what rate new ideas and technology spread through a culture or cultures. This theory, though synonymous with Rogers had been used by others before him such as Gabriel Tarde, who is accredited to be the father of the theory (1903), and Ryan and Gross (1943). The diffusion theory centers on the conditions which increase or decrease the likelihood that a new idea, product, or practice would be adopted and applied by members of a given culture. Rogers in this case took an innovation to be an idea, practice, or object that is perceived to be new by an individual or other unit of adoption. This study views KM as an innovation and/or a new practice and endeavored to establish the conditions that could have influenced the current KM practice in university libraries in Kenya.

The DOI theory was initially undertaken to establish why some innovations were adopted and spread throughout a society while others were ignored (Tarde, 1903). The theory focuses on what affects adoption and use of a new idea, or innovation. This too was the concern of this study. What factors had influenced the application of KM in university libraries was the concern of this study. The theory upholds that there are four main
elements that influence the spread of an innovation. To Rogers (1995) the four factors are:

i. The innovation itself,
ii. The communication channels used to spread information,
iii. Time
iv. Social system-the nature of the society to whom it was introduced.

This study aimed at establishing what factors had an influence on the nature of KM practices in university libraries The theory advocates that there are many qualities and characteristics in people and the innovation itself that could cause acceptance or rejection of an innovation. Some of these characteristics were given as the perceived need for the innovation, general attitude towards change by an individual, and the individual’s social characteristics among others. Some of the perceived characteristics of the innovation that could lead to its application or non application are listed below:

i. Relative advantage: The innovation is adopted if perceived to be better than whatever standard preceded it.
ii. Compatibility: If the innovation fits in with the older practices, systems, moral values, it is likely to be accepted
iii. Complexity: Innovations that are relatively easy to use and assimilated into an Individual’s life is easily adopted.
iv. Trial ability: This refers to the degree to which an innovation maybe sufficiently tested prior to adoption.
v. Observability: When people begin to see the good that the innovation is doing for them and for their neighbors they will find it difficult to resist the temptation to use it. A visible innovation drives acceptance among personal networks.

The channels of communication used to communicate a new idea have a role to play in the whole process of buying-in an idea or not. In the study carried out by Ryan and Gross (1943) they sought to explain how the hybrid corn came to the attention of farmers and which of the two channels, (mass communication and interpersonal communication with peers), led farmers to accept the new innovation. Findings revealed that each channel played a different function. Mass communication functioned as the source of initial information while interpersonal networks functioned as the influence over the farmers’ decision to adopt. Thus, the channels used to communicate an innovation contribute to its eventual use or not. It also goes to show that, the rate of application also differs and is affected by many variables. Diffusion of Information according to the theory occurs through a five-step process. According to the theory these stages assist in making the decision to adopt or not to. Such a process occurs through a series of communication channels over a period of time among the members of a social system. At every stage however, there are variables that influence the process. These stages are:

i. Knowledge stage – This is the point at which an individual becomes aware of an innovation but has inadequate information about it.

ii. Persuasion stage – At this stage, the individual becomes actively motivated and interested in seeking knowledge about the innovation. The individual,
depending on the perceived characteristics of the innovation forms a favorable or unfavorable attitude towards the innovation.

iii. Decision making stage – The individual weighs the advantages and disadvantages of the innovation and decides whether to take it or not.

iv. Implementation stage- Once the decision is made to accept the idea /practice, the innovation is put into use.

v. Confirmation stage – This is the final stage in innovation diffusion process.

The individual makes the final decision about whether or not to continue using the innovation based on his own personal experience with it. He decides whether he will continue or discontinue using it. Reasons for this could be varied. The user maybe disenchanted or the innovation could be overtaken by others.

The DOI theory also highlights the process that occurs to people as they adopt a new idea. Rogers mapped this process by distinguishing five categories of to illustrate how people behave in the face of adopting a new innovation. He stressed that at the initial stage only an initial few are open to the new idea to adopt its use. These he called Innovators who however constitute to only 2.5% of the critical mass. These are people who have no problem with adopting new ideas, are venturesome, and are motivated by the idea of being change agents. The next group was called Early adopters and is good vision carriers, serve as opinion leaders, love to be trendsetters and serve as good role models. Early Majority are pragmatists and they are many and have the disposition to interact frequently with peers and make deliberate contacts, hate technical operations, are
prudent and will only buy an idea only with reference from a trusted friend and even then need proven application, reliable service. The other group was named Late Majority and this group responds to pressure or due to economic necessity. These are people who are skeptical and tread cautiously and are only motivated by the need to keep up with competitors or proven trends in their industry. Lastly there are those called Laggards. These are people who want to maintain the status quo and suspicious of any innovation. Their point of reference is in the past and to the technology is a hindrance to operations. The identification of these categories of people is critical in promulgation of a new idea or function. If those who do not value the need for KM as a new function, for example, are entrusted with it to market it to others this will not happen as fast as it should. Identification of the right people to promulgate a new practice is a critical success factor for KM in libraries.

The theory has however been criticized on the basis that much of its evidence has been drawn from agricultural methods and medical practice and other fields have not been addressed. Secondly the theory has been criticized due to its approach to communication as a one-way flow of information that is said to cut any meaningful dialogue. Nevertheless and in spite of these sentiments the DOI theory is still one of the most used theory of diffusion to date.
This theory clearly relates to the study in that, the study was designed to establish the type of KM practices in university libraries and analyze and evaluate the factors that have decisively affected KM practices.

1.10 Conceptual Framework

![Conceptual Framework Diagram]

**Figure 1.2: Determinants Influencing KM in University Libraries**
Basing the study on Roger’s Diffusion theory, the researcher, employing both quantitative and qualitative research methods endeavored to study factors that could have influenced the application of KM in university libraries in Kenya. The above conceptual framework depicts the interaction of many factors that could contribute to the establishment of effective Knowledge Management Practices. It reflects the interaction of five factors that could drive and sustain KM practice. These elements, supported by appropriate ICT infrastructure formed the basis of analyzing and evaluating the existing state of KM practices in University libraries. The study investigated the above variables as key contributors to effective KM practices in university libraries. For these factors to enhance and sustain KM practices the staff understands and perception of KM concept and its benefits to their libraries was a key consideration. As a relatively new concept the role of leadership in championing KM acceptance as a key function in libraries was also a variable of concern by the researcher.

1.11 Operational Definitions of Terms

**Brainstorming Sessions:** A process where staff work together to try solve shared problems in which all members of a group spontaneously contribute ideas.

**Chartered Universities:** The universities that have met all requirements of the regulating body and have been granted full status of a university.

**Collaborate:** This is the act of working together with others with similar interests
to realize a common goal

**Corroborate**: Is the act of agreeing or confirming with other evidence

**Cross training**: This is the process of training employees in skills for more than one job

**Determinants**: Factors or elements that decisively affect or influence the nature or outcome of KM in university libraries in Kenya

**Effective**: Successful in producing the desired KM practices

**Information**: Is data that has been given meaning by way of context

**Information Management**: Concerns itself with the management of public domain knowledge which is documented

**Knowledge**: Is information applied meaningfully in the performance of activities.

**Knowledge Discovery and Detection**: Refers to the process of identifying existing knowledge sources, as well as discovering hidden knowledge in data and information.

**Knowledge repository**: Refers to a collection of knowledge stored in data base that is of interest to the organization and made accessible to the members of an organization through technology of such as intranet and browsers.

**Knowledge sharing Culture**: An organizational culture which encourages people to recognize and apply knowledge sharing as desirable behavior.
**Knowledge Management:** The process, by which the organization creates, captures, stores, uses and applies knowledge to support and improve its performance.

**Knowledge management Practices:** These are activities that should be in place at every stage of the KM cycle and used as checklists to establish the status of KM in libraries. The actual application or use of KM as opposed to theories about such application.

**University libraries:** Are libraries established to serve the university Community and are part of the libraries categorized as academic libraries.
2.0  Introduction

This chapter reviewed literature pertinent to the subject under investigation. The purpose of this study was to analyze and evaluate KM practices in university libraries and examine the determinants that have influenced or impeded in order to have a basis to recommend measures to enhance accessibility and utilization of Knowledge assets in university libraries. Consequently the reviewed literature touched on the following variables for investigation:

i. KM process

ii. Staff perception of KM

iii. Library culture and environment

iv. Library leadership support and commitment to KM

v. Organization framework

vi. ICT infrastructure

vii Communication channels

2.1 Knowledge Management Process

According to Mosoti and Masheka (2010) knowledge management as a process is about the knowledge life cycle from identification of knowledge to improving organizational
performance. Existing literature reviewed for the purpose of this study showed that KM processes differ slightly but in most cases they range from three to five key activities. (Alavi & Leidner, 2001; Yahya & Goh, 2002; Dalkir, 2005; Soliman & Spooner 2000). Alavi and Leidner (2001) postulated a four KM process consisting of creation, storage/retrieval, transfer and application. Yahya and Goh (2002) on their part postulated a five KM process consisting of knowledge acquisition, knowledge documentation, knowledge transfer, knowledge creation and knowledge application. Dalkir (2005) on his part summarized the KM process into three activities of knowledge capture and/or creation, knowledge sharing and dissemination, and knowledge acquisition and application. Mohsen (2010) even defined KM as a “systematic process for acquiring, organizing, applying, sharing and renewing both tacit and explicit knowledge to enhance organization adaptability, increase values of existing products and services” (p.235). The understanding of KM process was crucial to the understanding of how the determinants fitted into the library’s KM initiatives that formed the backbone of the study.

Figures 2.1 represent a five stage cyclic model of KM process to emphasis and recognize the cyclic nature of knowledge management process and emphasize that KM process is never ending.
At each stage of the KM process several elements need to be in place and their presence or absence could contribute to the state of KM in place. These were the variables that the study investigated. For KM practices to be effective, understanding of the KM concept is critical. The understanding of KM processes would greatly contribute to the level of KM practices. This study therefore investigated KM process as an important consideration for successful KM.

2.1.1 Knowledge Identification and Capture

Knowledge identification and capture refers to the stage of identifying the critical knowledge and the right persons who have the necessary expertise that should be
captured. It is the stage where critical knowledge held in processes, systems, documents, as well as persons with necessary expertise are identified. Maponya (2004) asserts that this is a very crucial stage to the success of KM in organization as it enables organizations to identify knowledge held within the organization but scattered in bits and pieces throughout an organization. Maponya (2004) arguing that the main focus of KM is people is of the view that “organizations often suffer permanent loss of valuable experts through dismissals, redundancies, retirement and death” (p.14) if attempts had not been taken to manage the individuals who have knowledge. This is because a lot of “knowledge is stored in the heads the people and it is often lost if not captured elsewhere” (p.1). In this regard, Maponya (2004) urges libraries to identify the expertise and the skills of staff and capture it to avoid collective loss of organizational memory. Maponya continued to advice the University libraries of the need to “devise systems to identify people’s expertise and develop ways of sharing it” (p.14). Hence this study was to shed light on how the libraries were identifying their expert sources and the measures put in place to manage staff as a strategy of retaining them and continuously benefit from their experiences and insights. Without clear cut formal systems of identifying and capturing both explicit and tacit knowledge, libraries’ role as knowledge repositories would greatly be compromised. Lack of such measures and capture mechanism could be a critical factor to the success of KM in libraries.

The capture of explicit knowledge is the systematic approach of capturing, organizing and refining information in a way that makes information easy to find. Tacit knowledge
management is the process of capturing the experience and expertise of the individuals in an organization and making it available to anyone who needs it. Formal processes of capturing knowledge could include collating internal profiles of academic librarians, data mining, text mining and standardizing routine information-update reports, face-to-face communication, discussion forums, bulletin boards, suggestion box, and feedback tools among others. Other knowledge capture (tacit) approaches from individuals and groups may include, interviewing experts, learning by being told, learning by observation, storytelling, questionnaires or surveys, brainstorming or adhoc sessions, use of focus groups, learning from others and participation or on-the-job training. Knowledge capture could span the whole set of activities performed by an organization, starting with the organization of customers and market information, to collection of examples of best practices or lessons learnt or the development of a mentoring programme. The study endeavored to establish what knowledge capture practices were in place and factors that could have influenced or affected the KM process of knowledge capture and acquisition.

2.1.2 Knowledge Organization and Storage

To make retrieval of stored knowledge fast, its organization is paramount to KM process. Organizing knowledge helps one to identify, retrieve and access knowledge created and stored in the past as well as in the present. This stage involves obtaining the knowledge from the identified sources and coding it in a systematic manner for latter retrieval. The captured knowledge is organized and stored in knowledge centers or repositories to be managed and shared or transferred across or outside the organization. To ensure retrieval
of past documents in a computer for example, the addition of metadata is key to fast retrieval. To remain competitive, knowledge workers must protect their knowledge and competencies and the appropriate skills for indexing and organizing knowledge be a requirement to effective KM.

2.1.3 Knowledge Sharing

Another key activity of the KM process is knowledge sharing. Knowledge sharing is simply about transferring the dispersed know-how of organization members and information more effectively and thus adding value to organizational activities. Sharing is a human social skill that enables people to work as teams to achieve more than they can accomplish alone. Knowledge sharing can be formal or informal. Where effective KM is in place using and sharing knowledge in a systematic approach is an accepted norm. Knowledge sharing in university libraries would ensure that expertise and know-how of library staff is valued and shared. What is needed is an environment and a culture that encourages sharing, structures that facilitate the same and library leadership that champions the KM course. To effectively share knowledge among widely dispersed people, application of appropriate ICT tools would hasten and boost the process. This is the stage where tacit knowledge is documented and codified and is a critical part of KM process as without it transfer of knowledge would be affected. This study was to establish whether the library culture and environment enhanced the KM process through adequate sharing of knowledge.
In the context of university libraries Maponya (2004) “noted that a great deal of knowledge –sharing is entirely uncoordinated and any sharing of information and knowledge has been on an informal basis and usually based on conversation” (p.16). Webb(1998) cited by Maponya (2004) also noted that although knowledge had existed in organizations and shared to some extent it was not until recently that knowledge has been managed and promoted as the key to organization success.

2.1.4 Knowledge Application

When knowledge assets are documented and shared within the organization knowledge utilization is facilitated. The captured knowledge when accessed and shared by users it is contextualized and then used for enhancing or updating existing services and /or development of new innovative services. Knowledge application refers to the process of taking the stored and shared knowledge, internalizing it and putting it to use. Unfortunately and borrowing a leaf from AMREF’s sentiments pertaining to their status on knowledge application, many organizations and libraries place emphasis on planning, organizing, and controlling resources to achieve specific objectives on time and within budget and crucial work like application of knowledge and experiences have largely been ignored (AMREF, p.9). The ability to apply knowledge is based on specific motivations. Kubr (2002) holds this view when he asserts that people will only act if they are motivated. Hence an important management task to enhance knowledge based value creation is to ensure that the right motivational set up is in place, so that workers develop, share and apply their knowledge in line with the objective of the enterprise.
2.1.5 **Knowledge Creation**

Once knowledge is shared, applied or used and the staff and partners have internalized it, the output should be creation of new knowledge. The knowledge utilized creates further feedback which in turn is applied for evaluation of the services. Knowledge creation can occur through research, innovation projects, experimentation, and observation among others. Knowledge creation is a continuous and dynamic interaction between tacit and explicit knowledge which happens at the level of the individual, the group, the organization and between organizations. Indeed Newell et al (2002) pointed out that “knowledge creation is typically the outcome of an interactive process that will involve a number of individuals who are brought together in a project team or some other collaborative arrangement” (p.48). Libraries should therefore create opportunities for interactions so that knowledge conversion can occur. According to Nonaka et al., quoted by Kubr (2002) the knowledge creation and/or conversion process is based on a simple framework that contains two dimensions. The first dimension shows that only individuals create knowledge while the other dimension relates to the interaction between tacit and explicit knowledge. These two dimensions constitute the base for defining the four knowledge creation and/or conversion process dubbed Nonaka SECI Model. The model postulates that knowledge is created through the interaction between tacit and explicit knowledge in four different modes.
Table 2.1: Four Modes of Knowledge Transformation (SECI Model)

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<th>FROM</th>
<th>TACIT</th>
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<td>TACIT</td>
<td>SOCIALIZATION</td>
<td>EXTERNALIZATION</td>
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<td></td>
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<td>Sharing experiences</td>
<td>Codification documentation</td>
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<td></td>
<td>EXPLICIT</td>
<td>INTERNALIZATION</td>
<td>COMBINATION</td>
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<tr>
<td></td>
<td></td>
<td>Individual use of experience</td>
<td>Creation of new knowledge</td>
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Source: Mohsen, 2010 p.235

The transformation of tacit knowledge to tacit knowledge is called socialization which occurs when there is direct contact between individuals who share experiences. The second mode is the articulation of tacit knowledge to explicit through the process known as externalization and this interaction brings about codification and documentation of tacit knowledge. Such a process forms the basis for reflecting experiences, for formalizing learning processes and ultimately for the standardization and process improvement. The transformation of explicit knowledge to explicit knowledge occurs through a process called combination. This is realized within an organization when individuals exchange and combine knowledge through documents, meetings and communication networks which culminates to generation of new knowledge. The last
mode is the embodiment of explicit knowledge into tacit knowledge through a process called internalization. This is a process of learning by doing and is normally the first stage of knowledge creation.

As new knowledge is created, it again needs to be captured and the cycle continues. Given that knowledge creation is a complex and fuzzy process, the main role of the libraries would be to provide the proper context and environment for facilitating group activities as well as the creation and accumulation of knowledge at the individual, group and organization wide level. As knowledge creation focuses on the development of new skills, new products, better and novel ideas and more efficient processes this can only be possible where there is interaction and communication to help compare each person’s ideas and experiences with those of others. The study was envisaged to help determine whether such interactions were facilitated as essential factors to KM process.

2.2 Applying KM in University Libraries

Pariokh et al. (2009) hold that in general, “libraries are knowledge creation enterprises where large amounts of knowledge is created regularly during various knowledge – related activities” (p. 2) and adds that one major source for library knowledge is the library staff. Aswath & Gupta (2009) are of the view that the success of university libraries and information centers in support of the mission of their parent institutions which is to generate knowledge and to equip people with knowledge in order to serve the society and advance the well being of mankind will depend upon their ability to utilize
knowledge of its staff to serve the user community. They continue to argue that libraries can only realize such a goal by planning to apply KM.

Maponya (2004) is of the view that the basic goal of KM within libraries is to leverage the available knowledge that may help academic librarians to carry out their tasks more efficiently and effectively. KM is also aimed at extending the role of the librarians to manage all types of information and tacit knowledge for the benefit of the library (Maponya 2004, p.13). Kim (2000) cited by Maponya (2004) pointed out that, “Knowledge management practices aim to draw out the tacit knowledge people have, what they carry around with them, what they observe and learn from experience, rather than what is usually explicitly stated” (p.21). KM enables an organization to share new ideas, insights, and discoveries across the board. In this new era of knowledge economy with its emphasis in knowledge sharing and service delivery, the university libraries could benefit greatly from adopting knowledge management practices in their operations. To survive and flourish, organizations including libraries need to respond to many new pressures to generate the best outcomes from the resources they have at their disposal. Shanhong (2000) put it very clearly that the role of the library, “in the knowledge economy era, is to become a treasure house of human knowledge, participate in knowledge innovation and become an important link in the knowledge innovation chain” (p.1). It is on the basis of such sentiments that a study to establish what factors could be influencing and/or affecting the state of KM practices in university libraries was found a necessity.
Lee (2000) was also very categorical on the new role of libraries in the 21st century. To him the, “new role of libraries in the 21st century needs to be as a learning and knowledge centre for their users as well as the intellectual commons for their respective communities” (p.8). For the above to take effect, libraries were called upon to create an environment where people and ideas interact in both the real and virtual environment, to expand learning and facilitate the creation of new knowledge. Such outlook calls for strong and dynamic leadership in libraries. It was the hope of the researcher that such leadership was provided in university libraries.

Unlike the business world whose goal for KM is for competitive advantage, most public, academic and research libraries, with the exception of company libraries, have a different orientation and value. Instead of competition, the most important mission of academic, public and research libraries is to expand the access of knowledge to their users. This mission gives credibility to libraries to improve their KM in all key areas of library services. Effective KM practices would ensure that all knowledge assets are known and exploited.

It would be assumed that due to the libraries long and rich experience in the management of information coupled with their organizational skills and information professionalism and competencies, KM should be a natural extension of their profession. It was on this premise, that this study was envisaged to establish the extent to which university libraries in Kenya had embraced KM.
KM as a subject has also been debated, discussed and adopted in the university world. Witt et al (2007) highlighted how the University of Plymouth was able to make available huge volumes of knowledge and expertise about teaching and related issues held by people separated by geography and disconnected from other practitioners in other institutions through the use of a KM system supported by IT. Higher Education Learning Partnerships Centre for Excellence in Teaching and Learning (HELPCEL) which was the outcome of the above initiative helped in the transfer and sharing of vast amounts of expertise knowledge held by a range of academics and support staff in different geographic locations. Oxford University Knowledge Transfer Partnerships (KTP) also initiated and supported the University’s Knowledge Transfer Partnerships between academics, companies and high caliber graduates seeking to make an impact in the new business environment. These KM partnerships were initiated by the universities and not their respective libraries. KM is about knowledge creation and sharing and application. The current study was tasked to establish the extent to which university libraries were aware of the importance of KM in libraries.

2.3 Significance of KM

A study by Mosoti and Masheka (2010) carried out in 69 profit and non-profit organizations in Nairobi revealed that those organizations that had adopted knowledge management posited positive results. These organizations related their increased knowledge sharing both vertically and horizontally, improved skills and knowledge of workers, improved involvement of workers in the workplace activities, prevention of
duplication of research and innovation, and even improvement of their ability to capture knowledge from research institutions, universities and government laboratories to their KM practices. Though the study addressed profit and non-profit making organizations and not libraries per se the benefits cited could be applicable to libraries as well and be a driving force for KM.

Existing research has proved that KM can improve access to and transfer of organization knowledge. Kankanhalli et al (2003) cites the case of Hewlett Packard and their program of transferring staff across their organizations as a strategy of knowledge transfer. Application of knowledge management will hence enable libraries to establish networks using the available technology to share their experiences and insights both within and without the libraries. This will eventually help them to create communities of experts across their organizations. KM would help libraries manage knowledge as an asset. Townley (2001) observed that in spite of the huge amounts of information about their operations, libraries rarely use their operational information to create or apply organizational knowledge. As it were, Townley continued, libraries do not consider organizational knowledge as a resource in its own right as they do personnel, collections or facilities. They do not also manage knowledge about their organizations as they manage their other resources. Townley (2010 is of the view that the “emerging field of knowledge management offers academic libraries the opportunity to improve effectiveness both for themselves and their parent institutions” (p.1). Adoption and practice of KM would make the libraries appreciate and value their tacit and operational
knowledge which would help them make informed decisions and to improve their services.

KM enhances collaborative initiatives with cross functional teams either internally or externally. Townley (2001) in support of this sentiment observed that “The Oak Ridge National Laboratory library, in collaboration with Systems, Records, and Information units has developed an organization–wide effort to improve access to strategic knowledge built on six goals” (p.9).

To achieve its goals the above library developed a Virtual Proposal Support Centre to improve access to knowledge about grants and proposals of interest to Oak Ridge National Laboratory library. The centre’s aim was to “pull together several databases into a single searching algorithm, maintain a list of experts available to support a proposal and provide access to other proposals and lessons learnt” (p.9). Similar knowledge from other collaborating institutions was also to be included. Such a centre was “intended to provide a one-stop shopping for scientists putting together increasingly complex and multidisciplinary proposals on a distributed environment” (p.9). Such collaboration ensures the provision of knowledge across the organization. These goals are ideal to successful KM process in libraries without which knowledge identification, capture, acquisition, access and application would be compromised. To succeed in the implementation of the KM project, the Oak Ridge Laboratory library believed that the following six requirements were essential namely:
First Management must foster knowledge sharing and collaboration within the organization. Second leadership support must be present at all levels of the organization. Third strong collaboration must exist between computing and library organizations. Fourth librarians must develop new skills and new ways of working. Fifth time, persistence, experimentation, and flexibility were required of all participants in the project. Sixth all administrators must demonstrate proactive leadership (Townley 2001, p.52).

The above example point out to one thing that KM has the ability to expand the role of libraries within the academic institution. This ability would eventually increase visibility and standing of the libraries within the institution, enhance goal attainment, and strengthen partnership with administration and service units and better funding.

Aswath and Gupta (2009) advocate that in this new economy which is characterized by competition and downsizing, organizations’ success depend on their ability to utilize knowledge of their staff. University libraries stand to lose tacit knowledge whenever an employee leaves the employ or when an employee has no means or motivation to reveal what he/ she knows to others. This realization prompted Figallo and Rhine (2002) to advocate that:

> It is critical that libraries adopt all means possible to find, harvest and distribute current and relevant knowledge from a wide variety of trusted human resources in order to make decisions and innovations in today’s hyperactive market place of things and ideas (p. ix).

This study was envisaged to unearth the factors affecting effective KM practices for enhanced knowledge exploitation. Indeed library’s main goal is to identify, organize and expand the access of knowledge to users. Any factor that could hinder realization of
above goal is worth investigating. Determining factors have affected and/or influenced the current state of KM application in university libraries was the foundation of this study.

2.4 Staff’s Perception of Knowledge Management (KM)

For a new idea or practice to be accepted and applied the receivers’ perception of the idea is crucial to its acceptance or otherwise. Among the four factors cited by Rogers (1995) as influencing adoption of an innovation, perception of the innovation by the society to whom it is introduced was one of them. The general attitude towards the need of an innovation is one of the factors that could influence application of an idea either positively or negatively. If an innovation is perceived to be a better substitute to what people are used to, is compatible with existing systems or practices, is simple to apply and try it out, and results are quickly observable, such an innovation is quickly adopted and practiced.

The impression that an idea or innovation creates or is perceived to create in the receivers’ mind influences its acceptability or non-acceptability. Lin (2005) identified perception aspect as one of the four knowledge management gaps that must be addressed before implementing KM. Perception as a variable of investigation was to help establish how library staff at various levels of library hierarchy perceived KM. Where perception of an idea or practice is positive application becomes easy and the reverse is the case. Perception was then investigated as a factor influencing KM application in university
libraries. The concern of this study was to establish how the top leadership and other library staff perceived KM and its implementation.

2.5 Communication Channels
The transfer of knowledge across an enterprise is a key consideration in the KM process. Communication is essential for ideas, innovations, decisions, policies and even changes to be disseminated to consumers. Communication can either be formal or informal. The DOI theory upholds that communication and the channels used to diffuse new information can enhance or deter adoption of a new practice or idea. For example, in order to establish why the new hybrid corn took too long to be adopted by Iowa farmers in spite of its superior qualities, Ryan and Gross (1943) conducted a survey to determine how information on the new corn came to the attention of the farmers. They particularly wanted to establish which of the two channels (mass communication and interpersonal communication with peers) led farmers to adopt the new innovation. Findings were amazing as each channel was found to have played a unique role. Mass communication functioned as the source of initial information, while interpersonal networks functioned as the influence over the farmers’ decision to adopt. One of their major findings was that, “the adoption of innovation depends on some combination of well established interpersonal ties and habitual exposure to mass communication” (Ryan & Gross 1943, p.125).
Sahin (2006) in an attempt to emphasis how communication plays an important role in the diffusion of innovation cited the case of Pfizer Drug Company (1966) that wanting to establish how physicians adopted the new drug (tetracycline) and how mass communication influenced its adoption requested three professors at Columbia University to undertake the study. Findings of their study revealed that physicians who were cosmopolite and those who had more interpersonal networks adopted the new medical drug more quickly than those that did not. The findings of that study were so fundamental that Rogers (1996) acclaimed happily that the study, ‘was one of the most influential diffusion studies in showing that the diffusion of an innovation is essentially a social process that occurs through interpersonal networks’ (Singhal & Rogers, 1996). This current study was to establish how KM has been communicated and the channels used.

2.6 The Organizational Framework

Another central aspect of implementing KM is the development of an appropriate organizational infrastructure (Wong, 2005). Organization framework encompasses what constitutes an organization. It constitutes elements that are common to all organizations and form a solid foundation for KM. Organizational framework is the overall organizational structure within which knowledge is supported or not. It is the glue that supports the entire process. Debowskii (2006) expounds it to include vision and mission statements, strategic plans, organizational processes, policies, and systems put in place and supported by the organization deliberately to support KM process (p.116). For any new practice to be adopted and implemented, an interaction of many factors and elements
is a called for necessity. For Knowledge Management process to contribute to an effective knowledge community an interaction of many factors becomes the norm.

Debowski (2006) continues to argue that organizational framework relates to the ways knowledge is reflected in the organization’s philosophy and strategies for example in the promulgation of vision and mission statement and strategic plans that should clearly point out the direction the organization is heading. Effective strategic planning should encourage greater recognition of the importance of knowledge strategy in supporting organization direction and outcome. Policies, standards and guidelines allow organizations to make more effective use of their resources and provide a measure to assess conformity with set objectives. The consistent use of appropriate standards and guidelines is an absolute imperative to ensure best practice recordkeeping in an environment of constantly change management.

The structural elements in place could also either support or undermine a knowledge culture. For example, the type of organization and its structure plays a significant role in determining how readily knowledge could be transferred across groups or individuals. Debowski (2006) is of the view that organizational structures influences the way power and responsibility operate in a firm and by implication the way knowledge could be disseminated and applied by others. The structure can therefore decrease or increase capacity to interact with and learn from others working in different fields. In connection to this and as a strategy to enhance KM, Maponya (2004) citing Stoffle (1996) agree that
there is need to flatten organizations and “eliminate the bureaucracies that make people inflexible and slow in their response to their environment and opportunities that are constantly presented” (p.12). Groff and Jones (2003) advocate that what KM implementation needs are flat structures, transparent processes, strong communal values, self-determining and self-governing professionals and an effective balance between individual and community. Rigid, hierarchical, inflexible organizational structures which are fragmented into silos, precludes effective sharing, fluid knowledge and cooperation. Groff and Jones (2003) argued very rightly when they said that knowledge flows very poorly in large centralized, hierarchical organizations. To them, such organizations get trapped in logjams of policies and personal power plays and develop cultures that hold and believe that only the senior management can find new innovations. Such structures cannot enhance growth of knowledge and innovative creativity as it hinders learning from the wealth of diverse viewpoints. In her part, Debowski (2006) notes that the, “structure may work against an organization’s desire to share knowledge, despite the overall need to do so” (p.117). The organization structure in place sends a clear message of whether KM is important or not. Maponya (2004) citing Moran (2001) rightly argues that the hallmark of a library is information sharing, team-based structures, empowered employees, decentralized decision making and participative strategy. In this realization the libraries need to be more client-centered and restructured in order to support front-line performance. Wong (2005) in a research paper addressing the critical success factors (CSFs) to KM implementation in organizations noted that removal of organizational constraints was one of the CSFs. He went on to say that, “organizations should
understand that successful KM implementation may not be achievable if organizations cannot eliminate constraints that are present in the organizations” (p.137). Organizational constraints need to be removed for KM to be implemented. The issue at hand was to establish whether university libraries were organizationally structured to apply KM.

2.7 Library Knowledge Sharing Culture

Choy (2005) noted that, “many researchers have insisted that knowledge–friendly culture must be present or nurtured in order to achieve KM implementation success (p.136). An organizational culture reflects the spoken and unspoken values which are adopted by staff in their daily activities. Davenport (1995) in his book, “Think Tank: The future of KM”, quoted by Groff and Jones (2003) is of the view that, “successful knowledge transfer includes neither computer nor documents but rather, interactions with people” (p.12). Such interactions are possible where a culture of sharing is the norm not the exception. The environment must also be supportive and conducive to interaction. Churchman (1998) concurred with the above sentiments when he observed that it is people who transform information and data into knowledge by applying context. To him, culture should be the tool of choice in implementing a KM process. A culture that promotes KM must be one where information exchange is encouraged and rewarded. New staff should be inducted in this culture from the first day in the organization. The organizational culture of sharing should be visible or implicit to both internal as well as external stakeholders.
As pointed out earlier, the most fluid, current, relevant and usable knowledge resides in the minds of people (tacit knowledge) both within and without the organization. In order to tap the mind pool, an organization needs a culture that encourages the smooth flow of knowledge and experience from where it exists to where it is needed Figallo. Rhine and (2002) advice that to get that mind flow going, there is need to develop practices and develop compatible technical systems that attract and support participation. Flynn (2004) argues that one of the key elements that support KM process is organizational culture. To Flynn, the creation of a knowledge sharing culture in which employees believe that knowledge sharing is a critical success factor at the individual and group level was the first step in the implementation of a KM process. Debowski (2006) holds that knowledge communities are characterized as “open communicative culture which encourages sharing, tolerance, collaboration and trust” (p.84). Sharing knowledge freely is almost always a difficult assignment. Hauschild, et al. (2001) cited in Wong (2005) is of the view that successful KM requires the, “development of grass root desire among employees to tap into their company’s intellectual resources” (p.271). Wong (2005) continues to add that, “if individuals are not motivated to practice KM, no amount of investment, infrastructure and technological intervention will make it effective” (p.271). Staff fails to share knowledge within the organization due to reasons such as lack of trust, feelings that it is not valued, feelings of loss of power, status and prestige, loss of job opportunity among others. Figallo Rhine and (2002) also observed that people do not use KM systems if they do not recognize any gain from knowledge exchange. Hence in order to enhance knowledge exchange in organizations one of the most important factors is the
establishment of the right incentives, rewards or motivational aids to encourage people to share and apply knowledge (Wong 2005, p.271). Wong (2005) points out that “giving incentives to employees helps to stimulate and reinforce the positive behaviors and culture needed for effective KM” (p.271).

Figallo and Rhine (2002), experts in online knowledge sharing, are of the view that online conversational knowledge sharing could and would only take place in a supportive atmosphere. To them, an online knowledge-sharing culture requires certain conditions and nutrients just as an orchid can only grow within certain ranges of temperatures, humidity and social conditions. These ‘nutrients’ they added were also applicable in face to face conversations. Kubr (2002) concurred when he added that, “like a plant, which will grow in the right conditions, employees need the right ecology or organization culture to produce knowledge and share it with their colleagues” (p.423).

Three essentials of a sharing culture include; trust, tolerance and reward. Trust is the degree to which a person is willing to act on the basis of another’s words, behavior or judgment. When there is trust, people feel that what they share will not be exploited or used against them or someone else will not take credit for that knowledge or that an expressed opinion will not get them into trouble. Tolerance is also very essential for knowledge sharing to take place especially as people begin to use new systems to take part in new forms of interaction. Figallo Rhine and (2002) assert that tolerance is even more essential in the arena of online knowledge network where people, devoid of facial
expression can be outright frank and rude as they bring out their ideas, feedback, opinions, experiences and questions. To encourage tolerance, Figallo Rhine and (2002) hold that, “knowledge does not always come neatly packaged and in an active and open knowledge network, it may sometimes be presented in unsettling forms” (p.114).

Communities are places of exchange, where members expect to get things of value from each other. They are not places of one-way contribution where members give to some greater entity in return for nothing. The principle of reciprocity needs to be encouraged. There must be satisfaction in participation or people will not contribute knowledge of value. As mentioned earlier in this section, sharing knowledge does not occur naturally. People need incentives and to be assured that they would benefit from the exchange if they contributed to it. Such incentives may include public recognition, promotion, and sponsorship to conferences, distinguishing them in the knowledge community’s yellow pages directory and financial rewards as bonuses based on amount of participation in conversation. They could also be in the form of reputation as an expert in a specific field, opportunities to learn, provision of efficient equipment, free time and interesting work among others. Another incentive that would make staff to participate in an online community or otherwise is the sense of feeling that comes to an individual of being part of something bigger than oneself. Figallo Rhine and (2002) call this incentive the “membership effect”. Thus incentives need not only be in monetary terms.
The social reward of membership in a group becomes a compelling force, especially if
the group has a purpose and an agreement to collaborate civilly towards achieving
common goals. Hence for members in a community to participate in knowledge sharing
they must be sufficiently motivated to reveal what they know and sustain the interaction
that keeps new knowledge flowing. To achieve above, the organization should promote
and foster a culture that encourages knowledge exchange and provide appropriate
environments, training and staffing that enable groups to make the best use of their skills,
experience and information resources.

Figallo Rhine and (2002) cited four main categories of incentives that compel members
to join an online knowledge network: To them part of the motivation to learn must exist
within the individual and part must be motivated by the organizations. These motivations
were grouped as follows: personal, cultural, goal-oriented and compensatory. The table
below portrays the incentives more vividly.
Table 2.2: Four Main Categories of Incentives to Join an Online Knowledge Network

<table>
<thead>
<tr>
<th>Type of Incentive</th>
<th>Reasons</th>
</tr>
</thead>
</table>
| Personal          | I want to learn from others  
I want to help others  
I am curious about a topic or practice  
I love participating in online conversations  
I want to display my skills in online conversations  
I want to be recognized as an expert |
| Cultural          | Conversation is part of the organization way  
Collaboration is the best way to get things done  
Prestige comes with regular participation  
To not participate will be out of the loop  
If you give, you will get in turn  
Online collaboration is the best way to get things done |
| Goal-oriented     | The project team is meeting online and that is that  
The knowledge network is the direct way to locate and contact experts.  
Conversing online saves money in our department’s Budget |
| Compensatory      | The company pays bonuses based on new ideas brought to the conversation.  
The company pays bonuses based on the efficiency of operations.  
Promotions are partially based on regular participation in knowledge networks. |

Note. Adapted from Building the KM network, p.217, by Figallo and Rhine 2002, Wiley Technology Publishing
Hence the first step for many organizations is to create a knowledge sharing culture in which employees believe that knowledge sharing is a critical success factor at the individual and group levels?

For knowledge sharing culture to be sustained the members of the organization need to maintain a culture of respectful exchange and collaboration. To achieve a meaningful motivation to share knowledge, librarians need to develop and sustain an appropriate reward system. For example the staff that share their knowledge through writing, publishing, mentoring, on the job training, seminars, meetings among others should be rewarded appropriately. Appropriate facilities and should be provided to enhance sharing through dialogue both formal and informal. Lee (2000) in looking at the role of libraries and KM in the new knowledge economy stressed the need for libraries to create an environment where people and ideas interact in both the real virtual environment so as to expand knowledge and facilitate the creation of new knowledge. Debowski (2004) gives a range of strategies that could help maintain the knowledge culture. These are:

i. Socialization of new members to the culture of the entity;
ii. The development of reward and performance management systems;
iii. The development and mentoring of new leaders and ongoing professional development of knowledge related activities;
iv. Integration and constant improvement and support of existing knowledge systems and services;
v. Recognition of key knowledge workers, celebration of major knowledge advancements and strategies;

vi. Ongoing sharing of experiences; and

vii. Appointment of a coordinator whose role is to develop and maintain a knowledge culture.

2.8 Library Leadership

Hasanali (2003) observed that, “nothing makes greater impact on an organization than when leaders model the behavior they are trying to promote among employees” (p.1). The type of leadership in an organization determines to a great extent the direction the organization will take and also the success of the same. Choy (2005) cited top management support and commitment as the most critical factor for successful KM initiatives. It is the organization’s leadership that clearly describes the ideal culture and makes the decision as to whether the culture of KM will be developed, sustained and stimulated to enrich the knowledge community (Debowski 2006). She continues to hold that an effective knowledge community relies on strong leadership from its most senior leaders to its most junior members. Thus leadership plays an essential part in creating an environment which stimulates other factors.

Debowski (2006) argues that knowledge leaders must have an understanding on the organizational priorities and expected behaviors and willingness to be advocates to encourage the awareness of others concerning those expectations. This realization made
Figallo Rhine and (2002), to assert that unless the top tiers of the leadership hierarchy recognize the importance of knowledge exchange culture, there would be little hope that grass root efforts would transform the entire organization. Success of any programme depends directly on senior management support and commitment. Library management needs to create an environment which supports KM activities, by setting an example and actively sharing the knowledge themselves and encouraging staff to experiment and innovate by creating time and providing timely feedback on projects. Hasanali (2003) gives an example of Buckman laboratories, where the CEO champions the cause for KM within the organization and personally reviews admissions to its knowledge bank. When he notices that a particular employee had not been active with the system, he would send him a small message reading something like this: “Dear associate, you have not been sharing knowledge. How can we help you? All the best, Bob” (p. 1). At the World Bank, the president’s support led to the creation of an infrastructure that promoted and supported the growth of CoPs not only throughout the organization, but also around the globe sustained to date with its knowledge managers constantly searching for new approaches to knowledge sharing. Choy (2005) adds that top leadership must show commitment by charting the necessary direction of its KM activities by including KM as part of organization vision and mission as well as developing a knowledge friendly culture. Leaders are also instrumental in influencing acceptance or non acceptance of an idea through their actions, advocacy as well as personal commitment. If they are passionate and committed to a course it succeeds and the reverse is the case. Thus for
successful KM to be implemented, the visible leadership and commitment of top management must be sustained through a KM effort.

2.9 Information Technology (IT)

Wong (2005) in reference to IT as a critical success factor for KM notes that: “it is undisputable that one of the key enablers for implementing KM is IT” (269). To substantiate his sentiments he acknowledged that: “IT enables rapid search, access and retrieval of information and can support collaboration between organization members” (p.269). Choy, et al. (2005) in a paper addressing critical success factors for KM implementation identified IT as one such factor and noted that,“ many researchers have supported the notion that effective and efficient implementation of KM is unthinkable without information systems infrastructure which provides an edge in harvesting knowledge” (p.135).

Conley (2007) ranked technological infrastructure as number two in the list of factors he identified as the most critical success factors for implementing KM. Ajmal et al (2010) in addressing critical success factors for KM in project business also identified information systems as one among the six CSFs. For knowledge exchange to take place, IT becomes an appropriate requirement. Indeed AMREF (2010) indicate that Information Technology (IT) is a fundamental enabler in KM methodologies and processes. Debowski (2006) on her part advocates that efficient and effective communication are key to encouraging and enabling knowledge sharing across the knowledge community whether electronic based
or based on interpersonal, group or written communication. IT is therefore an important tool for enabling KM process in libraries. Dalkir (2005) cited by Parirokh et al., (2009) noted that IT components, such as intranet, emails, databases, websites, alerting services, bulletin boards, chat facilities among others facilitates knowledge acquisition, organization, dissemination, access and application. Flynn (2004) argued that one characteristic of successful KM initiative is the existence of appropriate technology to support the KM process. Indeed she advocated that, not only should appropriate technology be in place but employees should be trained to use it and regular widespread use be encouraged. Figallo Rhine and (2002) point out that knowledge network is “a techno social entity requiring a good match between the tools supporting conversation and the organization of the conversationalist” (p.97). They continued to advocate that because the role of IT in effective KM is to increase productivity KM systems should not be too technical to make them cumbersome to learn and use. Indeed they advice organizations to collaborate with the IT departments in order to build a knowledge sharing environment. Figallo Rhine and (2002) in arguing that KM is a techno social activity justified their argument by showing that without the involvement of humans and their social concerns in all stages of the KM process technology alone can achieve little in the advancement and dissemination of knowledge in organization. Likewise without appropriate IT many opportunities and conveniences for sharing and generating new knowledge would be lost. Indeed Kondo (2006) is of the view that KM initiatives driven by technology alone fails because:
Knowledge management is not only about information; it is also about the people you have recruited, trained, developed, and promoted within your organization. KM involves not only the implementation of a software system; it involves understanding your business needs, your organization’s culture and your personnel. To succeed, any KM initiative requires that you know your people and clearly define the behaviors that need to be changed or reinforced (p.1).

To accomplish viable KM acquisitions and especially in this time and age when knowledge changes with each passing day, use of IT is vital. It becomes possible and easy to link closely knowledge sources and knowledge workers by computer networks, thus constructing knowledge networks in libraries based on realization of single-point information. IT also assists in storage of the accumulated and conveyed knowledge, in retrieval, sorting and dissemination. Hence an integrated IT infrastructure is a key success factor that this study investigated.

Because of the high premium attached to IT, many advocates of KM stress the importance of using advanced technology to store and retrieve knowledge (Wen, 2005). Indeed Wen continued that “many advocate for a centralized turnkey knowledge management software product or system” (p.6). Wen (2005) however advised that such a system may “entail a pricy initial capital investment whether purchased from the market or developed in-house” (p.6). In addition he continued to say that “subsequent and ongoing maintenance and upgrades of hardware and software may not be affordable with the ever shrinking library budget” (p.6). To Wen (2005) libraries could implement KM initiatives cost effectively using the existing IT infrastructure within the organization. To Wen, the available Microsoft office suite, discussion lists, online help desks, virtual
reference desks, and web portals, among others could be utilized to great advantage to implement KM in university libraries.

For university libraries to share knowledge and expertise held by people and/or users that are displaced by geographic locations, the adoption of a KM system should be employed. A KM system is a computerized system designed to support the creation, storage, and dissemination of information. Debowski (2006) notes that such a system contains a central repository of information that is well structured and employs a variety of effective and easy to use search tools that users can use to find answers to questions quickly. The university libraries as such need to invest in technological tools that make exchange, capture and application of knowledge effective and efficient. The study was to establish among other things, the basic technological tools of the knowledge network in place and their rate of usage and effect on KM practice. The study was also to establish whether the absence or presence of an adequate KMS had played a role in the state of KM practices in university libraries. In addition the study investigated whether there were efficient processes in place to ensure the right knowledge was captured, managed and kept up-to-date in a repository. A repository would enable users gain access to potential or essential sources of guidance. Debowski (2006) notes that apart from a repository codifying explicit knowledge in a logical manner it also directs the users to enabling sources including people, organization units, web sites, groups, policies and other avenues which may guide and inform the knowledge user. Hence a repository serves as a link between users and core knowledge, operating at a single point of entry to help people
find relevant information from many different organizational sources. A repository also acts as a vehicle of contributing new knowledge and for requesting personalized knowledge service which keep the user updated on repository additions. Knowledge repositories store both information and knowledge often in documentary form.

Because of the great role they play in facilitating capture, storage and dissemination of knowledge their design need to be carefully thought out to reflect user needs and the knowledge most important to core business. Debowski (2006) gives as an example salient features of a repository as listed here below:

i. Links to organizational and external sources
ii. Search services to help users find required objects.
iii. Communication forums to facilitate knowledge exchanges.
iv. Reference materials and Services
v. Discussion topics
vi. Frequently Asked Questions (FAQs)
vii. Case studies
viii. Real life examples
ix. A site where solutions maybe shared
x. A help service to support users and familiar system
xi. Guidance on the system and indexing processes
xii. A contribution channel to allow easy linkage of new material.
2.10 Critical Success Factors for KM in Business Organizations

The purpose of this study was to analyze and evaluate key factors affecting knowledge management practices in university libraries in Kenya. Indeed one of the objectives of the study was to propose a knowledge management model for determinants that affect KM practices in university libraries. For this purpose and as a form of creating a solid base, the researcher looked into several studies done on critical success factors (CSFs) for implementing KM. Wong (2005) viewed CSFs as those activities and practices that should be addressed in order to ensure successful implementation of KM. Wong (2005) continues to add that if these CSFs are in place, they need nurturing and if absent, they need to be developed.

Various studies have been launched on CSFs across various industries and disciplines to both large and small enterprises except in library world which the current study sought to bridge that gap. Ansari et al. (2012) argues that due to, “the diversity of organizations and environments in which business is conducted, the obtained results have disparities” (p.213). Wong (2005) after studying several literatures on CSFs and analyzing their
limitations settled on eleven (11) CSFs for implementing KM in small and medium enterprises. These were listed as, support of management and leadership, culture, information Technology, Strategy and goal, evaluation, organization infrastructure, process and activities, motivational aids, resources, education and training and finally management of human resources (pp.269-271).

Choy and Suk (2005) also identified eleven key factors for the successful implementation of KM on a general perspective. These they cited as, employee training, employee involvement, teamwork, employee empowerment, top management leadership and commitment, organization constraints, information system infrastructure, performance measurement, egalitarian culture, benchmarking and knowledge structure.

Yeh et al., (2006) in a paper on enablers of KM and whose aim was to analyze the fundamental role of the enablers for the execution of KM inside the organizations noted that the enablers they had studied could, develop knowledge, stimulate, share and keep knowledge creation within the organization and enhance or influence activities of KM” (p.214). After their investigation they concluded that, corporate culture, people, IT, strategy and leadership were enablers of KM. To them (Yeh et al., 2006) management support is the most critical success factor to KM.

Wei et al. (2006) in their study on, “KM implementation in Malaysian Telecommunication industry: An empirical analysis,” regarded business strategy,
knowledge team, knowledge audit and knowledge maps as essential to KM success but observed they were least implemented. Ajmal et al., (2010) in their study on CSFs for KM in Project based Content identified six (6) CSFs namely, familiarity, coordination, inceptives, authority to perform, systems and cultural support. Conley (2007) study on CSFs for KM identified nine (9) CSFs which he ranked in order of significance as, sharing, technical infrastructure, top management support, knowledge strategy, training, culture, transferring, creating, and knowledge infrastructure. He also grouped them into four categories namely: strategic, tactical, technological and organizational.

These examples of CSFs heightened to show that several studies on factors affecting KM are in plenty. However these studies have been conducted at different times, for different organizations and in different environments but none addressed the library environment. The present study, addressing determinants affecting knowledge management practices in university libraries in Kenya was designed to fill that gap.

2.11 Summary of the Literature Reviewed

Chapter two reviewed literature related to the objectives of the study. The reviewed literature explored KM as applied in the business as well as in the library world to act as a precursor of the current study. Studies on KM in the business world were studied to act as a benchmark of KM application as literature on KM application in libraries is limited. An example of Buchman’s Laboratory CEO Director Involvement in KM initiative was given to acknowledge the role of leadership in KM effort. Knowledge management
studies in libraries were studied to provide the current state of KM practices and to establish research gaps. Most of the literature reviewed on KM in libraries had addressed different aspects of how KM could be applied in libraries. Existing studies reviewed on the critical success factors (CSFs) for KM implementation were all from different organizations and none considered the need for libraries. This study was aimed to bridge that gap. KM studies reviewed showed that KM should be an integral part of library operations. The chapter also revealed that general awareness of KM in libraries was good as international, regional as well as national conferences and seminars addressed the issue of KM and in most cases emphasized the need for libraries to become the treasure houses of knowledge in this knowledge era. Libraries in all these forums were impressed to create environments where people and ideas interacted in both the real and virtual environment. Literature reviewed also showed that some universities (Oxford, Plymouth, New Mexico Health Sciences Centre,) had successfully implemented KM. In Kenya, a study by Mosoti and Masheka (2010) revealed that organizations that had adopted KM and applied its principles had improved performance. Another study by Maingi (2007) that tried to assess how ready organizations in Kenya were for KM revealed that most organizations were not prepared for KM and a lot more needed to be proactively and purposively done. What the literature revealed was the glaring lack of a study on determinants affecting KM practices in university libraries. These were the research gaps this research study addressed.
CHAPTER THREE

METHODOLOGY

3.0. Introduction

This chapter outlines the processes involved in the execution of the study. The chapter covers the research design, location of the study, study variables, study population and sample, research instruments, data collection procedures, data analysis techniques and logistical and ethical considerations.

3.1. Research Design

The study adopted the descriptive research design using a survey approach. Kothari (2004) asserts that the research design is applicable when used by researchers to discover causes even when they cannot control the variables. This was the case for the current research. Wiersma (1985) also pointed out that the descriptive design allows researchers to establish the status quo as well as gather facts rather than manipulate variables. The research design was found ideal in helping to establish an accurate profile of KM practices in university libraries and report findings as they were without changing the environment. Saunders et al (2009) citing Robinsons (2002) holds the view that the object of descriptive research is to portray an accurate profile of persons, events or situations. The research design was therefore appropriate because the researcher was interested in establishing the
facts as they were with regard to the key factors that had influenced KM practices in university libraries. The factors had already occurred and could not therefore be manipulated. Kerlinger (2002) also adds that the survey research focuses on people, their beliefs, their opinions, attitudes, motivations and behavior. The current study sought among others, to establish staff’s perception and opinions of KM, attitude of library leadership to KM, and incentives in place to motivate staff to share knowledge.

3.2 Location of the Study.

The study location was Nairobi and Kiambu counties of Kenya in selected university libraries. In 2010 Nairobi County had six (6) private and two (2) public chartered universities while Kiambu had one (1) chartered private and public universities respectively. Two university libraries in Nairobi County were used for piloting. The subjects of investigation were the public and private chartered university libraries main campuses. University satellite campus libraries in the region were not included. These considerations were meant to create an environment of parity in leveraging KM initiatives as some university satellite campus libraries have small libraries which in most cases are not fully structured.

The area was chosen because it is home to Kenya’s oldest public and private universities and assumed therefore they would be ideal for the survey. The area also has a good number of both private and public universities. The area was also selected because reviewed studies for the purpose of this study (Jain, 2007; Mosoti, Z. and Masheka, B.,
showed that KM studies in Kenya had concentrated in the same area and this being the case the researcher had good reasons to rightly assume that there was KM awareness in the region hence a fertile ground for the current study. For example, the study by Mosoti and Masheka (2010) conducted in Nairobi revealed that most of the institutions studied had adopted KM and accredited their improved performance to KM. On the other hand, Maingi’s study (2007) still in the same region revealed that most of the institutions studied were not prepared for KM application.

3.3. Target Population

The study population comprised seven selected chartered private and public university libraries in Nairobi and Kiambu Counties. These libraries were University of Nairobi (UON), Catholic University of Eastern Africa (CUEA), Pan African Christian University (PACU), Kenyatta University (KU), United States International University (USIU), Jomo Kenyatta University of Agriculture and Technology (JKUAT), and Mount Kenya University (MKU). The total target population comprised of 127 library staff, 7 university librarians and 7 deputy university librarians amounting to a total of 209 library staff across library sections in all the targeted libraries.
Table 3.1 Target Population

<table>
<thead>
<tr>
<th>SN</th>
<th>University</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USIU</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td>PACU</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>CUEA</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>KU</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>UON</td>
<td>78</td>
</tr>
<tr>
<td>6</td>
<td>MKU</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td>JKUAT</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>209</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

3.4 Sampling Techniques and Sample Size.

To determine a representative sample the following sampling techniques were applied.

3.4.1 Sampling Techniques

The total numbers of private chartered universities in the two counties were seven (7) and three (3) public chartered universities. Out of the seven private chartered university libraries Kiambu County had only one and Nairobi County had six such universities. Mount Kenya University library was selected as it was the only chartered private university in Kiambu County. Simple random sampling technique was used to select
three (3) chartered university libraries from the remaining six chartered universities in Nairobi County. Simple random sampling helps avoid bias as units of the population are given an equal chance of being selected (Kerlinger, 2002). All the three public chartered university libraries, two from Nairobi County and one from Kiambu County were selected. A total of seven (7) libraries were used in the study. In the selection of library staff sample, simple random sampling technique was applied to UON, KU and JKUAT and in all other libraries a census was opted due to the limited number of staff. A census was also applied to the University librarians and their deputies. All the university librarians and their deputies were selected as their positions placed them strategically to give the researcher insights and deeper understanding of the phenomenon under investigation.

3.4.2. Sample Size

The sample size for university libraries consisted of four private and three public chartered (main campus) university libraries.
### Table 3.2 Sample Size for University Libraries in Nairobi & Kiambu Counties

<table>
<thead>
<tr>
<th>Counties</th>
<th>Category</th>
<th>Chartered</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nairobi</td>
<td>Private</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Public</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Kiambu</td>
<td>private</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Public</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>10</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

### Table 3.3: Sample Size for Library Staff

<table>
<thead>
<tr>
<th>University Library</th>
<th>Library Staff</th>
<th>Sample Size</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>USIU</td>
<td>18</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>PACU</td>
<td>5</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>CUEA</td>
<td>14</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>KU</td>
<td>40</td>
<td>30</td>
<td>75</td>
</tr>
<tr>
<td>UON</td>
<td>78</td>
<td>60</td>
<td>77</td>
</tr>
<tr>
<td>MKU</td>
<td>14</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>JUAT</td>
<td>40</td>
<td>30</td>
<td>75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>209</strong></td>
<td><strong>171</strong></td>
<td><strong>81.8</strong></td>
</tr>
</tbody>
</table>

The sample population of the library staff across all sections was 171 as reflected in Table 3.2 above.
3.5 Study Variables.

The study explored two levels of variables which are independent and dependent variables.

3.5.1 Independent Variables

The study explored seven independent variables.

i. Knowledge Management Process. The understanding of KM process is a critical success factor to implementing KM in an organization interested in KM.

ii. Staff perception and misconception of KM activities as individuals or as members of a social system. How staff perceive KM would contribute to its acceptance or not. If KM was viewed positively, seen as a function easy to apply, and providing better returns acceptability becomes easier.

iii. Communication channels: How has KM been communicated? According to the theory of diffusion how a new practice is communicated and how information is diffused within a culture or members of a social system usually has an effect on its adoption and practice.

iv. Library knowledge sharing culture: A culture that enhances sharing of ideas is perfect for adoption and practice of new ideas. If the library culture does not support sharing of ideas KM cannot have a footing.

v. Leadership: The leadership determines the direction a given organization takes. If leaders embrace and champion KM, chances are that their subjects would do likewise.
vi. Information Technology Infrastructure: Knowledge Management revolves around shared opinions, experiences and ideas. To facilitate knowledge sharing adequate IT infrastructure is an important enabler to this function.

vii. Organizational Framework: The way the organization is structured, strategies, the policies, guidelines, and core values advocated could enhance acceptance of a new idea or rejection of the same.

3.5.2 Dependant Variable

The dependent variable was effective KM practices which would lead to enhanced utilization of knowledge assets in university libraries. It was examined in four forms of practices.

i. Knowledge capture and acquisition practices such as data mining, text mining, focus groups, interviews, questionnaires among others

ii. KM policies, strategies and guidelines

iii. Knowledge sharing and learning practices such as existence of COPs, learning networks, staff exchanges, brainstorming sessions, among others

iv. Knowledge organization practices such as expertise profiling, K-maps and Repositories/knowledge centre

3.6. Research Instruments

Questionnaires and interview schedules were used as the instruments to collect quantitative and qualitative data respectively. Two sets of questionnaires were developed
for library staff and deputy university librarians and an interview schedule was developed for the university librarians. The questionnaire was used because it has the ability to collect quantitative data from a huge population cost effectively. When well designed and distributed, the questionnaire has proved to be an ideal tool in a survey research approach.

Interview schedule was developed and used to collect qualitative data pertaining to university librarians’ views of KM in their respective libraries (Appendix E). The schedule was thematically arranged to bring related questions together. The advantage of interview is its flexibility in the questioning process. It enabled the researcher to probe deeper in pursuit of opinions from interviewees and helped qualify, elaborate and boost data collected through the questionnaire. The instrument was ideal because the interview questions asked were aimed at getting further and possibly deeper insights into the subject matter. According to (Kothari, 2009) this method calls for direct contact between the researcher and the study subject.

3.6.1 Construction of Research Instruments

Questionnaire

Two sets of questionnaires were developed for the library staff and deputy university librarians. The questionnaire was subdivided into seven sections guided by the objectives and research questions. Section A sought background information for library staff and deputy university librarians respectively. The other sections, sought pertinent information
on the variables under investigation. The general form of the questionnaire was structured and the questions were presented with exactly the same wording and in the same order to all the respondents. The reason was to ensure that all respondents replied to the same set of questions. The form of the questionnaire had both open and closed ended questions. The use of open-ended questions was to ensure that knowledge known only by the respondents would also be brought out. The closed ended questions are fixed and limit responses to the stated alternatives. The questionnaire was also designed to collect opinion based qualitative data from respondents. Consequently, rating questions were included. Such questions were to be scored using a 5-point Likert scale. The staff were asked to choose from five responses: Strongly Agree, Agree, Uncertain, Disagree, and Strongly Disagree. These responses were assigned scores as follows: Strongly Agree (5), Agree (4), Uncertain (3), Disagree (2) and Strongly Disagree (1).

The researcher ensured proper question sequence to reduce any chance of misunderstanding. The sequence also ensured that relations of one question to another were readily apparent to the respondent. In terms of wording, the researcher ensured that each question was very clear to avoid any form of misunderstanding. The questions were simple, concrete and conformed as much as possible to the research questions. The questionnaire was made as appealing as possible and kept short. The questionnaires were administered to the respondents personally by the researcher and through the use of internal key contacts. The respondents’ contacts were taken to facilitate ease of
communication and follow up. One week duration was given to fill the questionnaire and the researcher collected the questionnaires from the internal key contacts.

**Interview Schedule**

A set of structured questions were developed also based on the themes of the study for use with the university librarians. The questions listed were based on the particular data that university librarians were perceived to possess due to their positions in the establishment. The interview schedule was used to collect data pertaining to university librarians’ opinions about KM, their level of support and general guidance in application of KM.

### 3.7 Pilot Study

Piloting was carried out in two university libraries. These university libraries were the Technical University of Kenya and Inoorero University respectively. These libraries were not in the main study to avoid influencing the findings. The questionnaires were administered to the two university librarians and four library staff from Inoorero and ten library staff from the Technical University. The main purpose of the piloting was to help obtain some assessment of the questions’ validity. The pilot study helped refine the instruments to ensure that the main study respondents would have no problems in answering the questions and that there would be no problem in recording the data. Piloting was necessary to ensure that the questions were clearly stated, relevant to the study objectives and could be understood by the intended respondents.
3.7.1 Validity
The quality of the instruments used in research is very important for the inferences and conclusions researchers draw are based on the information they obtain using these instruments (Seghal, 1998). Indeed, Crowther and Lancaster (2009) hold that validity as a dimension or a criterion of data quality is crucial. Validity refers to whether an instrument measures what it is intended to measure (Gay, 1992). To ensure content validity of the research instruments, the researcher ensured that the questionnaires covered all areas of each variable and the objectives of the study. The researcher also solicited for experts help from two peer reviewers to conduct an item-analysis in order to comment on the representativeness and suitability of the items in the instrument and to judge whether the instruments were valid to collect the intended data or not. Valid suggestions were incorporated in the structure of the instruments that helped establish content validity. This process ensured that the research instruments were appropriate to capture data pertinent to the study objectives.

3.7.2 Reliability
Reliability as a criteria or dimension of data quality relates to the extent to which a particular instrument is consistent in producing similar results in different but comparable occasions assuming that there will be no real changes in what is to be measured or the circumstances of such measurement (Crowther and Lancaster 2009). Gay (1992) on his part defines reliability as the degree to which a test consistently measures whatever it is to measure designed.
Validity and reliability are two fundamental elements in the evaluation of a measurement instrument (Mohsen et al., 2011). To measure internal consistency of the multiple items on the questionnaire measuring given concepts the researcher calculated the alpha of each item using Cronbach’s Alpha in SPSS. This is a measure that has become common practice when multiple item measure of a concept or construct are employed (Mohsen et al., 2011). It has also become a common practice because unlike other reliability test estimates like the Test/Retest it is comparatively easier to use as it only requires one test administration. Using the pilot data entered in SPSS and following the requisite procedures the programme was able to generate various statistical tables. For example it generates a reliability statistics table that gives actual value for Cronbach’s Alpha for the specific sample. To assess whether the items in the questions reliably measured the same construct or concept and determine the correlation of each test item with the total score test the SPSS programme was able to generate an ITEM-Total statistics table portraying a number of columns for different measures and the “Cronbach’s Alpha “if item deleted” as the last column. The column presented the value of Cronbach’s Alpha if a particular item was to be deleted from the scale. The new value was compared with the Alpha coefficient value for entire sample at the bottom of the table. Going through this column the researcher was able to identify items from the questionnaire that had low correlations and were deleted to raise the alpha. For example, when subjecting responses of question 12 in the library staff questionnaire on staff skills to reliability test, all the items yielded a Cronbach’s Alpha of 0.794. Testing reliability in yet another question (question 15) that sought to
determine how staff opinions could have militated against KM in their libraries yielded a Cronbach’s Alpha of 0.54 and by deleting the following items; KM is the same as information management, KM is a complex practice and KM is applicable only where advanced ICT infrastructure is in place improved Cronbach’s Alpha to 0.854. Reliability test on how management communicated to the library staff had all items yield a Cronbach’s Alpha of 0.892. A reliability test to question 42 on items on the extent to which staff agreed that the listed support services and facilities were available to enhance KM practice yielded a Cronbach’s Alpha of 0.879. This procedure was carried out on all questions and as a result the reliability test indicated that there was internal consistency in the instruments as the items attained a reliability coefficient above 0.70 which is considered a reasonable minimum (Mallery, et al.,2003).

3.8 Data Collection Procedures

The researcher began preparation of data gathering by first seeking authority from the National Council for Science and Technology. Once the mandate was granted data collection exercise began. The collection of data involved the researcher and key contact individuals in every university who were deployed for that purpose. These were persons with research skills and experience in data collection. Their main responsibility was to distribute, collect and follow up on all questionnaires.

The procedure for data collection was in phases. The first phase entailed the administration of the questionnaires to the sampled library staff in all the seven sampled
university libraries by the researcher and key internal contacts. The researcher visited individual libraries and briefed the key contacts on the essence of the study as well as their role in the whole exercise. Once the questionnaires were distributed the respondents were given one week to fill the questionnaires. The internal contacts collected the questionnaires on the agreed dates and followed up on others that were still held by respondents.

The second phase involved the researcher holding interviews with the university librarians. The form of interview was personal where the researcher asked questions on a face to face contact with the interviewee. The researcher personally carried out the interviews at the appointed time and venue and recorded in writing all the responses. This took one month. The researcher booked interview dates with the interview participants a week in advance. The interviews were conducted in the study participants offices at the time scheduled. The interview sessions followed the interview guide prepared for that purpose. The researcher recorded in writing all the responses.

The third phase of the study was the consolidation of all the instruments used to collect the data. All the duly completed questionnaires, interview schedules and any additional relevant field notes were handed over to the researcher. Any observation made during the research by the key contacts was made and noted.
3.9 Data Analysis

The study generated both quantitative and qualitative data obtained through the use of questionnaires and interview schedules respectively. Once all data was collected, it was cleaned, edited, coded and screened for accuracy. The researcher also checked the data to establish:

i. Legibility of responses

ii. Completeness of responses

iii. Trend of responses

The Statistical Package for the Social Sciences (SPSS) computer program was used to prepare and organize quantitative data from the questionnaires for analysis. The quantitative data was tabulated with simple graphics such as statistical tables using frequency distributions with appropriate percentages. Bar graphs, and mean scores were also used to form the basis of quantitative data analysis. Qualitative data were organized into themes, categories and patterns pertinent to the study.

3.10 Logistical and Ethical Considerations

Official permission to undertake the research was obtained from Kenyatta University, office of the Dean, and Graduate School. A research permit was also sought from the National Council for Science and Technology a branch of the Ministry of Higher Education and from the administration of the respective universities. This was purely to
ensure that all concerned authorities were informed of the impending research and thereby pre-empt any form of suspicion and ensure their co-operation.

The research respondents were informed of the purpose of the study and assured of the highest level of confidentiality for information provided through an attached transmittal letter incorporated in all questionnaires, key contacts and also the researcher. Care was taken to ensure that questions during the interview were restricted to those on the interview guide and the interview was within the accepted time schedule. The researcher also ensured that the interviews were scheduled at a time and place convenient for the participants.
4.0 Introduction
The study was to investigate the key elements or factors that had influenced or affected
the nature of KM practices in university libraries in Kenya because they impact on
improved performance and effective utilization of knowledge assets in libraries. The
current study was therefore based on the need to establish the status quo of KM practices
in university libraries in Kenya with special focus on establishing KM processes or
applications, the personnel associated with KM and the technologies put in place to
capture, store, retrieve and share knowledge; library leadership orientation to KM, library
knowledge sharing culture, perception of KM by librarians and the library organization
framework as the major aspects of the study as reflected in the research questions. The
reason behind this focus was because KM environment centers around three major
components namely, people, processes and technology.

The findings were discussed based on the purpose and research questions of the study.
The research questions were drawn from the study objectives. These objectives that
formed the themes of this study were to: (a) Analyze the current KM practices in
university libraries, (b) Establish the extent to which library staff shared knowledge
within the library, (c) Find out the extent to which university libraries utilized ICT to tap
conventional and non-conventional knowledge, (d) Establish knowledge leadership orientation and support of KM and (e) Establish the extent to which the overall library framework enhanced KM practices. A total of 171 library staff, university librarians and their deputies were sampled from a population of 209 staff from the seven chartered (main campus) university libraries in Nairobi and Kiambu counties. Out of the sampled population, 137 responded translating to 80.1% return rate. Table 4.1 below represents the response rate by university.

Table 4.1: Response Rate of Library Staff by University

<table>
<thead>
<tr>
<th>University</th>
<th>Staff</th>
<th>Sample size</th>
<th>Responses</th>
<th>Rate(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. USIU</td>
<td>18</td>
<td>18</td>
<td>12</td>
<td>66.6</td>
</tr>
<tr>
<td>2. PACU</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>3. CUEA</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>85.7</td>
</tr>
<tr>
<td>4. KU</td>
<td>40</td>
<td>30</td>
<td>30</td>
<td>100</td>
</tr>
<tr>
<td>5. UON</td>
<td>78</td>
<td>60</td>
<td>41</td>
<td>68.3</td>
</tr>
<tr>
<td>6. MKU</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>92.9</td>
</tr>
<tr>
<td>7. JKUAT</td>
<td>40</td>
<td>30</td>
<td>24</td>
<td>80</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>209</strong></td>
<td><strong>171</strong></td>
<td><strong>137</strong></td>
<td><strong>80.1</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
Table 4.2: Response Rate by Category of Staff

<table>
<thead>
<tr>
<th>Category</th>
<th>Sample Population</th>
<th>Response</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Staff</td>
<td>157</td>
<td>127</td>
<td>81.4</td>
</tr>
<tr>
<td>University Librarians</td>
<td>7</td>
<td>4</td>
<td>57.1</td>
</tr>
<tr>
<td>D/University Librarians</td>
<td>7</td>
<td>6</td>
<td>85.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>171</strong></td>
<td><strong>137</strong></td>
<td><strong>80.1</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

Table 4.2 above portrays the return response by category of respondents.

4.1 Demographic Information

This section captured the demographic information about the library staff. Staff are creators as well as users of knowledge assets and is involved in the creation, sharing and use of generated knowledge within and without the organization. For KM to succeed, organizations require three calibers of staff namely: technology experts, knowledge professionals and knowledge managers. A question seeking to determine the caliber of staff by their designations in the selected libraries was included in the questionnaire. A total of 123 staff responded to this question and the responses portrayed a variety of
designations. Library assistant position had the bulk of the staff population 44 (36%), senior library assistant 30 (24%), librarian 13%, senior librarian 10 (8%) and assistant librarians 6.5% respectively. A few respondents 10(7.5%) did not respond to this question. Figure 4.1 below captures the analysis in more details.

Figure 4.1 above depicts a scenario revealing that the higher the academic qualifications, the fewer the number of staff. A link between the relevant academic qualification and the appropriate designation is critical to staff motivation which ultimately leads to ownership, commitment and desire to share knowledge. To try to establish whether a link existed

![Staff Designations](image_url)
between the designations of staff and their academic qualifications, the library staff were requested to indicate their appropriate academic qualifications. The findings as reflected on Table 4.3 below revealed that majority of staff were diploma holders 51 (38.3%), 45 (34%) had a degree, and 30 (22.5%) had a post graduate qualification. Only 7 (5%) had a certificate qualification.

Table 4.3 Academic Qualifications of Library Staff

<table>
<thead>
<tr>
<th>Academic qualifications</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>6</td>
<td>5.0</td>
</tr>
<tr>
<td>Diploma</td>
<td>46</td>
<td>38.3</td>
</tr>
<tr>
<td>Degree</td>
<td>41</td>
<td>34.2</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>27</td>
<td>22.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

An insignificant number 5(3.9%) of the library staff chose to ignore this question.

The above findings reflect a scenario where majority of the staff have the requisite professional qualifications that can be harnessed in the application of KM in libraries. Indeed 68(58.7%) had a degree qualifications and above and 52(43.3%) had certificate and diploma qualifications. Responses from the 6(100%) deputy librarians revealed a similar pattern where all had a degree qualification. Two of the deputy librarians had doctoral qualifications. The 4(57.1%) university librarians interviewed had master’s
degrees and one of them had a doctoral qualification. The designations of job positions however need to be addressed to ensure that the staff in the library assistant position are few as reflected in their academic achievement.

Responses gathered from a question to library staff that sought to establish their ages revealed that majority were middle aged ranging from 25 to 45 years with only one staff less than 25 years of age. On the other hand only 9(7.2%) members of the staff were over 55 years of age. These findings reflect an environment where adoption of new practices should not be a problem as they are staff almost certain of accepting new practices and/or having relevant IT competencies and other skills.

<table>
<thead>
<tr>
<th>Age Brackets</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 25 years</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>25 to 35 years</td>
<td>40</td>
<td>32.0</td>
</tr>
<tr>
<td>36 to 45 years</td>
<td>43</td>
<td>34.4</td>
</tr>
<tr>
<td>46 to 55 years</td>
<td>32</td>
<td>25.6</td>
</tr>
<tr>
<td>55 years</td>
<td>9</td>
<td>7.2</td>
</tr>
<tr>
<td>Total</td>
<td>125</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
A small number 2(1.6%) of the library staff did not respond possibly due to the secrecy shrouded with age particularly with ladies. These findings are reflected in table 4.4 above.

As per the length of time the library staff (127) had worked in the library, findings revealed that majority of the staff had worked in the library for a long time. Table 4.5 and Figure 4.2 below show that 69 (54.8%) of the staff who responded had worked in the library for over 10 years, 35 (27.8%) between 5-10 years and only 22 (17.5%) had worked for less than 5 years.

Table 4.5: Length of Time Worked in Library

<table>
<thead>
<tr>
<th>Years worked</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5 years</td>
<td>22</td>
<td>17.5</td>
</tr>
<tr>
<td>5 to 10 years</td>
<td>35</td>
<td>27.8</td>
</tr>
<tr>
<td>&gt;10 years</td>
<td>69</td>
<td>54.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>126</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

One (0.7%) of the library staff respondents did not respond to this question probably because he did not find it sufficiently important.
A workforce that has worked in an organization for 5 and above years is one knowledgeable and with great insights of the organization due to their long experiences. KM if implemented would help tap important tacit knowledge retained by such personnel. To establish whether the library staff had remained in the same position for the period of time they had been in the library, a question was posed to them. Figure 4.3 below shows that majority of the library staff 67(53%) had worked in their current positions for less than 5 years, 38 (30%) between 5-10 years, 11 (9%) between 11 – 15 years and only 10 (7%) had been in the same position for over 15 years.
The fact that earlier statistics (see Table 4.5) had revealed that majority of the staff had worked in the library for over 10 years and that the above data has revealed that majority of the respondents had worked in their current position for less than 5 years shows that staff in the libraries are rotated and hence could be sources of immense experiences, insights, understanding and capabilities that if well harnessed or managed could give their libraries an edge in their provision of information services to their clients. This is in line with what Flynn (2004) believes when she advocated that successful organizations are learning organizations composed of knowledge workers who continually learn and apply learning to changing situations as standard operating procedures. This finding also corroborates what Kankanhalli (2003) reports of Hewlett Packard’s KM strategy of
physically transferring its staff across geographical locations to facilitate knowledge exchange.

4.2 Current Knowledge Management Practices.

As a starting point, it was imperative for the researcher to establish the current KM practices in university libraries. The study was especially keen to establish the activities and / or processes that librarians used in identification of knowledge critical to them, knowledge capture and acquisition, knowledge organization, knowledge application and how knowledge was shared with those who needed it. The first study objective was to assess the current KM practices in university libraries. Through the practice of KM, an organization focuses on the systematic exploitation and reuse of knowledge. To start off, it was imperative to determine whether knowledge management was in place or not in respective libraries. A question on whether librarians had heard the term KM was asked. Responses revealed that majority of the library staff had heard the term KM.
Table 4.6: Library Staff Responses on whether they had Heard the Term KM

<table>
<thead>
<tr>
<th>University</th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
</tr>
<tr>
<td>1. MKU</td>
<td>13</td>
<td>10.9</td>
<td>0</td>
<td>0.0</td>
<td>13</td>
<td>10.4</td>
</tr>
<tr>
<td>2. JKUAT</td>
<td>20</td>
<td>16.8</td>
<td>1</td>
<td>16.7</td>
<td>21</td>
<td>16.8</td>
</tr>
<tr>
<td>3. UON</td>
<td>35</td>
<td>29.4</td>
<td>3</td>
<td>50.0</td>
<td>38</td>
<td>30.4</td>
</tr>
<tr>
<td>4. CUEA</td>
<td>10</td>
<td>8.4</td>
<td>0</td>
<td>0.0</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>5. KU</td>
<td>25</td>
<td>21.0</td>
<td>2</td>
<td>33.3</td>
<td>27</td>
<td>21.6</td>
</tr>
<tr>
<td>6. PACU</td>
<td>4</td>
<td>3.4</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>7. USIU</td>
<td>12</td>
<td>10.1</td>
<td>0</td>
<td>0.0</td>
<td>12</td>
<td>9.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>119</td>
<td><strong>95.2</strong></td>
<td>6</td>
<td><strong>4.8</strong></td>
<td>125</td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

Only 2 (1.58%) of the library staff respondents did not respond to this question.

From Table 4.6 above, it was evident that the term KM was familiar with the library staff as 119 (95.2%) of the respondents had heard the term. Only 6 (4.8%) of the respondents had not heard of the term. It was worth noting that those staff that had not heard of the term KM were all from the public university libraries. Responses from a question that further aimed at eliciting feedback on how the staff got to know about KM revealed that, majority of the staff 87 (73.1%) came to know about KM from reading in books,
25(21%) from general communication with peers, 23(19.3%) from library meetings and 2(1.7%) from politicians.

Fig 4.4: Contexts in which KM was Heard

Source: Researcher, 2013

Other contexts in which the term KM had been heard were cited as from friends, churches, internet, seminars, and media and in class forums. To further establish whether KM had been officially introduced in the libraries a question was put to the library staff. Most of the library staff respondents 77 (65%) confirmed that KM had not been officially introduced in libraries. Only 44(36.3%) of the respondents indicated that KM had been officially introduced in their libraries.
Table 4.7  Library Staff Responses on whether KM Concept had been Officially Introduced in their Libraries

<table>
<thead>
<tr>
<th>University</th>
<th>Yes</th>
<th>%</th>
<th>No</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKU</td>
<td>13</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>100</td>
</tr>
<tr>
<td>JKUAT</td>
<td>3</td>
<td>15.0</td>
<td>17</td>
<td>85.0</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>UON</td>
<td>6</td>
<td>16.7</td>
<td>30</td>
<td>83.3</td>
<td>36</td>
<td>100</td>
</tr>
<tr>
<td>CUEA</td>
<td>2</td>
<td>20.0</td>
<td>8</td>
<td>80.0</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>KU</td>
<td>8</td>
<td>30.8</td>
<td>18</td>
<td>69.2</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>PACU</td>
<td>4</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>USIU</td>
<td>8</td>
<td>66.7</td>
<td>4</td>
<td>33.3</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>44</strong></td>
<td><strong>36.3</strong></td>
<td><strong>77</strong></td>
<td><strong>65</strong></td>
<td><strong>121</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

Out of the total library staff respondents, 6(4.7%) did not respond to this question probably due to the confusion in many people’s minds on the difference between knowledge management and information management. To substantiate above findings a similar question had been put to the deputy librarians. There was no consensus in this regard as all the deputy librarians felt that KM had been officially introduced whereas majority of the library staff as reflected in Table 4.7 above were of the view that KM had not been officially introduced in the libraries.
The Diffusion of Innovation theory by Rogers (1995) holds that there are stages to the process of fully accepting and applying a new idea or practice. One of the stages is the knowledge stage whereby an individual becomes aware of an idea or practice but has inadequate information about it. If a person is left at this stage, with no further elaboration or persuasion the idea fades as he/she does not get to know the advantages or perceived benefits of the innovation. In this regard, it was paramount to find out how the library staff understood KM. Responses varied. Most of the responses 110 (92.4%) to this question pointed to the option of KM as a process of creating, capturing, storing, sharing and applying information for competitive advantage. This understanding as highlighted earlier was purely from literature sources as majority of respondents had acknowledged hearing about KM through reading and would be right to assume that KM practices would not be well established in such an environment. An understanding of the knowledge concept and KM is crucial since this is what the library staff has to manage. A few responses 16(13.4%) regarded KM as just another name for information management while 2 (1.7%) regarded KM as just an extension of library work.

KM function is the organization that facilitates KM processes of creation, refinement, sharing, acquisition and utilization of knowledge and the development of a system that motivates employees to participate. The issue of whether KM was a function of the library or not elicited varied reactions. The deputy librarians 5(83.3%) except one agreed that KM was a function of their libraries. The university librarians on their part felt that KM per se was not a function of their libraries. PACU university librarian when
responding to the same question during the interview was quick to retort: “We strictly do not have KM as a function of the library”. Only one university librarian conceded that KM was a function of their library and even then he noted that, “KM is a part of administrative duties” (University librarian KU, 8 November 2012). It was worth noting that the university librarians were very passionate about KM as a function but unfortunately none had institutionalized it as a key function in their libraries. They conceded that the idea of KM was in their minds and were planning to introduce it in their libraries within the next twelve months of this study. Indeed Kenyatta university librarian was positive in the whole idea of introducing KM in the library but firmly put it “after finalizing with the institutional repository”. Indeed and except for CUEA where the librarian conceded that they did not have such plans, other university librarians had started sensitizing the idea to their colleagues in meetings, seminars, workshops and other forums. At JKUAT for example, the Deputy librarian interviewed on behalf of the University librarian, was very passionate about KM and pointed out saying:

We have had an Open Access week where we sold the idea of KM and sensitized the staff on the benefits of institutional repositories as a KM tool. In order to enable us link research output to the users we are working on directories of researchers within and without to include in our repository (D/librarian JKUAT, 30 October 2012).

All the university librarians except for CUEA, who had conceded they had no plans to introduce KM soon, were in agreement that their plans were communicated to their colleagues. To probe further why KM was not a key function in the libraries, university
librarians highlighted several factors that they attributed to the state of KM implementation in their libraries. One of the university librarians noted:

The factors that have hindered us from implementing KM in our library is lack of awareness of the benefits of KM to us, lack of focus of KM as a unique area of interest and what it entails, limited staff, lack of a budget for KM, lack of skills, perception of KM, lack of KM champions and lack of other libraries to whom we can benchmark (University Librarian CUEA, 12 November 2012).

Kenyatta university librarian pointed out that their main drawback in implementing KM was due largely to lack of adequate knowledge of KM and personnel. The university librarian of PACU on her part held that what they lacked was a KM budget. At JKUAT, the challenge was lack of adequate staff, KM not prioritized as well as lack of a sharing culture among others.

The University librarians’ response on whether they had a KM policy and strategy revealed that such were not in place and what existed were various policies developed to regulate library processes which touched on some aspects of KM. At JKUAT, the D/university librarian, representing the university librarian, indicated that the library did not have a KM policy but instead had a policy of institutional repository for local research. At CUEA the university librarian said that they too did not have a KM policy but added saying:”We have in place various policies as per processes regulating functionality such as cataloguing and classification” (University librarian CUEA, 12 November 2012).
With institutional repositories in place it would be right to conjecture that libraries and the parent institutions are in the right direction in as far as capturing and analyzing the knowledge assets of their organizations. However the absence of a KM policy and strategy though, points to the fact that KM as a library function has not been officially endorsed to enable the libraries harness the knowledge assets within and without (Kim, 2000).

This is because a strategy is a plan of action with a shared understanding to accomplish a specific goal that focuses on how a given objective will be achieved. Thus it could rightly be assumed that any Knowledge management practice in place in the university libraries was adhoc and not by design. The two types of knowledge strategies (codification and personalization) as advocated by Hansen et al (1999) quoted by Kubr (2002) did not apply in the selected libraries of the study. Codification strategy focuses on codifying knowledge using a people-to-document approach. The approach aims at extracting knowledge from the person who created it, making it independent of that person and having it re-used. It draws heavily on IT to codify knowledge and store it in a location that can be accessed and re-used by everyone in the organization. This approach is technology based and is good in capturing explicit knowledge and not so good at capturing tacit knowledge. Personalization strategy on the other hand capitalizes on the so called “expert economics”. It focuses on dialogue between individuals and not objects in a database. It relies on the network of people sharing particular tacit knowledge. In this approach knowledge is closely tied to the person who developed it and is mutually
shared, mainly through direct person–to–person contacts. This approach uses the so-called “softer systems” of Knowledge Management which includes meetings, mentoring, shadowing, instant messaging, intranet forums, after action reviews after a significant project, post implementation reviews, and CoPs among others. The management of knowledge requires both strategies and without a KM strategy an organization cannot make the best of its intellectual assets.

4.2.1 Knowledge Identification, Capture and Acquisition

As part of realizing research objective number one it was imperative to establish how university libraries went about identifying, capturing and acquiring knowledge. Knowledge identification and acquisition is a key KM process. Knowledge identification refers to identifying the critical knowledge and the right persons who have the necessary expertise that should be captured. Knowledge identification is crucial to the success of a knowledge based organization and the process provides the system with the information worthy of inclusion. Knowledge acquisition is a variety of techniques used to elicit facts of an individual’s technical knowledge such that insights, experiences, social networks and lessons learned can be shared to mitigate organizational knowledge loss.

Indeed 98 (87.5%) of the library staff respondents were in agreement that they had ways and means of identifying and capturing knowledge. A small minority 14 (12.5%) said they did not have formal ways of capturing and acquiring knowledge.
A significant number 8 (44.4%) of library staff who said they did not have ways and means of capturing and acquiring knowledge were from JKUAT. A big proportion 15(11.8%) of the library staff did not respond to this question probably because they did not feel sufficiently knowledgeable to answer it. All the university librarians except at JKUAT agreed that they did not have formal or systematic mechanisms of acquiring tacit knowledge. Kenyatta university librarian was emphatic on this point. He noted: “We do not have systematized or official mechanisms of capturing tacit knowledge but when such happen they are adhoc and as opportunity arises” (University librarian KU, 8 November 2012).

To further establish the techniques they used to identify and capture knowledge in respective libraries a follow up question was asked. The study findings showed that different techniques were used at varying levels though informally. Use of Customer Based Client System was the technique cited by most respondents 69(42.6 %). This technique was however utilized more at UON 20(29%) and followed closely by KU 16(23.2%). Standardization of routine information update reports came second 32(19.8%) and it too was mostly used at UON 13 (40.6%) and at KU 6 (18.8%). Use of a folder of FAQs was also utilized 28 (17.2%) and once again UON used it more 8(28.6%). Discussion forums 20 (12.3%) and collating of internal profiles 13(19.8%) of academic librarians were the techniques least used. From the above findings it emerged that the UON had the most techniques for knowledge capture and this was consistent with
Maingi’s (2007) findings that had revealed that UON had a high level of KM preparedness. Table 4.8 presents these findings.

### Table 4.8: Techniques Used to Capture Knowledge in Libraries

<table>
<thead>
<tr>
<th>Technique</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collating internal profile</td>
<td>13</td>
<td>8.0</td>
</tr>
<tr>
<td>Standardized routine information update</td>
<td>32</td>
<td>19.8</td>
</tr>
<tr>
<td>Use of Customer Based Client Systems</td>
<td>69</td>
<td>42.6</td>
</tr>
<tr>
<td>Existence of a folder of FAQs</td>
<td>28</td>
<td>17.2</td>
</tr>
<tr>
<td>Discussion forums</td>
<td>20</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>162</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

A close scrutiny of the above knowledge capture approaches shows that they are more applicable to the capture of explicit knowledge than tacit knowledge. The most cited tacit knowledge capture technique was brainstorming sessions during their staff meetings. Formal interviews, knowledge mapping, or the use of questionnaires as established mechanisms of tapping tacit knowledge were not used. It was however noted that the failure to implement these knowledge capture techniques was not always lack of knowhow but a combination of factors. At JKUAT for example, the deputy librarian conceded that he was conversant with the techniques to capture tacit knowledge but noted that the techniques were still in his mind and looking for opportune time for their use.
4.2.2 Knowledge Acquisition

Knowledge acquisition is also part of KM process that entails the process of transferring and transforming valuable expertise from a knowledge source (human expertise or document) to a knowledge repository. Knowledge acquisition involves search for recognition of and assimilation of potentially valuable knowledge often from outside the organization. Figure 4.5 below depicts a variety of methods used by university libraries in the acquisition process. Searching online databases was the most common method (71%), followed closely by buying knowledge products or resources (60%), establishing links or networking with other libraries and institutions (57%) and attending training programmes, conferences, seminars and workshops (53%). Subscription to litservs and online COPs were the least used acquisition methods.
Responses on how KM practice was rated by different stakeholders elicited varied results. Most of the library staff 76 (62.3%) who responded to this question rated the level of KM practice in their libraries as good, 13 (10.7%) as very good, 28(23.7%) as not good, while 5 (4.1%) had no idea. Feedback from university librarians pertaining to their rating of KM practice in their respective libraries ranged from low to average. KU and PACU university librarians rated the level of KM in their libraries as low whereas JKUAT and CUEA rated KM practice in their libraries as average.
4.3 Staff Perception of KM in Libraries

The second objective of the study sought to establish staff perception of KM in the libraries. The perception or opinion an individual holds for something dictates the level of acceptance. If the perception is positive, then adoption and application of new ideas takes root and the reverse is the case. To this end, the researcher posted in a question, several staff opinions on KM and requested the staff to rate the extent to which they agreed or disagreed that these could have militated against effective KM practice. The responses were as tabulated in Table 4.9 below.

Table 4.9  Staff Perceptions and their Effect on KM Practice

<table>
<thead>
<tr>
<th>Staff Perception</th>
<th>Frequency</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership had not aggressively marketed KM concept</td>
<td>95</td>
<td>3.79</td>
</tr>
<tr>
<td>Librarians lack interests in KM</td>
<td>94</td>
<td>2.79</td>
</tr>
<tr>
<td>KM has no added advantage to Information management</td>
<td>93</td>
<td>1.82</td>
</tr>
<tr>
<td>KM is too expensive and time consuming to practice.</td>
<td>91</td>
<td>2.25</td>
</tr>
<tr>
<td>Knowledge residing in people’s heads is too difficult to tap and manage</td>
<td>93</td>
<td>2.62</td>
</tr>
<tr>
<td>Staff too busy to engage in other new venture</td>
<td>91</td>
<td>2.74</td>
</tr>
</tbody>
</table>

With a mean score of 3.79 on a 5 point likert scale it was evident that library staff respondents held the perception that library leadership was not marketing KM aggressively and hence KM was not effectively applied in the libraries. Other opinions such as librarians lack of interest in KM (2.79), KM being too expensive and time consuming (2.25), KM having no added advantage to information management (1.82), librarians being too busy to engage in other ventures (2.74) and that knowledge in people’s head was too difficult to tap and manage (2.62) had low mean scores suggesting that they were not perceived as serious militants to the application of KM in university libraries. The Deputy librarians 3(50%) for their part disagreed that various misconceptions had prevented them from applying KM in their libraries. They particularly disagreed that the misconception that KM was the same as Information Management had not been a hindrance to KM application. They 4(67%) also disagreed that application of KM had not been hindered by the misconception that KM was a complex practice and that KM was only applicable where high technology was in place. All the deputy librarians disagreed with the misconception that KM was not for libraries, KM had not worked in Libraries and that they were okay without KM as having contributed to the state of KM practices in their university libraries.

Certain skills and competences are needed to have vibrant KM practices in place, lack of which contributes to poor KM practices. On a likert scale rating from 1(strongly disagree) to 5 (strongly agree) library staff were asked to indicate the extent to which they felt that
lack of certain staff skills and competencies could have influenced KM application in their libraries. Table 4.10 below tabulated the findings.

**Table 4.10 Lack of Staff Competences and Skills as Contributors to Effective KM**

<table>
<thead>
<tr>
<th>KM Skills and Competencies</th>
<th>Rating of Staff Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building knowledge taxonomies</td>
<td>Frequency</td>
</tr>
<tr>
<td>Understanding information &amp; Knowledge needs of users</td>
<td>51</td>
</tr>
<tr>
<td>Ability to map internal &amp; external knowledge</td>
<td>49</td>
</tr>
<tr>
<td>Understanding of the libraries information and knowledge flows</td>
<td>48</td>
</tr>
<tr>
<td>IT literacy</td>
<td>50</td>
</tr>
<tr>
<td>Change management</td>
<td>40</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

With mean scores ranging from 3.75 to 4.00 across the various variables, respondents acknowledged that lack of certain competencies and skills could have contributed to poor KM practice. With a mean score of 3.86 respondents for instance agreed that lack of ability to build knowledge taxonomies for organizing knowledge resources on websites and portals was a factor that affected the current KM practices. Other factors agreed on as drawbacks to effective KM were lack of understanding information and knowledge needs
of users (3.96), lack of ability to map internal and external knowledge (3.78), lack of IT literacy (4.0), and lack of change management skills (3.75). This finding corroborates Sarrafzadeh et al (2006) assertion that though KM and IM are related, KM requires a mixture of skills and cooperation of people from different fields. Kim (2000) on her part advises that “information professionals have to recast their roles as knowledge professionals”(p.6) and move to the center of the organization and to jointly hold reigns of KM with users and IT experts to help steer and shape the knowledge policies, structures, processes and systems. All this calls for acquisition of new additional skills and competencies such as extraction, filtration and dissemination of vital external knowledge.

4.4 Library Knowledge Sharing Culture

Research study objective three was to determine the extent to which library culture enhanced the sharing of knowledge. Knowledge communities are characterized as open communicative cultures which encourage sharing, tolerance, collaboration and trust (Debowsk 2006). KM relies on people who share and use knowledge to perform their work roles. The main focus of KM is on people. To tap the tacit knowledge buried in people’s heads in a culture that enhances sharing is vital. To this end the study investigated whether university libraries had created an environment that stimulates knowledge growth, and a culture that facilitates knowledge sharing and collaborative processes and whether they identified, developed and used effectively the expertise of staff within the library. A knowledge sharing culture entails effective communication in
order to share experiences, insights and understanding among members of a community. In this connection the library staff were asked to state how often they communicated with library management. Communication with library management was rated as often by 59 (46.8%) of the respondents who responded to this question. 43 (34%) felt communication was not often and 19 (15%) however felt that communication was very often especially in PACU (50%), USIU (33%) and KU (26%). The deputy librarians also concurred that they communicated changes regularly through meetings. The university librarians on their part conceded that they communicated new information to staff regularly. To validate this point one university librarian noted that: “We communicate new information as often as possible and also as need arises and we do so through our intranet” (D/ librarian JKUAT, 30 October 2012).

Fig 4.6 Regularity of Communication with Library Management
Source: Researcher, 2013
A variety of communication approaches are needed for an idea to be heard, accepted and adopted. The findings revealed that a variety of communication approaches were used by management to communicate to staff. Some of these included; meetings, memos, circulars, personal email, notice-board, telephone and internet. Communication at meetings was cited as the most common method followed by memos, personal emails, circulars and telephone. The use of internet was cited as the method least used.

Consultation is the hallmark of sharing ideas, insights and buying in to new developments. In this connection the library staff were requested to indicate whether they were consulted by their management before a new service or practice was introduced. Table 4.11 below shows that, of the library staff respondents who responded to this question 70(56.5%) said that they were not consulted while 54(43.5%) indicated that they were consulted. The latter group was in sync with the deputy librarians who held that they consulted the staff before a new service was introduced.
Table 4.11: Consultation by Management before a New Practice was introduced

<table>
<thead>
<tr>
<th>University</th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
</tr>
<tr>
<td>MKU</td>
<td>13</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>JKUAT</td>
<td>6</td>
<td>28.6</td>
<td>15</td>
<td>71.4</td>
</tr>
<tr>
<td>UON</td>
<td>10</td>
<td>26.3</td>
<td>28</td>
<td>73.7</td>
</tr>
<tr>
<td>CUEA</td>
<td>6</td>
<td>60.0</td>
<td>4</td>
<td>40.0</td>
</tr>
<tr>
<td>KU</td>
<td>6</td>
<td>23.1</td>
<td>20</td>
<td>76.9</td>
</tr>
<tr>
<td>PACU</td>
<td>3</td>
<td>75.0</td>
<td>1</td>
<td>25.0</td>
</tr>
<tr>
<td>USIU</td>
<td>10</td>
<td>83.3</td>
<td>2</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>54</strong></td>
<td><strong>43.5</strong></td>
<td><strong>70</strong></td>
<td><strong>56.5</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

The responses reflected on Table 4.10 above points to a situation whereby the staff was divided in their response to this matter. Whereas a big population 70 (56.5%) of the staff indicated that they were not normally consulted before a new service or practice was introduced an equally big population 54(43.5%) were of the view that management consulted them. University of Nairobi library topped the list in agreeing that consensus building was not done 28 (73.7%) followed by KU 20(76.9%) and JCUAT 15(71.4%) taking position three. The above trend reveals that public university libraries were not
doing well in discussing and agreeing on new practices and/or developments with their staff before implementation. Where prior consultation of a new service or idea or practice is not done, ownership of the idea takes long and acceptance takes even much longer. Private university libraries portrayed a positive trend in consultations before new changes or developments were made. All respondents from MKU for example agreed they were consulted before a new service or practice was introduced and this scenario was the norm in all other private university libraries. To assess library leadership’s effectiveness in communication a question was asked. Overall, 73 (59.3%) of the library staff respondents rated their library’s management level of communication as effective and 13 (10.6%) rated it as very effective. Only 37 (30%) felt it was not effective.

Fig 4.7: Library Staff Ratings on Management’s Level of Communication

Source: Researcher, 2013
Knowledge sharing is a key component to KM process. Identification, capture, acquisition and storage of knowledge in Knowledge Management Systems cannot provide an organization with a competitive advantage unless that knowledge is shared. For knowledge to be shared it requires a conducive environment that enhances sharing and appropriate KM systems put in place for that purpose. Most of the library staff agreed that they encouraged and facilitated knowledge sharing albeit at different levels.

Table 4.12 Encouragement and Facilitation of Knowledge Sharing

<table>
<thead>
<tr>
<th>University</th>
<th>Yes Freq</th>
<th>Yes %</th>
<th>No Freq</th>
<th>No %</th>
<th>Total Freq</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKU</td>
<td>13</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
<td>13</td>
<td>100</td>
</tr>
<tr>
<td>Jikuat</td>
<td>11</td>
<td>52.4</td>
<td>10</td>
<td>47.6</td>
<td>21</td>
<td>100</td>
</tr>
<tr>
<td>Uon</td>
<td>26</td>
<td>68.4</td>
<td>12</td>
<td>31.6</td>
<td>38</td>
<td>100</td>
</tr>
<tr>
<td>CUEA</td>
<td>7</td>
<td>70.0</td>
<td>3</td>
<td>30.0</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>KU</td>
<td>23</td>
<td>88.5</td>
<td>3</td>
<td>11.5</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>Pacu</td>
<td>4</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>USIU</td>
<td>9</td>
<td>75.0</td>
<td>3</td>
<td>25.0</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>93</strong></td>
<td><strong>75.0</strong></td>
<td><strong>31</strong></td>
<td><strong>25.0</strong></td>
<td><strong>124</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

A few library staff 3(2.36%) did not respond to the question. Findings as reflected in Table 4.12 above show that library staff respondents were in agreement that their libraries
encouraged and facilitated knowledge sharing. Indeed 93 (75%) of the respondents agreed that their libraries encouraged and facilitated knowledge sharing. Only 31 (25%) of the respondents felt that their libraries did not encourage or facilitate knowledge sharing. Private university libraries once again led the pack in agreeing that they encouraged and facilitated knowledge sharing. In MKU and PACU for instance all the staff were unanimous that they encouraged and facilitated knowledge sharing. In the public university library category, KU (88.5%) took the lead, followed by UON (68.4%) and JKUAT (52.4%) in encouraging and facilitating knowledge sharing.

In order to confirm that knowledge sharing indeed took place, library staff respondents were requested to choose from a list provided, the knowledge sharing forums and practices that were in place in their respective libraries. From the statistics displayed in table 4.13 below it is evident that university libraries have several forums that facilitate knowledge sharing. The most common forums and practices created and encouraged by the libraries in a descending order were; induction of new staff 82(85.4%), vision, mission and core values clearly reflect library KM orientation 73 (77.7%), librarians encouraged to be speakers in library forums 72 (76.6%), inclusion of library staff in project teams 69(76%) and holding of discussion forums with users 64(71%). Other equally good forums encouraged included recognition of expertise and know-how of library staff, and a climate of openness and trust and tolerance in the library and presentations of research papers in conferences by librarians. The practice that was conspicuously not encouraged or for which no forum was organized was story telling. A
big population 84(96.6%) of respondents said that story-telling as a knowledge sharing forum in their libraries was not in force. Another large group of respondents 71(78.8%) felt that there was no reward system in place for sharing new ideas and innovations. The findings generally reflected a scenario where knowledge sharing forums and practices were in place despite lack of a reward system. Table 4.13 below reflects these findings. To validate these findings the university librarians during their interviews and in response to a similar question asserted that they created forums where staff and other stakeholders shared knowledge among themselves or listened to experts either physically or online. Indeed one of them confirmed this when she said that:

We do this by encouraging and supporting our staff to join professional bodies such as Christian Association of librarians in Africa. We attend workshops and conferences organized by professional associations, through staff meetings and also we benchmark with other libraries through visits. We also use online forums. (University librarian PACU, 23 October 2012).

Other forums mentioned by the university librarians included team building excursions (CUEA librarian) and through external staff training (KU librarian).
Table 4.13 Knowledge Sharing Forums and Practices in University Libraries.

<table>
<thead>
<tr>
<th>Knowledge Sharing Practices</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
</tr>
<tr>
<td>Story telling forums</td>
<td>3</td>
<td>3.4</td>
<td>84</td>
</tr>
<tr>
<td>Discussion forums with users</td>
<td>64</td>
<td>71.1</td>
<td>26</td>
</tr>
<tr>
<td>Library staff included in project teams</td>
<td>69</td>
<td>75.8</td>
<td>22</td>
</tr>
<tr>
<td>Presentation of research papers in conferences</td>
<td>58</td>
<td>61.7</td>
<td>36</td>
</tr>
<tr>
<td>Librarians encouraged being speakers in library forums</td>
<td>72</td>
<td>76.6</td>
<td>22</td>
</tr>
<tr>
<td>Induction of new staff to library culture</td>
<td>82</td>
<td>85.4</td>
<td>14</td>
</tr>
<tr>
<td>Expertise and know-how of lib staff recognized and valued</td>
<td>60</td>
<td>64.5</td>
<td>33</td>
</tr>
<tr>
<td>Reward systems are in place for sharing new ideas and innovations</td>
<td>19</td>
<td>21.1</td>
<td>71</td>
</tr>
<tr>
<td>Vision, mission and core values reflect the library's KM</td>
<td>73</td>
<td>77.7</td>
<td>21</td>
</tr>
<tr>
<td>Freedom of expression in all library forums</td>
<td>65</td>
<td>70.7</td>
<td>27</td>
</tr>
<tr>
<td>There is climate of openness, trust and tolerance</td>
<td>58</td>
<td>61.7</td>
<td>36</td>
</tr>
<tr>
<td>The knowledge agenda is publicly known</td>
<td>52</td>
<td>57.1</td>
<td>39</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
From literature reviewed, tacit knowledge management is the process of capturing the experiences and expertise of the individuals in an organization and making it available to anyone who needs it. It requires the transfer and transformation of valuable expertise from a knowledge source to a knowledge repository. The creation of the right environment to share and create tacit knowledge must be deliberate. It was paramount therefore to determine how often library leadership organized forums where stakeholders met and shared their experiences. The findings were tabulated and presented in Table 4.14 below.

**Table 4.14: Frequency of Forums to Share Experiences.**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very often</td>
<td>4</td>
<td>3.3</td>
</tr>
<tr>
<td>Often</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>When need arises</td>
<td>82</td>
<td>68.3</td>
</tr>
<tr>
<td>Not at all</td>
<td>16</td>
<td>13.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

The findings as indicated in Table 4.14 above revealed that most of the knowledge sharing forums were organized when need arose as 82 (68.3%) of the respondents alluded to that view. A few respondents 18 (15%) indicated that such forums were organized often while 16 (13.3%) indicated that such forums were never organized. The findings as
indicated can be taken to mean that forums for sharing and creating new knowledge were not the norm in university libraries. This was an area where both the public and private university libraries agreed in principle.

To further determine whether KM practices and forums cited above were supported by a KM policy a question to that effect was asked. Majority 81 (67.5%) of the staff agreed that a KM policy was nonexistent. However some respondents from PACU 2 (66.7%), USIU 8 (66.7%), KU 8 (29.6%) and all respondents of MKU (100%) indicated that a KM policy was in place. The policy that these respondents 39(32.5%) could be alluding to could be the information management policies in use but touched on some aspects of KM. The interview responses from the University librarians pertaining to the same question shed light to the matter as all agreed that a policy for KM per se was non-existent. Indeed one university librarian noted: “We do not have a KM policy but we have a policy of institutional repository for regulating local research” (D/Librarian JKUAT, 30 October 2012). CUEA university librarian was of the same view when he also conceded that they too did not have a KM policy but other policies regulating other functions were in place.

A question aimed at determining whether knowledge sharing was coordinated and systematic revealed that it was not with 58.8% of the respondents indicating that knowledge sharing was not coordinated and systematic. University librarians interviewed also concurred that sharing tacit knowledge was not in their strategy and therefore lacked
coordination. This finding could go a long way to support the finding that as much as a sharing culture and knowledge sharing forums were said to be in place there lacked a policy to streamline KM practices.

Fig.4.8: Responses showing whether knowledge sharing was coordinated and systematic

Source: Researcher, 2013

It was worth noting that the libraries that had no KM policy took the lead in acknowledging that knowledge sharing lacked coordination in their libraries. The libraries which acknowledged lack of KM policy were JCUAT, UON, CUEA and KU.
The theory of Diffusion of Innovation (DOI) upon which the study was based upholds that understanding the benefits of an innovation contributes to its adoption. Consequently sharing knowledge or information may not be encouraged by both staff and management until they recognize its benefits or effects in solving problems or its use within the decision making process. When both sides underestimate knowledge effects, knowledge becomes a second priority, and such a situation is a barrier to sharing. To establish whether KM benefits were known to the staff, the researcher put a question to both the university librarians and their deputies. Generally the findings showed that comprehensive understanding of what KM entails and its benefits thereof were lacking. Indeed one university librarian confirmed this during the interview when he observed that:

Yes I do understand the scope and opportunity KM would offer to our library though not comprehensively. We need more enlightenment and maybe an expert to make a presentation to senior staff and then trickle down to junior staff. (University librarian CUEA, 12 November 2013).

Thus, KM has not been fully understood by the very people who are expected to champion it.

4.5 Knowledge Leadership

Leadership is fundamental to the success or failure of a process or project. Objective number four of the study sought to evaluate library leadership orientation and support to KM in their respective libraries. Leadership is essential to stimulate employees’ motivation to access the various sources of knowledge and encourage them on knowledge
sharing. Leadership can be a particularly powerful influence. A strong leader can enunciate, model and encourage different values through public displays, process re-engineering, and strategy direction or on-going encouragement. To apply KM in libraries and other organizations, leadership orientation is therefore critical. It is needed in the creation and maintenance of a receptive, committed knowledge community that is founded on the principles of interaction among colleagues. To this end library staff were asked to rate their library leadership support for KM. Most of the respondents 57 (47.1%) felt that leadership support was good and 11 (9.1%) felt that support was very good, 29 (24%) could not tell whether support was good or not and 24 (19.6%) felt that leadership support was not good at all. Public university libraries had the highest number of respondents who were uncertain of the level of leadership support for KM. JKUAT 8 (38.1%), UON 12 (33.3%) and KU 7 (28%) library staff respondents indicated that they did not know whether the library leadership supported KM or not. Some 6 (4.7%) of these respondents did not respond to that question. This might be taken to indicate that these respondents did not feel sufficiently knowledgeable about the question to answer it. These findings are reflected in table 4.15 below.
Table 4.15 Rating of KM support by Library Leadership

<table>
<thead>
<tr>
<th>University</th>
<th>Very Good</th>
<th></th>
<th>Good</th>
<th></th>
<th>Do not know</th>
<th></th>
<th>Not good at all</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
</tr>
<tr>
<td>1. MKU</td>
<td>0</td>
<td>0.0</td>
<td>13</td>
<td>100</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>13</td>
</tr>
<tr>
<td>2. JKUAT</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>7</td>
<td>33.3</td>
<td>8</td>
<td>38.1</td>
<td>6</td>
<td>28.6</td>
</tr>
<tr>
<td>3. UON</td>
<td>1</td>
<td>2.8</td>
<td>15</td>
<td>41.7</td>
<td>12</td>
<td>33.3</td>
<td>8</td>
<td>22.2</td>
<td>36</td>
</tr>
<tr>
<td>4. CUEA</td>
<td>1</td>
<td>10.0</td>
<td>4</td>
<td>40.0</td>
<td>0</td>
<td>0.0</td>
<td>5</td>
<td>50.0</td>
<td>10</td>
</tr>
<tr>
<td>5. KU</td>
<td>6</td>
<td>24.0</td>
<td>9</td>
<td>36.0</td>
<td>7</td>
<td>28.0</td>
<td>3</td>
<td>12.0</td>
<td>25</td>
</tr>
<tr>
<td>6. PACU</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>100.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
</tr>
<tr>
<td>7. USIU</td>
<td>3</td>
<td>2.5</td>
<td>5</td>
<td>41.7</td>
<td>2</td>
<td>16.7</td>
<td>2</td>
<td>16.7</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11</td>
<td>9.1</td>
<td>57</td>
<td>47.1</td>
<td>29</td>
<td>24.0</td>
<td>24</td>
<td>19.8</td>
<td>121</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

To further ascertain whether the library leadership was involved in championing KM, library staff respondents were requested to indicate on a 5 point likert scale the extent to which they agreed or disagreed that library leadership had championed application of KM in their respective libraries from a list of pre listed leadership initiatives. Table 4.16 below depicts responses by library staff to that effect.
Table 4.16: Ratings on KM Initiatives by Library Leadership.

<table>
<thead>
<tr>
<th>KM Initiatives</th>
<th>Staff Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
</tr>
<tr>
<td>Incentives are provided to share ideas</td>
<td>117</td>
</tr>
<tr>
<td>KM champions identified &amp; supported</td>
<td>118</td>
</tr>
<tr>
<td>Induction program for new staff in place</td>
<td>116</td>
</tr>
<tr>
<td>Provision of technology support</td>
<td>115</td>
</tr>
<tr>
<td>Provision of more &amp; more varied training</td>
<td>116</td>
</tr>
<tr>
<td>Encourage team work</td>
<td>117</td>
</tr>
<tr>
<td>Release library staff to participate in apt forums</td>
<td>114</td>
</tr>
<tr>
<td>Redeployment of qualified staff with Km</td>
<td>112</td>
</tr>
<tr>
<td>Encourage staff for further studies to boost skills</td>
<td>118</td>
</tr>
<tr>
<td>Develop &amp; mentor new leaders</td>
<td>117</td>
</tr>
<tr>
<td>Appointment of knowledge coordinator</td>
<td>117</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

From Table 4.16 above, the mean scores reflect a scenario that shows that library leadership in university libraries are trying to champion application of KM in their libraries. Most of variables tested were above the mean using a 5 point likert scale. The initiatives that had high mean scores were the provision of technology support (3.85), release of library staff to participate in appropriate forums (3.47), provision of more and
varied training sessions to library staff (3.42), encouragement of teamwork (3.72), induction programs for new staff (3.53) and encouragement of staff to further their studies. Other initiatives that were in place though not well grounded included provision of incentives (2.62), identifying champions and supporting them (2.69), developing and mentoring new leaders (2.95), as well as appointing knowledge coordinators in the library (2.73). It is worth noting that KM initiatives cited by most of the staff were more related to information management than KM. This would be interpreted to mean that the initiatives championed were more to do with managing and sharing explicit knowledge and not so much tacit knowledge.

Leadership initiatives that would promote identification of tacit knowledge would include provision of incentives to sharing ideas, identifying KM champions, redeployment of qualified staff with KM as a competency, developing and mentoring new leaders, as well as the appointment of a Knowledge Coordinator in the library. These initiatives unfortunately had the lowest mean scores. For instance, provision of incentives had a mean score of (2.62), identifying champions and supporting them (2.69), developing and mentoring new leaders (2.95), as well as appointing knowledge coordinators in the library (2.73). The current findings reveal that library leadership had continued championing application of explicit/documented knowledge. However and although most of these initiatives were above the mean as per the 5 likert scale rating used, the mean scores were still generally low. Even for the initiatives found to be in place, the mean scores ranged
from 3.05 - 3.85. This would be interpreted to mean that the library leaders do not involve themselves strongly in championing KM effort.

To gain further insight in this regard from the management perspective, a related question was asked the deputy librarians. Though the deputy librarians had previously concurred that they regarded KM as an important function and that they encouraged staff to appreciate and practice it when asked in a question to indicate the various KM initiatives they had in place they scored low. Like their library staff counterparts, they indicated that they enforced induction of new staff, organized forums where stakeholders met and shared their experiences as well as putting key strategies to ensure that changes were introduced and accepted. However their responses also pointed out paucity in championing KM practices, sponsoring staff for training in KM, and budgeting for KM. This finding corroborates findings of another study by Chen 2005 (cited in Zarrafa zadeh 2006) conducted in Taiwan which had also revealed that there was insufficient participation by library service units in corporate KM projects. The university librarians for their part when asked during the interview whether they had taken measures to champion KM. had different responses. Indeed KU university librarian responding to the question affirmed positively that they championed KM in their library. Yet at JKUAT the D/ University librarian quipped saying that although they championed KM, “KM is a process that takes cultural re-orientation”. At PACU the university librarian was upbeat on the matter and said that they championed KM. The university librarian of CUEA was of a different view as he conceded that CUEA library was not doing a good job in that
regard as they did not comprehensively understand KM and needed an expert to educate them on KM.

A question seeking to find out who had the responsibility to drive the KM process revealed that in most university libraries (34.2%), this was in the hands of the university librarian. In others, the deputy librarian was in-charge (6.8%) while others (27.4%) cited a designated officer. A huge percent (31.7%) though, felt that KM was nobody’s responsibility. The revelation that even in the same library the staff did not know who was in charge of KM was a pointer to the fact that KM was not officially established. Except for MKU and PACU where library staff acknowledged that KM responsibility was in the hands of a designated officer and their university librarian respectively in all other libraries there was mixed opinions on who was in charge. These findings presented a gloomy realization that university librarians had not designated an individual in charge of KM as they have in other key functions.
Fig. 4.9 Responses on Who was Incharge of KM

Source: Researcher, 2013

From responses reflected in Fig. 4.9 above, it is clear that in USIU, PACU and KU university librarians were credited with that function whereas in JCUAT and UON the responses point to a gloomy picture that KM is nobody’s responsibility. At CUEA respondents were divided on who was really responsible. Only in MKU did respondents unanimously agree that KM responsibility was in the hands of a designated officer. In JCUAT in particular, the deputy university librarian had conceded that he was very knowledgeable on KM but that information was still in his head. The findings therefore confirmed that, without the libraries designating KM’s responsibility to somebody, much
of what people know remains in the tacit form. In JKUAT for example, had the administration identified the deputy university librarian to be in charge of KM and give him the right support and budget, things would be different. He was so passionate about KM, yet doing nothing much in the meantime largely due to organizational beaurecracy and lack of authority to spearhead a new practice.

For a leader to embrace an idea, practice or innovation, and market it, ownership is paramount. To find out what they regarded themselves as, a question was put to the deputy librarians. The deputy librarians 5(83.3%) were in agreement that they regarded themselves as both information managers and knowledge managers. This finding could be taken as a positive trend as KM incorporates both the management of information in documented sources as well as knowledge held in people’s heads (tacit). This validates what Kim (2000) asserted that KM is not about managing or organizing books or journals, searching the internet for clients or arranging for circulation of materials but “a combination of Information Management, Communications, and Human Resources” (P.3).

Based on the study objective four the study sought to establish how library leadership managed its staff. The way leaders handle their staff can contribute to staff willingness to share their insights, expectations, beliefs and experiences or not. An environment that is characterized by trust, openness, tolerance, fairness and with a reward system in place encourages knowledge sharing. Because knowledge does not equal information it cannot
be easily measured, classified and stored in databases. Kubr (2002) in this regard holds that the new approach to knowledge management is the creation of enabling conditions for creating and sharing knowledge. This calls for management to create an environment of trust and openness, and developing incentives that align individual interests with the interests of the library and foster boundary free behavior. Leadership needs also to identify barriers to knowledge creation and sharing. To assess how library management managed their staff a question to that effect was put to the library staff. The library staff were asked to tick from a list of statements their views on how leadership managed them. Responses were as reflected in Table 4.17 below.

<table>
<thead>
<tr>
<th>Management of Library Staff by Leaders</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creates an organization culture</td>
<td>59</td>
<td>24.7</td>
</tr>
<tr>
<td>Develops &amp; manage people as knowledge assets</td>
<td>28</td>
<td>11.7</td>
</tr>
<tr>
<td>Identify, develop &amp; effectively use expertise</td>
<td>47</td>
<td>19.7</td>
</tr>
<tr>
<td>Develop competent individuals</td>
<td>51</td>
<td>21.3</td>
</tr>
<tr>
<td>Develop &amp; maintain processes</td>
<td>54</td>
<td>22.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>239</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
From Table 4.17 above it is evident that a variety of approaches were applied in the management of library staff. The findings revealed that majority of library staff 59 (24.7%) were of the view that their management had created a culture that facilitated the sharing of knowledge and collaborative processes both formal and informal, 54(22.6%) held that their managers developed and maintained processes that enabled the knowledge of individuals to be used effectively, 51(21.3%) were of the view that their managers developed competent individuals who managed and supervised the knowledge processes and expertise of the organization and 47 (19.7%) held that they identified, developed and used effectively the expertise of their staff. A small group 28(11.7%) also felt that their library leadership developed and managed people as knowledge assets.

Sharing of knowledge is not a function that is cherished by most people in organizations. To help tap the knowledge held by people, leadership needs to devise strategies to motivate their staff to share their insights as well as their experiences. Good leadership will use incentives as bait to entice people to share knowledge. An earlier question in this Thesis that had sought to indicate the extent to which library leadership had championed the application of KM had revealed that leadership had not fared well in as far as provision of incentives as a KM initiative to those who shared new ideas. A question that however sought to clarify the type of incentives provided by management to those who came up with new ideas or innovations revealed that a variety of incentives were in place. Table 4.18 summarizes these findings.
Table 4.18 Incentives provided by Library Leadership for sharing Knowledge

<table>
<thead>
<tr>
<th>University</th>
<th>Monetary Incentives</th>
<th>Training Opportunities</th>
<th>Promotions</th>
<th>Throwing Parties</th>
<th>Presents</th>
<th>Recognition in public forums</th>
<th>Sponsorship to conferences</th>
<th>Distinguishing them in Lib</th>
<th>Yellow pages</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
</tr>
<tr>
<td>MKU</td>
<td>0</td>
<td>0.0</td>
<td>13</td>
<td>18.3</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>JKUAT</td>
<td>1</td>
<td>14.3</td>
<td>8</td>
<td>11.3</td>
<td>1</td>
<td>5.9</td>
<td>2</td>
<td>50.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>UON</td>
<td>0</td>
<td>0.0</td>
<td>19</td>
<td>26.8</td>
<td>8</td>
<td>47.1</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>CUEA</td>
<td>2</td>
<td>28.6</td>
<td>7</td>
<td>9.9</td>
<td>2</td>
<td>11.8</td>
<td>1</td>
<td>25.0</td>
<td>1</td>
<td>33.3</td>
</tr>
<tr>
<td>KU</td>
<td>0</td>
<td>0.0</td>
<td>12</td>
<td>16.9</td>
<td>1</td>
<td>5.9</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>PACU</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
<td>2.8</td>
<td>3</td>
<td>17.6</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>USIU</td>
<td>4</td>
<td>57.1</td>
<td>10</td>
<td>14.1</td>
<td>2</td>
<td>11.8</td>
<td>1</td>
<td>25.0</td>
<td>2</td>
<td>66.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7</strong></td>
<td><strong>100</strong></td>
<td><strong>71</strong></td>
<td><strong>100</strong></td>
<td><strong>17</strong></td>
<td><strong>100</strong></td>
<td><strong>4</strong></td>
<td><strong>100</strong></td>
<td><strong>3</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
According to the findings, distinguishing staff in library yellow pages was the most preferred incentive with overall 92 (40%) of the total 249 responses, followed by training opportunities 71 (29%) and 43 (17.2%) citing sponsorship to conferences as another incentive. Incentives such as monetary incentives, promotions, throwing of parties, giving of presents and recognition of such personnel in public forums scored low percentages meaning that they were not in place. The monetary incentives, throwing of parties and presentation of presents were the incentives least used by many libraries. The library that was performing relatively better than others in the provisions of incentives was UON (29%) followed closely by KU (18.4%) and USIU (15%) taking third position. The findings also showed that each university library had a variety of incentives in place albeit not very much used. The deputy librarians for their part cited a number of measures they had put in place in order to encourage a culture of knowledge sharing, and these included involving staff in project teams, permission to participate in knowledge sharing forums, regular staff meetings, and encouraging staff to speak out, among others.

4.6 Application of ICT in KM in Libraries

Objective five of the study was to determine the extent to which university libraries utilized ICT to facilitate Knowledge Management process. Information Technology (IT) is a fundamental enabler in knowledge methodologies and processes. Reviewed literature alludes that advances in IT have made it easier to acquire, store, and disseminate knowledge than ever before, and hence many organizations have employed IT to facilitate sharing and integrating of knowledge (Kankanhalli, 2003) One of the aims of
KM in libraries is to promote knowledge exchange among library staff, strengthen innovations consciousness and abilities, and arouse the library staff enthusiasm and abilities for learning, making the knowledge most efficiently applied to business activities of the library and rebuilding the library into a learning organization. To achieve the above goal, application of IT in knowledge identification, capture, acquisition, storage, and retrieval as well as in its exchange is paramount. IT is a vital factor to support the process of storing and distributing knowledge for sharing. It is also worth noting that though KM is enhanced by technology, it is not a technology discipline and thinking in terms of a KMS leads to expectations of ‘silver bullet” solutions.

Knowledge management systems (KMS) refer to any kind of IT system that stores and retrieves knowledge, improves collaboration, locates knowledge sources, mines repositories for hidden knowledge, or in some other way enhances the KM process. The focus should be on the functionality of the IT systems required for the specific activities within the organization. In this regard the university librarians were asked whether they had KM systems that supported the creation, capture, storage and dissemination of knowledge. The university librarians were in agreement in saying that they did not have a specific system for KM. One university librarian during the interview quipped and noted: “We do not have one specific system for KM but KOHA, Dspace and Greenstone are doing well “(University librarian KU, 8/11/12). Other KM systems in use included Resource mate, Vsmart, Face book, library portal, email, internet and intranet.
For IT to be effectively applied the staff should possess the requisite ICT skills. To determine the staff level of computer literacy a research question was asked. Most of the staff 124 (98%) who responded indicated that they had computer literacy skills. Further questioning revealed that most 79 (58%) of the staff possessed moderate level of computer proficiency, 31 (25%) had basic level of proficiency and 20 (16.4%) were computer experts. USIU had the highest number of library staff who were experts in IT (36%) followed closely by MKU (31%), JGUAT (20%), UON (16%) and CUEA (10%). These findings could be interpreted to mean that library staff had moderate IT skills which could be used in the application of KM especially in the processes of capture, storage, retrieval and dissemination. The librarians with IT expertise could work with IT professionals to develop appropriate KM systems. All the respondents were in tandem that the computers in their libraries were enough. In response to a question that aimed to establish the number of computers in respective libraries and whether computers were internet connected had 107 (85%) of the staff who responded indicate that library computers were over 20 and that all computers had internet connectivity that facilitated exchange of knowledge. The entire library staff except one had e-mail addresses. The libraries email facilities were used for both personal work and administration. In KU though, majority of the staff 25 (92.6%) acknowledged that the emails were used more for personal pursuits. All in all the findings brought out that email addresses were mostly used for personal rather than for administrative purposes. The fact that computers were adequate and were interconnected gives credibility to library management. With greater understanding of KM, the current ICT infrastructure is ideal for KM processes.
The study also sought to establish whether the library leadership encouraged online group conversation. Overall 68 (55.7%) of the library staff who responded concurred that libraries encouraged online group conversation but an equally big group 54 (44.6%) felt that such conversations were not encouraged. The findings also pointed out the rate at which individual libraries encouraged online group conversations. USIU 9 (90%) led in encouraging online group conversations followed by PACU 3 (75%), UON 27 (71%), CUEA 6 (60%), JKUAT 11 (50%), and KU 11 (42%). MKU lagged in this aspect with only 1 (8.3%) as shown in Table 4.19 below. It is worth noting that this question resulted in a particularly high response, with only 5 (3.9%) of the library staff respondents failing to answer it.
Table 4.19: Encouragement of Online Group Conversations by Libraries

<table>
<thead>
<tr>
<th>University</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
</tr>
<tr>
<td>1. MKU</td>
<td>1</td>
<td>8.3</td>
<td>11</td>
</tr>
<tr>
<td>2. JKTUAT</td>
<td>11</td>
<td>50.0</td>
<td>11</td>
</tr>
<tr>
<td>3. UON</td>
<td>27</td>
<td>71.1</td>
<td>11</td>
</tr>
<tr>
<td>4. CUEA</td>
<td>6</td>
<td>60.0</td>
<td>4</td>
</tr>
<tr>
<td>5. KU</td>
<td>11</td>
<td>42.3</td>
<td>15</td>
</tr>
<tr>
<td>6. PACU</td>
<td>3</td>
<td>75.0</td>
<td>1</td>
</tr>
<tr>
<td>7. USIU</td>
<td>9</td>
<td>90.0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>68</td>
<td>55.7</td>
<td>54</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

From the above statistics it is worth noting that online communication was an accepted mode by the majority of libraries. USIU (90%), PACU (75%), UON (71%) and CUEA (60%) library staff respondents were of the view that their libraries encouraged online conversation. At MKU on the other hand most respondents (91.7%) were of the opposite view that their library did not encourage online conversation. JKTUAT respondents portrayed a mixed response where 50% agreed the library encouraged online conversation while the other 50% felt that such communication was not encouraged.

To share knowledge and expertise held by staff, the use of IT is vital. It is possible and easy to link closely knowledge sources and knowledge workers by computer networks.
To establish the type of ICT tools the libraries provided for online group conversation the library staff were requested to indicate from a list provided which ICT tools were in use in their respective libraries. Overall, email was the most used tool with 73 (57.5%) of the total responses. The findings are as shown on table 4.20 below.
Table 4.20 ICT Tools provided for online conversation

<table>
<thead>
<tr>
<th>University</th>
<th>Email</th>
<th>Chat</th>
<th>IM</th>
<th>Message Board</th>
<th>P 2 P</th>
<th>Real time meeting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
<td>%</td>
<td>Freq</td>
</tr>
<tr>
<td>MKU</td>
<td>1</td>
<td>7.7</td>
<td>1</td>
<td>7.7</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td>JKVUAT</td>
<td>11</td>
<td>50.0</td>
<td>3</td>
<td>13.6</td>
<td>2</td>
<td>9.1</td>
<td>0</td>
</tr>
<tr>
<td>UON</td>
<td>29</td>
<td>74.4</td>
<td>13</td>
<td>33.3</td>
<td>5</td>
<td>12.8</td>
<td>5</td>
</tr>
<tr>
<td>CUEA</td>
<td>7</td>
<td>70.0</td>
<td>2</td>
<td>20.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>KU</td>
<td>10</td>
<td>37.0</td>
<td>6</td>
<td>22.2</td>
<td>1</td>
<td>3.7</td>
<td>0</td>
</tr>
<tr>
<td>PACU</td>
<td>4</td>
<td>100.0</td>
<td>1</td>
<td>25.0</td>
<td>2</td>
<td>50.0</td>
<td>0</td>
</tr>
<tr>
<td>USIU</td>
<td>11</td>
<td>91.7</td>
<td>1</td>
<td>8.3</td>
<td>4</td>
<td>33.3</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
<td>52.5</td>
<td>27</td>
<td>19.4</td>
<td>14</td>
<td>10</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
The findings of the study showed that there were different ICT tools used for online conversation by the libraries at varying levels. For example, although e-mail was mostly used 73 (52.5%) it was prevalently used at PACU (100%) and USIU (91.7%). At MKU email usage was not the norm as only 1 (7.7%) mentioned it as a tool. Chat that was overall second in usage 27 (19.4%) portrayed a similar pattern as email usage. UON topped the usage of chat 13 (33.3%) while MKU and USIU lagged in Chat usage respectively. MKU 1 (7.7%) and USIU 1 (8.3%) lagged in the chat usage. Overall UON led university libraries in the provision of ICT tools for online conversation. Among the tools used P2P tool was the least used 4 (2.88%) followed by real time meeting 8 (5.76%). These findings clearly show that the university libraries were aware of the need to share knowledge virtually and had invested in ICT tools. Most of the libraries were using three (3) or more online conversation tools. This practice becomes a good ground for KM to be well established.

The findings of the study also showed that the required technical structures that enhance online communication were in place. All the libraries were said to have to intranets, portals as well as websites as reflected in Figure 4.10 below.
The dissemination of knowledge is enhanced by the system used in the organization. The study wanted to establish whether there was adequate ICT support for KM in place. Using a 5 likert scale rating the staff was asked to rate the extent to which they agreed that the listed ICT support was available to librarians. Table 4.21 below presents the findings.

**Figure 4.10 Technical structures in place to enhance communication**

Source: Researcher, 2013
Table 4.21: Available ICT Support to Libraries for KM

<table>
<thead>
<tr>
<th>ICT support</th>
<th>Frequency</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology links all members of library to one another and external publics</td>
<td>123</td>
<td>4.04</td>
</tr>
<tr>
<td>Technology has created an institutional memory accessible to all</td>
<td>122</td>
<td>4.25</td>
</tr>
<tr>
<td>Technology that supports collaboration is put in hands of staff</td>
<td>120</td>
<td>3.88</td>
</tr>
<tr>
<td>Information system in place are real time, integrated and smart</td>
<td>116</td>
<td>3.67</td>
</tr>
<tr>
<td>Library has invested greatly in IT literacy for its staff</td>
<td>119</td>
<td>3.61</td>
</tr>
<tr>
<td>Library services not limited by geographic barriers</td>
<td>118</td>
<td>3.88</td>
</tr>
<tr>
<td>Knowledge outcomes are communicated to staff through ICT</td>
<td>120</td>
<td>3.51</td>
</tr>
<tr>
<td>Knowledge system enables knowledge identification, capture sharing, and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>dissemination</td>
<td>120</td>
<td>4.04</td>
</tr>
<tr>
<td>The library has a knowledge repository</td>
<td>111</td>
<td>3.57</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013

The mean scores in Table 4.21 above confirm that ICT support was available to support KM. The most prevalent indicators of ICT support agreed by the majority of respondents were the fact that technology had been used to create an institutional memory accessible to the entire university (4.25). A big group also concurred that technology links all members of the library to one another (4.04) and that knowledge systems in place
enabled knowledge identification, capture, organization, sharing, and dissemination (4.04). Other mean scores oscillated towards agreeing that the other listed ICT support were equally available to librarians. Most of the respondents agreed that technology that supports collaboration was in their hands (3.88), that library services were not limited by geographic barriers (3.88), that ICT had enabled communication of knowledge outcomes to them (3.51), that information systems in place were real time, integrated and smart (3.67), that libraries had invested greatly in IT literacy for their staff (3.61) as well as the availability knowledge repositories (3.57). These findings could be interpreted to mean that with such kind of ICT infrastructure in place KM could be effectively applied in university libraries keeping other factors constant.

To determine whether the available ICTs were adequately utilized for knowledge sharing was worth investigating. Majority 73 (50.8%) of the library staff respondents were of the view that the available ICTs were well utilized while 49 (40%) were of a contrary view that the ICTs were not adequately utilized. A small number 5 (3.93%) of the respondents did not give their input in this question. Thus, though the findings of the study established that ICT support to librarians was good some respondents were still of the view that the available ICTs had not been adequately utilized for knowledge sharing among their colleagues. In JKUAT for example a large number of their library staff (75%) felt that ICT had not been adequately utilized in sharing knowledge among colleagues. In CUEA (55%), KU (40.7%) and UON (40.5%) of the library staff respondents shared the same view. To establish reasons why some university library staff felt that the level of ICT
utilization was not adequate a follow up question was asked. Several factors were floated
notable among these being that libraries had not embraced ICT adequately, library staff
needed more training in the use of ICT, there was lack of good polices and that generally
there is always room for improvement.

In order to establish whether the library staff were aware that basic MS office suite could
be used in KM to store and retrieve knowledge, the staff were asked a question to that
effect. Overall 85 (66.9%) of these respondents were aware of its potential and only 33
(25.9%) were not aware of that fact. The level of awareness differed from library to
library. For example, while all PACU and MKU staff were aware of MS suite potential to
KM, 44.4% of library staff in CUEA, 38.5% in KU, 36.8% in JKUAT, 31.4% in UON
and 88.3% in USIU were not aware of that fact. These findings could be interpreted to
mean that lack of knowledge by library staff on how MS office suite could be used in
KM could have affected application of KM. This is because many advocates of KM
stress the importance of using advanced technology to store and retrieve knowledge
which entails heavy initial capital investment whether purchased in the market or
developed in-house and this could have deterred libraries in applying KM in their daily
operations.

4.7 Organizational Framework

Objective six of the study was to establish the extent to which the organizational
framework enhanced KM practice. The organizational framework encompasses the
organizational processes, structural elements, policies and systems put in place and supported by an organization deliberately to support the knowledge management process (Debowski, 2006). Consequently, the study sought to establish the type of support services and facilities in place to enhance KM practice in respective university libraries. The findings were based on a 5 point likert scale rating. The mean scores calculated for most of the variables were relatively high meaning that the libraries had put in place some support services and facilities that could enhance KM. The study findings revealed that university libraries’ organizational framework was moving close to providing an ideal infrastructure for enhancing KM practice as shown in Table 4.22 below.
Table 4.22: Organizational Framework Support Services and Facilities

<table>
<thead>
<tr>
<th>Knowledge framework</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Policies Policies Formulated</td>
<td>9</td>
<td>20</td>
<td>36</td>
<td>38</td>
<td>15</td>
<td>118</td>
<td>3.25</td>
</tr>
<tr>
<td>Knowledge Values explicitly stated</td>
<td>5</td>
<td>27</td>
<td>24</td>
<td>50</td>
<td>10</td>
<td>116</td>
<td>3.28</td>
</tr>
<tr>
<td>Lines of Communication Well developed</td>
<td>3</td>
<td>22</td>
<td>13</td>
<td>58</td>
<td>22</td>
<td>118</td>
<td>3.63</td>
</tr>
<tr>
<td>Vision, mission &amp; Strategic plans reflect KM</td>
<td>5</td>
<td>17</td>
<td>24</td>
<td>63</td>
<td>12</td>
<td>121</td>
<td>3.50</td>
</tr>
<tr>
<td>Library structure open</td>
<td>3</td>
<td>20</td>
<td>12</td>
<td>68</td>
<td>14</td>
<td>117</td>
<td>3.60</td>
</tr>
<tr>
<td>Library Structure has Provision for Meeting rooms</td>
<td>8</td>
<td>18</td>
<td>14</td>
<td>50</td>
<td>26</td>
<td>116</td>
<td>3.59</td>
</tr>
<tr>
<td>Librarians encouraged to Plan</td>
<td>7</td>
<td>11</td>
<td>17</td>
<td>51</td>
<td>30</td>
<td>116</td>
<td>3.74</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
From the statistics displayed in Table 4.22 above it is clear that there are adequate support services and facilities that could enhance KM in university libraries. A mean score of 3.60 reflects that library structures are open to facilitate knowledge sharing. A mean score of 3.50 affirmed that libraries’ vision, mission and strategic plans are oriented to KM while a mean score of 3.63 indicated that lines of communication are good. With a mean score of 3.60 library structures were confirmed to have provisions for meeting rooms for knowledge sharing and discussions. The findings also reflected that there were a number of library staff who were uncertain of whether the various services and facilities listed in the question supported KM or not. For example 36(30.5%) of overall respondents were uncertain of whether knowledge policies were formulated and accessible to all staff while 24(21%) were uncertain whether knowledge values were explicitly stated and promulgated and another 24(19.8%) were uncertain whether their library’s vision, mission and strategic plans reflected KM. These findings could be taken to mean that not all library staff understands KM and this could be a factor affecting effective KM in university libraries. The deputy librarians on their part observed that a rigid and hierarchical organization structure, lack of promulgation of the mission, vision and strategic plans and centralized authority were organizational elements that could have undermined KM practice in their libraries. The fact that the mean scores ranged between 3.25 to 3.74 could point to the conclusion that library staff are not very clear about KM.

The purpose of the study was to establish key elements that could have influenced the state of KM. Therefore defining these factors was useful for structuring an environmental
analysis because there is an important link between environmental analysis and critical success factors. To assess what factors could have generally influenced effective KM application in university libraries a question was asked. Library staff respondents were asked to indicate to what extent various variables listed in the questionnaire could have influenced lack of effective application of KM in their libraries. Feedback was as given in table 4.23 below.
### 4.23: Ratings of Factors Affecting Effective Application of KM

<table>
<thead>
<tr>
<th>Factors</th>
<th>Frequency</th>
<th>mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff perception of KM as a vital practice in library operations</td>
<td>114</td>
<td>3.29</td>
</tr>
<tr>
<td>Personal motivation to share knowledge</td>
<td>118</td>
<td>3.37</td>
</tr>
<tr>
<td>Resistance in changing traditional library</td>
<td>120</td>
<td>3.38</td>
</tr>
<tr>
<td>The way KM was introduced</td>
<td>115</td>
<td>3.51</td>
</tr>
<tr>
<td>Inadequate knowledge of technology application by staff</td>
<td>115</td>
<td>3.00</td>
</tr>
<tr>
<td>Inadequate IT infrastructure</td>
<td>114</td>
<td>2.73</td>
</tr>
<tr>
<td>Poor leadership support</td>
<td>115</td>
<td>3.16</td>
</tr>
<tr>
<td>Library culture that inhibit sharing</td>
<td>115</td>
<td>2.98</td>
</tr>
<tr>
<td>Rigid and hierarchical library organization structure</td>
<td>117</td>
<td>3.26</td>
</tr>
<tr>
<td>Closed library office design</td>
<td>106</td>
<td>2.97</td>
</tr>
<tr>
<td>No time to meet as a social system and share</td>
<td>115</td>
<td>3.17</td>
</tr>
<tr>
<td>No facilities set aside for staff meeting</td>
<td>114</td>
<td>3.04</td>
</tr>
<tr>
<td>Lack of a benchmark where KM effort had produced a success story to emulate</td>
<td>116</td>
<td>3.40</td>
</tr>
<tr>
<td>Lack of specific training in KM</td>
<td>115</td>
<td>3.61</td>
</tr>
<tr>
<td>Too much workload</td>
<td>117</td>
<td>3.09</td>
</tr>
<tr>
<td>Inadequate knowledge of the benefits of KM</td>
<td>117</td>
<td>3.35</td>
</tr>
<tr>
<td>Perception that KM is too expensive and too time consuming to implement</td>
<td>119</td>
<td>2.88</td>
</tr>
</tbody>
</table>

Source: Researcher, 2013
From Table 4.23 above most of the respondents were of the view that lack of specific training in KM (3.61), poor leadership support (3.16), rigid and hierarchical library structure (3.26), lack of time to meet (3.17) and the way KM was introduced (3.51) affected effective application of KM in their libraries. Lack of identifiable cases (3.40) where KM effort had produced a success “story” to emulate, lack of personal motivation (3.37) as well as lack of adequate knowledge of the benefits of KM (3.35) among others were factors highlighted as having affected effective KM application. Perception of KM as a vital practice in library operations (3.29), resistance to changing traditional library services (3.38) were other factors mentioned as having influenced effective KM application to some extent. These findings imply therefore that several factors had inhibited effective KM application in university libraries in Kenya.

The perception that KM was too expensive and too time consuming to implement, existence of closed office design, a library culture that inhibited sharing, and inadequate infrastructure were not factors mentioned as having affected effective KM application. These findings imply therefore that some factors were favorable to KM. Indeed the realization that library staff did not perceive KM as an expensive and time consuming function, that libraries had adequate IT infrastructure and that the library designs were open were ingredients that if well exploited could boost KM implementation. If benefits of KM to libraries were discussed and disseminated, staff morale boosted through a reward system, adequate KM training of staff provided, library leadership to take up their roles as champions of KM and KM introduced formally in libraries, successful
application of KM would be possible and well entrenched. As it were, IM is the norm and only some aspects of KM are visible.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The study aimed at identifying and examining the determinants that had influenced effective KM practices in university libraries with special reference to chartered (main campus) libraries in Nairobi and Kiambu counties in order to recommend measures for enhanced accessibility and utilization of knowledge assets in university libraries. This chapter summarizes the major findings of the study with major conclusions drawn respectively for each variable discussed and recommendations offered where appropriate. In addition the chapter has suggestions for further research.

5.1 Summary of the Findings

5.1.1 Current KM Practices in University Libraries

As a starting point it was imperative for the study to establish the current KM practices in university libraries. The study was especially keen to establish the activities and/ or processes that librarians used in identification of knowledge critical to them, knowledge capture and acquisition mechanisms, knowledge organization, application and how knowledge was shared to those who needed it. In the process significant results were noted.
The study findings showed that majority of respondents were of the view that KM had not been formally or officially introduced in the libraries (see Table 4.6) and consequently there were mixed feelings about whether KM was a function of the libraries or not. The deputy librarians except one and the library staff held that KM was a function of their libraries while the university librarians were of the view that KM per se was not a function of their libraries. The sentiments expressed by the university librarians were taken seriously as the university librarians are the authority in the libraries and are better placed to know what is and what is not. Their sentiments were thus taken to mean that KM per se was not in place. The findings also revealed that although majority of the staff were familiar with the term KM their understanding was largely from literary sources (see Fig.4.4).

Despite the fact that KM was not officially endorsed in the libraries the study did bring to the fore that some KM practices were nonetheless in place albeit informally and uncoordinated. For example, the study established that the university libraries did capture knowledge using a variety of techniques. The techniques cited were not universally applied though and varied from one library to another (see Table 4.7). The university libraries also, when they did not possess certain knowledge internally and had no skills to find it, opted to acquire it externally if they felt it was useful to the goals of the library. In this regard, the study established that the university libraries networked and had established working links with other libraries and institutions. They also searched online databases to build their own knowledge databases as well as acquiring knowledge sources
conventionally through purchase of explicit resources. The university librarians also attended training programmes, conferences, seminars and workshops as additional mechanisms of acquiring knowledge (see Fig4.5).

As much as the above KM knowledge capture and acquisition initiatives were found to be in place in the university libraries, university libraries lacked KM strategies, policies or guidelines to support these KM processes. Secondly the study established that the capture and acquisition techniques were fit for or directed towards the capture of explicit knowledge. The capture and acquisition of tacit knowledge however was not formalized or systematic. Formal mechanisms for capture and acquisition of tacit knowledge such as interviewing experts as they exited, knowledge mapping, mentoring, user profiling through use of questionnaires, storytelling forums, use of focus groups, and benchmarking were not the norm. On the strengths of the above findings the researcher concluded that the cited KM process was not well grasped and KM practices in the university libraries were not in place through deliberate planning as KM forums. The librarians could have incorporated these KM practices in their operations without prior planning or clear understanding that these were indeed KM practices. These practices could only be seen as off shoots of what their daily operations entail as they manage information.

The fact that the research revealed that majority of the staff’s knowledge of KM was through literary sources, and that the libraries lacked KM strategies and other forms of KM
guidelines was a pointer to the fact that KM in university libraries was not formally established. Fortunately, all the university librarians were passionate about KM and concurred that they had intentions of incorporating it in their operations. At Kenyatta University for instance, the university librarian was planning to introduce KM function after winding up with the institutional repository he was spearheading. At CUEA, the university librarian was willing to incorporate KM once they were guided adequately by an expert. The deputy librarian at JKUAT, interviewed on behalf of the librarian, was optimistic that incorporating KM function was just a matter of time. Indeed he added that they had started sensitizing their user community about KM.

5.1.2 Staff Perception of KM

The study findings established that staff perception of KM in university libraries was positive and could not have therefore inhibited KM application in the libraries to a great extent. The general perception that KM was not in place because it was expensive and time consuming did not hold much impact with a mean score of 2.25. Other perceptions such as librarians lack of interest in KM; KM having no added advantage to information management; that knowledge in people’s heads was too difficult to tap and manage as well as librarians were too busy to engage in other new ventures were all invalidated as possible variables that could have affected effective KM application to a great extent (see Table 4.8). All these perceptions scored low mean scores on a 5 point likert scale that was used. The respondents’ attributed lack of aggressive marketing of KM concept by leaders as the variable affecting effective KM practices in university libraries. Even
where respondents had indicated that perception was one of the factors that had affected KM application (see Table 4.22) the mean score was not high (3.29) and the issue at hand was on their perception of KM as a vital practice in library operations which could possibly have been difficult to respond to respondents who admitted to have had a rudimentary grasp of KM.

5.1.3 Knowledge Sharing Culture

Knowledge communities are characterized as open communicative cultures which encourage sharing, tolerance, collaboration and trust (Debowski 2006). KM relies on people who share and use knowledge to perform their work roles. In this regard the study revealed that Knowledge sharing was encouraged and facilitated in all libraries and that some tacit knowledge sharing forums were in place although largely unplanned, uncoordinated and not supported by a policy or strategy and were organized as need arose. Private university libraries were doing extremely well in encouraging and facilitating knowledge sharing. KU led the public university library category followed by UON and JKUAT respectively (see Table 4:11). JKUAT had the highest number of respondents (47.6%) citing lack of encouragement and facilitation. Indeed library management was credited for communicating with their staff often using a variety of channels with meetings cited as the most used channel. However, the libraries within the public universities were not faring well in regards to building consensus before a new service or practice was introduced (see Table 4.10).
Although knowledge sharing indeed took place in university libraries, the bulk of knowledge that was shared was more explicit. The platforms and forums used in knowledge sharing were many notable among others being: induction of new staff members, librarians encouraged to be speakers in librarians forums, staff included in project teams, discussion forums with users, provision of freedom of expression in all forums and library vision, mission and core values reflected KM (see Table 4.12). The sharing of tacit knowledge though was not formalized as neither a codification nor a personalization strategy was in place. The university libraries lacked strategies to share knowledge and particularly those to help link people to each other and help them communicate so as to achieve complex knowledge transfers. The knowledge stored in their existing knowledge bases pertains to documentary sources they acquire or subscribe to for their normal daily operations. It is worth noting that knowledge codification serves a pivotal role of allowing what is known in an organization to be shared and used effectively. It converts knowledge into a tangible explicit form such as a document, which makes it communicated much more widely and with less cost. It is however impossible to codify in a document or a database the knowledge, skills, expertise, understanding and passion of staff and / or employees. A personalization strategy is what is best utilized for sharing tacit knowledge. Such a strategy helps provide a link to the sources of knowledge using K- maps, library staff yellow pages or use of company guides. To achieve its objective, the personalization strategy encourages meeting forums, learning by doing or observing experts do what they do. The creation of staff yellow pages/directories enables libraries to tap tacit to enable staff know whom to contact to
learn what they know. These yellow pages, in an electronic system, are especially valuable to people or organizations that are geographically or have other barriers to personal connection. As a result, yellow pages could be used as the cornerstone point to systematic knowledge and learning initiatives to libraries.

It could be concluded therefore, that without initiatives directed to tapping tacit knowledge, knowledge sharing initiatives have been more focused on explicit knowledge and any tacit knowledge sharing initiatives has been largely random at best.

5.1.4 Knowledge Leadership

A project, no matter how big or small, is as good as its leader. Cultural change is possible only when the leadership is committed to change. As explained in chapter two of this Thesis, the type of leadership in an organization determines to a great extent the direction the organization will take and success of the same. For KM to succeed in libraries library leadership should take up the issue and champion it. The findings established that library leadership was rated well in as far as their support for KM was concerned. Indeed over 68% of the library staff respondents rated their leaders as good and very good in as far as KM support was concerned. The same respondents when asked to indicate the extent to which they agreed that their leaders had championed KM application in their libraries had responses that portrayed a scenario where most of them were not fully convinced that their leadership was championing KM. The leaders for example were only credited for carrying out inductions of new staff, encouraging
teamwork and staff to further studies to boost their skills, provision of technology support as needed and releasing staff to participate in appropriate forums. The findings revealed that the leaders did not have formalized and systematic methods of tapping, storing & sharing tacit knowledge as well as a designated KM coordinator. Indeed a big percentage (31.7%) of the respondents conceded that KM was nobody’s responsibility. It was also revealed that incentives to motivate knowledge sharing and forums to meet and share experiences and insights were not the norm. Such forums when organized were largely as and when a need arose. The incentives cited were the normal gestures extended to individuals in recognition of a well done job and therefore not purposely meant for KM (see Table 4.17). The responses in regard to available incentives for KM reported low percentages (below 50%) meaning that KM incentives were not an established custom. Even where some form of reward or incentives were in place there was no package that was formalized and there was no set criteria tied to KM as staff were sponsored to seminars or conferences. To compound the matter, there was no budget set aside for KM and neither was there a process of developing and mentoring new leaders. The leaders also scored low in that they did not identify and support KM champions.

In view of these findings it could be concluded that KM practices in university libraries are ineffective due to lack of leadership drive. It could therefore be rightly argued that any KM initiatives in place were purely by default as leadership went about their library management operations. The KM initiatives in place such as provision of technology support as needed, release of library staff to participate in appropriate forums, induction
of new staff and encouraging team work were more to do with information management than KM. Even in the above supposedly KM initiatives supported by leaders their mean scores were still below 4 (agree) on the 5 likert scale rating used. Without a clear cut budget and an officer designated for KM coordination, KM practices could not be expected to be any better than they currently were. Secondly, without library leaders themselves having a deeper understanding of KM and the benefits it is likely to give espoused at corporate level, taking KM initiatives could not be a choice of many. Above findings leads to the conclusion that library leadership have continued to champion application of explicit knowledge even as they regarded themselves as both Information and Knowledge Managers.

5.1.5 ICT Support

From reviewed literature it was made clear that IT is a fundamental enabler in knowledge methodologies and processes. The findings in this connection portrayed libraries that had ICT infrastructure adequate to support KM. The libraries had adequate computers which were networked and different ICT tools were available for online conversation. Armed with the above findings, one could be justified to conclude that the university libraries were well endowed in as far as ICT infrastructure was concerned. With such a good ICT infrastructure the identification, capture, acquisition, storage and dissemination of both tacit and explicit knowledge could be enhanced and appropriately utilized. Coupled with an appropriate budget, an implementation plan and adequate job training in appropriate KM systems, the libraries could easily incorporate KM practices as part and parcel of
their normal day to day operations. This reinforces what Wen (2005) said that management of knowledge could be cheaply executed by using the existing IT systems as long as the systems are able to store, retrieve, locate knowledge sources, mine repositories for hidden knowledge and improve collaboration. It is worth noting that establishing a system to support the creation, storage and dissemination of knowledge is just one aspect of KM. However, and in order to reap the full benefits that a KMS could provide, it is imperative for the university libraries to have an efficient process in place to ensure the right knowledge is captured, managed and kept up to date using the “softer” systems. In other words, KM systems should try to implement a two part approach using a database or wiki to collect explicit knowledge and connecting colleagues to one another to share tacit knowledge. These KM systems if well harnessed could help in codifying knowledge in a common repository and using the same to tap and share tacit knowledge from and among people.

5.1.6 Organizational Framework.

The findings in as far as organizational facilities and structures were concerned posited a trend towards institutions that were aligned to supporting the KM process. With mean scores slightly above the rating of 3 in a 5 point likert scale, for the variables tested, it could be concluded that the libraries were moving albeit slowly towards KM. The findings showed that libraries had meeting rooms as part of their library structures, their structures were open to facilitate sharing and librarians were being encouraged to plan for their personal development (see Table 4.21). ICT infrastructure was good and a sharing
culture to some extent was in place. It was also established that lines of communication across the library teams were well developed. Such an environment if well harnessed by good leadership would be ideal for applying KM. The study also established a number of factors that were mentioned as having influenced effective application of KM in university libraries. The factors mentioned in this regard included:

i. Lack of specific training in KM by staff

ii. KM not formally introduced in the libraries

iii. Resistance to changing traditional library services,

iv. Lack of personal motivation to share knowledge

v. Lack of benchmarks to emulate

vi. Lack of Leadership drive

vii. Lack of a designated budget

viii. Lack of a designated officer to drive KM

ix. Lack of KM policies and strategies

x. Lack of an incentive system and

xi. Sheer lack of understanding KM and the benefits accrued to it.

It was concluded therefore that, factors that had affected effective KM practices in university libraries were many and were more human resource based than infrastructural based.
5.2 Implications of Research Findings

The above findings, combined with related literature provided a basis of determining the current state of KM Practices in university libraries. The research findings will help in planning for a KM effort as the set of determinants identified will act as a list of factors for university libraries to address when planning to implement KM.

Secondly, the findings will act as a benchmark or a standard of measurement and evaluation. For the librarians these findings will help them to apprise themselves on their level of involvement in KM initiatives. The study findings will provide a benchmark on what university libraries ought to do to initiate, direct, promote, sustain and reap the benefits of KM. Indeed the study findings will act as an eye opener to the librarians and their staff in understanding and appreciating their new and expanded roles. University librarians will then be able to take the lead in “walking their talk” as information managers as well as knowledge managers. The university librarians will change their outlook to KM, gain more insights of KM to appreciate it, own it and run away with it. This leadership ownership will motivate other staff to follow suit and contribute greatly to KM application.

The study will also help in making informed decisions as to the level of libraries’ preparedness for KM application. By focusing on the identified factors that influence KM, they would be in a position to judge their level of preparedness in these key areas.
Such an analysis will help these libraries decide on the best strategy of implementing KM systematically and in an organized manner.

The study will be in a position to provoke the university librarians and their deputies to formulate appropriate KM policies and strategies that will be diffused to all staff to enable all members have a common understanding of the notion of KM and its associated practices. The university librarians will take cue and formulate an attractive incentive package to encourage participation in KM initiatives by all concerned parties, and develop a culture that encourages sharing of knowledge both in the real and virtual environment.

Poor use of available ICT infrastructure would negatively influence a KM effort. The study findings will encourage university librarians to put in place an effective user-friendly knowledge management system and devise a mechanism to motivate staff to use it as a daily routine. With the good ICT framework in place the librarians will use it to reach out to experts both within and without and have them connected to each other. K-maps and expert directories will be developed to interconnect the sources of knowledge.

The study findings will also provide useful insights into KM in other types of libraries. Indeed, because the findings of the study reinforced previous findings albeit in different sectors on the various determinants affecting KM, the findings will help information based centers to understand more fully the discipline of KM to facilitate its application.
KM process will be understood and the various roles played by library staff and their leaders will no longer be vague.

5.3 Study Conclusions

This study sought to identify and examine determinants affecting effective KM practices in selected chartered university libraries in Nairobi and Kiambu counties in Kenya. Findings from this study have clearly showed that KM in university libraries is weak.

Determinants affecting effective KM practices in university libraries were many. The study established that there was lack of clear understanding of knowledge management process and its associated practices leading to failure to have KM incorporated as a library function or formally endorsed. University libraries lacked KM strategies and policies to guide the process and hence left KM function without an official back up. Findings also revealed that the KM budget did not have a budget allocation, no designated officer was in charge, and library leadership did no “lead by example” and their input to the KM initiatives was not much. The findings also revealed that the so-called KM initiatives in place were actually part of the documentary management initiatives not KM per se. Lack of leadership involvement in driving KM initiatives was identified as the most critical factor that had affected KM application negatively. Lack of an incentive package and appropriate KM competences also influenced KM application. On a more positive note the libraries’ culture, organizational framework, IT and perception were positively dispensed to facilitate KM effort. The ICT infrastructure was
good and only needed a systems expert to configure it and integrate it with other systems to work as a KMS at minimal cost. Knowledge sharing was in place though to a great extent the knowledge shared was the explicit type. Tacit knowledge identification, capture and dissemination were ad hoc and not planned for. The organizational framework was to a great extent dispensed for KM. Other determinants that were identified included failure of staff to differentiate between IM and KM, lack of KM competences and training, KM not formally introduced, lack of motivation, and benchmarks to emulate. It was therefore concluded that the above factors were instrumental in influencing knowledge management practices either positively or negatively.

The researcher, basing on the DOI theory, that formed the basis of this study, also observed that these university libraries are aware of KM, have interest in it and are eager to have KM as one of their library functions. These universities are at the third stage of the process of DOI which is the stage of decision making. Indeed, one university librarian was eager to have an expert help them understand KM for purposes of making the decision to implement it in his university library. Yet in another university, the librarian attested that they were waiting for an opportune time to implement KM and had started albeit slowly, to sensitize the staff about KM. In all cases, KM was hailed as a good idea. What was lacking in all these cases were KM champions and leadership involvement. The Library leadership had not identified KM champions or a person to drive the initiative. Even where KM seemed to be well understood, like at JKUAT the responsibility was still not given to a particular person. Leadership of the libraries had
done little to drive the process as reflected in the findings of the study. These calls for leadership to reorient their focus and organize awareness forums, seminars and workshops to enable the staff appreciate KM and its benefits to their libraries and parent bodies. Such forums would also ‘open’ their ‘eyes’ to recognize that KM is not IM and that the former is broader than the latter and that both complement each other.

Lack of observable results also contributed to the current state of KM in university Libraries Rogers (1995) argued that when people start to observe positive results of an innovation in their lives or that of their neighbor(s) they find it difficult to resist the temptation to adopt it. As it were, the study did not establish a local university library that had implemented KM to act as a benchmark for others.

Other factors that affect DOI as outlined by Rogers (1995) were well disposed for a KM effort. Communication was good and the IT infrastructure in place in all university libraries studied was ideal to support KM initiative. All what is required is for the leadership to collaborate with IT departments within their universities to see how the current IT infrastructure can be configured to KMS. Staff perception of KM was also positive and generally the organizational structure and culture were ideal for KM.

5.4 Recommendations
The recommendations were made in view of the analyzed data, the study findings and subsequent conclusions.
5.4.1 Knowledge Management Awareness Forums

The study established that majority of the library staff and their leaders did not have a clear understanding of Knowledge Management. Indeed the university librarian of CUEA confided to the researcher that what they desired before implementing KM was an expert to educate them on KM and its benefits as a library. This lack of grounded understanding of KM was apparent throughout the research findings. The leadership of the libraries for example had considered themselves as both Information and Knowledge Managers yet findings revealed that they continued to champion application of explicit knowledge at the expense of tacit knowledge. The library staff and their leaders need an in depth understanding of KM process in order to direct their efforts to realizing something tangible and real in their minds. Awareness forums for KM such as through workshops, seminars and even teambuilding activities would enable staff and management differentiate and understand similarities between KM and Information Management and appreciates the significance of KM in their operations and realization of their goals. Through such forums the staff would be able to understand and appreciate for instance, that they are great “storehouses” of knowledge that need to be tapped and hence learn to appreciate each other. Through such forums the staff would also be able to appreciate that their current IT infrastructure would be appropriate for KM without waiting to invest heavily in a KMS. The leadership will understand that using available ICT infrastructure will help them harness tacit knowledge by developing knowledge yellow pages (expert directories) that will help employees locate required expertise using telephones, electronic mails, as well as video conferencing facilities. The staff will also appreciate
that their physical transfer across the library sections or between offices is also crucial to knowledge exchange.

**5.4.2. KM Strategies, Policies and Guidelines**

The study also noted the absence of KM strategies, policies and guidelines. The libraries need well developed KM strategies and policy to act as guidelines and reference tool kits for KM. Such tools would also guide the libraries on what needs to be done at what time. A KM strategy could provide a framework that describes how university libraries could effectively carry out KM and particularly guide in what knowledge is needed, where it is likely to be found and how it is to be captured. The essence of a KM strategy lies in developing the organizational capability to assure, create, accumulate and exploit knowledge. A KM strategy would help libraries create a clear vision about what kind of knowledge should be developed and to effectively implement that vision in practical terms (strategy operationalization). What the study proposes is that each library should, as a matter of policy, employ a strategy that suits it. The libraries should for example decide on the type of strategy for identification, and capture of knowledge which could either be a codification or a personalized strategy or any other appropriate strategy that works well for them. With a codification strategy for example, more explicit and structured knowledge for the libraries will be codified and stored in knowledge bases. Codification strategy is a strategy practiced to help facilitate economic reuse of knowledge which is codified and stored electronically in a repository and made available to users via common technological platforms throughout the whole organization such as Microsoft office, web
browsers among others. The personalization strategy on the other hand concerns itself with tacit knowledge. It ensures that tacit and unstructured knowledge is shared largely through direct personal communication.

Likewise a KM retention strategy is key to help ensure that important knowledge assets especially the human resource, remain in the library for a long time. Hence it is recommended that libraries should formulate retention strategies to ensure important knowledge held by staff does not get lost as staff leave through retirement, dismissals, and death or through any other way. The formulation of such a strategy will demand a librarian understanding of which knowledge is important to them and is at risk and determine therefore what it will take them to keep such knowledge in the organization. Such an appraisal will help a library to identify and choose to implement one or more of the many initiatives and tools available such as, putting in place reward structures, mentoring, and interviewing staff as they leave.

The KM strategy in place will help the libraries outline what knowledge to capture, the process, the tools and infrastructure available or required for knowledge to flow to effectively. With a KM strategy, university libraries will be able to enhance collaboration and knowledge sharing within the organization and beyond, be more innovative, reduce operating costs and ensure quick and easy access to knowledge. Using available ICT infrastructure university libraries wishing to harness tacit knowledge can develop knowledge yellow pages (expert directories) that will help employees locate required
expertise by making use of telephones, electronic mails, as well as video conferencing facilities. Physical transfer of people across the library sections or between offices is also crucial to knowledge exchange. Brainstorming sessions and personal conversations, mentoring, apprenticeships are other strategies for tacit knowledge capture and transfer which will be encouraged and planned where a personalized strategy is in place.

5.4.3 Leadership Drive for KM

The study revealed a situation whereby library leadership had not embraced KM formally as a key function of their libraries for it to be given critical support for its success. For KM initiatives to succeed, leadership support and commitment to change is key. Promoting a culture of knowledge sharing for example will only be possible if the leadership of the university libraries is committed to change. Even where the librarians were conversant with the benefits KM could bring to their libraries like in JKUAT, this information was not shared across the board or discussed at appropriate forums possibly due to lack of motivation to share, lack of leadership direction and bureaucracy. The understanding was purely personal and held thus. The library leadership should therefore take up the challenge and drive the KM initiative if it has to succeed and give the KM responsibility to an individual well conversant with KM and support him in all aspects. The leadership should ensure that KM is integrated into all library processes and on the other hand call for a deep and broad individual as well as corporate responsibility for understanding, sharing and using knowledge.
The leaders require a complete mental metamorphosis to help them appreciate the need for KM in their daily operations even as they manage information. They need to be KM champions and mentor other staff to take up these responsibilities. Library management should therefore lead from the front by creating an environment which supports knowledge activities, actively participate in sharing knowledge and encourage their staff to experiment and innovate by creating time and providing timely feedback. To succeed they need to have incentives that motivate people to share their insights and experiences. In their initiatives, they should ensure that the KM program get buy-in from recipients and be pervasive throughout the library. The leadership should aggressively market KM in appropriate forums, and KM principles to be promulgated on a daily basis. Library leadership could also ensure that job rotations, exchange programmes as well as performance appraisals are in place to help create a supportive environment for the KM programme. In KU, for example the university librarian on taking office made radical job rotations after compiling library staff profiles to the chagrin of the library staff. The knowledge gathered enabled him rotate library staff. Unfortunately he was not doing it as part of KM initiative but as a part of IM routine change. Without leadership setting an example or emphasizing the need of KM, their staff cannot not be motivated to participate in knowledge related activities.

5.4.4 Allocation of Adequate Financial and Other Resources

Although the study established that the libraries had adequate staff with moderate ICT skills and that technological resources and technical support were also adequate to
support a KM process it was established however that adequate funding for KM was lacking. The budget that had been used for some of the KM initiatives was squeezed from the overall library budget. Knowledge Management activities require some upfront investment. This could be in forms of resources, technical support and staff building. To give KM full backing, a KM budget should be incorporated into the library’s budgetary process. It could also be befitting to have libraries raise funds for KM activities through donations or research grants. The libraries could also liaise with similar libraries that already have KM activities in place to learn either through staff exchange or mentoring and to be strategic thinkers to use whatever tools and infrastructure available within for KM efforts.

5.4.5 Capacity Building for KM

The study revealed that the library leadership and staff lacked the requisite training in KM such as ability to creating taxonomies, ability to map internal and external knowledge as well as IT competences. The study also established that majority of the library staff and their leaders did not have a clear understanding of Knowledge Management. Indeed the university librarian of CUEA confided to the researcher that what they desired before implementing KM was an expert to educate them on KM and its benefits as a library. This lack of grounded understanding of KM was apparent throughout the research findings. The leadership of the libraries for example had considered themselves as Information and Knowledge Managers yet findings revealed that they continued to champion application of explicit knowledge at the expense of tacit
knowledge. On the basis of these findings this research recommends that the university librarians should invest in developing the core competences of KM in their staff and in themselves as well. To develop staff competences physical transfer of staff between offices or across library sections should also be used as a channel of knowledge transfer and helping in capacity building. The staff should be encouraged and supported to train in KM in areas such as how to use a KMS and other related KM tools, soft networking, peer learning, team building, collaboration and creative thinking. The training should also cover IT literacy, creation of taxonomies, content management for their organizations intranet, and establishment of KM repositories among others.

KM training would make library staff aware of their need to manage knowledge and to recognize it as a key resource for the benefit of both the library and university. Wong (2005) advocates that once the staff has some form of basic training they will have a better understanding of KM concept and also help frame a common perception of how they define and think about knowledge. Training forums for KM such as through workshops, seminars and even teambuilding activities would enable staff and management to understand the differences and similarities between knowledge management and information management and appreciates the significance of KM in their operations and realization of their goals. Through such forums the staff would be able to understand and appreciate for instance, that they are great “storehouses” of knowledge that need to be tapped and shared for the benefit of the library. Through such forums the staff would also be able to appreciate that their current IT infrastructure would
be appropriate for KM without necessarily investing heavily in a KMS. The leadership will understand that using available ICT infrastructure will help them harness tacit knowledge by developing knowledge yellow pages (expert directories) that will help employees locate required expertise using telephones, electronic mails, as well as video conferencing facilities. The staff will also appreciate that their physical transfer across the library sections or between offices is part of a KM process crucial to knowledge exchange.

KM training should also be done through a mentorship programme that could act as part of on –the –job training. Such forums help in the transfer of knowledge from experts to the novices as well as imparting much needed skills and competence. This training it is hoped, will enable the staff understand fully the KM process in order to direct their efforts to realizing something tangible and real in their minds.

5.4.6 On-Going Identification of Relevant Knowledge

The KM process is a cyclic model that is never ending. Knowledge is created all the time by mobilizing knowledge based assets (tacit and explicit knowledge). Both tacit and explicit knowledge must be identified, captured and made accessible and useable. To ensure that tacit knowledge is accessible, librarians need to create a culture of knowledge sharing, and to identify explicit and tacit knowledge holders. An incentive package for staff who engages in production or generation of new knowledge should be in place and made public to all across the library.
5.4.7 Development of Knowledge Maps (K-maps) and/or Directories

The study revealed that the university libraries did not have strategies of providing links to sources of tacit and explicit knowledge within or without their libraries. To improve knowledge access the libraries need to have a variety of knowledge media such as knowledge maps and skills profiles. Knowledge mapping is ideally a process of surveying, assessing and linking the information, knowledge, competencies and proficiencies held by individuals and groups within an organization. The outcome is construction of a’ roadmap’ that will help fully leverage the existing expertise resident in the libraries and make the best use of resources, independent of source or form. To ensure therefore that the librarians know who knows what and help discover the location of such resources and for such resources to be exploited, knowledge maps need to be developed. K-Mapping ideally helps the libraries identify explicit knowledge (knowledge artifacts), tacit knowledge (undocumented information, expertise in people’s heads), infrastructure (where the knowledge resides) and organization (who and where are the people). Knowledge route maps and directories thus point to people, document collections and datasets that could be consulted.

5.4.8 Establishment of Knowledge Management Repositories

The study findings established the existence of electronic institutional repositories in some libraries. Knowledge repositories are organizations’ memory used for storing information and documents that could be shared and re-used for example, policy papers, research proposals, research output, fundraising proposals, case studies, minutes of
meetings, project documentation and training kits. The institutional repositories in existence were however established to identify, store, organize and disseminate explicit knowledge in terms of internal and external research output. The researcher recommends that for these repositories to best serve their institutions they need be broadened to encompass provision for staff yellow pages / directories with appropriate common fields, KM portals to distribute timely content, a hotspot for new solutions and strategies to capture fast breaking knowledge, discussion topics, Real life examples, a contribution channel to allow easy linkage of new materials and communication forums to facilitate knowledge exchanges in addition to the common fields.

5.4.9 Knowledge Management Model

The Purpose of this study was to identify and examine key factors influencing effective knowledge management practices in selected chartered university libraries in Nairobi and Kiambu Counties in Kenya. Indeed one of the objectives of the study was to propose a conceptual knowledge management model for determinants that affect KM practices in university libraries. The research established that eleven determinants were key influences to effective KM in university libraries. Where these determinants were present KM practices were noticeably better than where they lacked. The recommendation made on the basis of these findings is for libraries to deliberately plan for KM, have leaders drive the KM process in collaboration with other stakeholders such as the IT department, deliberately capture tacit knowledge and develop K-maps as well as expert directories, have incentive packages in place to boost knowledge sharing, set a budget for KM initiatives, develop strategies and policies to guide the KM process, benchmark with others and generally use the available ICT infrastructure, environment, and staff for effective KM practices. Once these are in place accessibility and exploitation of
knowledge assets will be enhanced which will ultimately lead to improved libraries performance. Fig.5.1 depicts these descriptions diagrammatically.

**Fig. 5.1 KM Model for Determinants of KM in University Libraries**

Source: Researcher 2014
5.5 Suggestions for Further Research

This study recommends further research in the following areas:

5.5.1 Role of Institutional Repositories as KM tools

The study established that university librarians had spearheaded the development of institutional repositories in their respective universities and those who had not were in the process of doing so. A study on the role of the institutional repositories as knowledge management tools would be necessary as the study revealed that librarians knew about institutional repositories and were very passionate about them but failed to relate it as a tool to KM.

5.5.2 KM Practices in other Types of Libraries

The current study focused on factors that had contributed to effective KM practices in university libraries. It would be in order if similar studies could be carried out in other types of libraries to help stakeholders understand the big picture. Literature reviewed pointed out that most studies on KM in libraries had focused on and about special libraries and especially those in the corporate sector.

5.5.3 In-depth Studies on Factors cited as Determinants of Effective KM

The study looked into determinants of effective KM practices in university libraries in Nairobi and Kiambu counties in Kenya. Several factors were revealed as having affected
effective KM in the university libraries. An in-depth study on each one of these factors could be done to determine their impact on the application of KM in university libraries.

5.5.4 KM Practices in Universities in Kenya

Lastly, the study was within the realms of university libraries as organizations in their own right. It would be of great interest to conduct similar studies in individual parent institutions of these libraries to help gain insights as to the extent to which KM has been embraced and applied in their business operations.
REFERENCES


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APPENDIX A

QUESTIONNAIRE FOR THE LIBRARY STAFF

Dear Librarian,

Re: Request for Participation in Questionnaire for PhD Research Project

I am a PhD candidate at Kenyatta University conducting a survey on determinants of effective KM practices in selected university libraries in Kenya. I have selected you as one of my respondents to facilitate in data gathering and I will be glad if you will assist me to attain this end by filling the attached questionnaire. The questionnaire will take you very limited time to complete. The data gathered will be used only for the purpose of this study and will be treated with utmost confidentiality. This study, when, eventually completed, will help the library appreciate the value of knowledge management in its overall performance and reduce any stereotype misconceptions that could have hindered effective application of KM in the library.

Thank you for your time and cooperation.

Zipporah W.Gichuhi
0722 740 365
**Section A: Background Information**

1. Please indicate the following appropriately:

   - Your university ________________________________
   - Your designation_______________________________
   - Your academic qualifications____________________
   - Your professional qualifications--------------------------

   Please respond to the following questions by ticking [✓] appropriately.

2. How long (in years) have you worked in the University library?
   (i) Less than 5 years [  ] (ii) 5 – 10 years [  ] (iii) Over 10 years [  ]

3. How long (in years) have you worked in the current position?
   (i) Less than 5 years [  ] (ii) 5 – 1-0 years [  ] (iii) 11 – 15 years [  ]
   (iv) Over 15 years [  ]

4. What is your age bracket in years?
   (i) Below 25 [  ] (ii) 25 – 35 [  ] (iii) 36 – 45 [  ] (iv) 46 – 55 [  ]
   (v) Above 55 [  ]

5. What is your gender?
   (i) Male [  ] (ii) Female [  ]

**Section B: Knowledge Management**

6. Have you ever heard about the term knowledge management?
   (I) Yes [  ] (ii) No [  ]

7. If yes, to Q6 above, in what context did you come to hear about it?
Library meeting [ ]

Reading in books [ ]

From politicians [ ]

General communication with peers [ ]

Any other way (Please specify) -----------------------------------

8. What is your understanding of knowledge management?
   (i) An extension of library work [ ]
   (ii) Nothing new from what we do [ ]
   (iii) Just another name for Information Management [ ]
   (iv) A process of creating, capturing, storing, sharing and applying information for competitive advantage [ ]
   (v) I don’t know [ ]
   (vi) Any other (please specify) ---------------------------

9. Does the library have ways and means of capturing and acquiring the knowledge of its internal and external clients?
   (i) Yes [ ]   (ii) No [ ]

10. If your response to Q9 is yes tick the response(s) that best describes the formal processes used to capture and acquire knowledge in your library?

   (a) Capture
       (i) Collating internal profiles of academic librarians
       (ii) Standardized routine information-update reports
       (iii) Use of customer based client system that capture all reference and other responses to user needs
       (iv) Existence of a folder of FAQs
       (v) Discussion forums

   (b) Acquisition
       (i) Searching online databases
       (ii) Buying knowledge products or resources in the form of manuals, blueprints, research reports and other reports
       (iii) Subscribes to litservs and online or virtual Communities of Practice (CoP)
(iv) Attending training programs, conferences, seminars, and workshops
(v) Establishing links or networking with other libraries and with institutions of all kind

11. How would you rate the level of KM practice in your library?

Very good [ ]  
Good [ ]  
Not good [ ]  
Have no idea [ ]

12. If your response to Q11 is not good, on a scale of 1-5, where 5 is strongly agree and 1 is strongly disagree, please indicate the extent to which you agree that lack of the following knowledge skills and competencies could have contributed to the current ineffective KM status in your library.

<table>
<thead>
<tr>
<th>Item</th>
<th>Staff Skills</th>
<th>Strongly agree(5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Building Knowledge taxonomies for organizing knowledge resource on websites and portals</td>
<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>Understanding of information and knowledge needs of users</td>
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<tr>
<td>3</td>
<td>Ability to map internal and external knowledge</td>
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<tr>
<td>4</td>
<td>Understanding of the libraries information and knowledge flows</td>
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<tr>
<td>5</td>
<td>IT literacy- ie knowing how to use the appropriate technology to capture, catalogue, and disseminate information and knowledge and translate that knowledge into a central database for employees of organization to access.</td>
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<td>6</td>
<td>Change management</td>
<td></td>
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</tbody>
</table>
14. If your response to Q11 is either ‘very good’ or ‘good’ what would you attribute to this fact? 

15. On a scale of 1 – 5, where 5 is “strongly agree” and 1 is “strongly disagree”, please indicate the extent to which you agree that the following staff opinions could have militated against KM practice in your library.

<table>
<thead>
<tr>
<th>Staff opinion</th>
<th>Strongly Agree(5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Library Leadership have not aggressively marketed the concept</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Librarians lack interest in KM</td>
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<tr>
<td>KM has no added advantages to information management</td>
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<tr>
<td>KM is too expensive and time consuming to practice.</td>
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<tr>
<td>Knowledge residing in people’s heads is too difficult to tap and manage</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Too busy to engage in other new ventures</td>
<td></td>
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</tbody>
</table>

**Section C: Communication**

16. How often do you communicate with library management?
   (i) Very often [ ] (ii) Often [ ] (iii) Not often [ ] (iv) Not at all [ ]

17. How does your management normally communicate with you?
   (i) Meetings [ ] (iv) Personally [ ] (vii) Telephone [ ]
   (ii) Memos [ ] (v) E-mail [ ] (viii) Internet [ ]
   (iii) Circulars [ ] (vi) Notice board [ ]
   Any other (specify) ____________________
18. Are you normally consulted by the management before a new service or practice is introduced?

(i) Yes [ ] (ii) No [ ]

19. Has Knowledge Management concept been officially introduced in your library?

(i) Yes [ ] (ii) No [ ]

20. If your response to “q19” is yes, what channels of communication were used to communicate this information to library staff?

(i) Mass media [ ] (ii) Interpersonal [ ]

(iii) Any other channel (Please specify) --------------------------------------

21. In your own view, how would you rate your library’s level of communication to library staff?

(i) Very effective [ ] (ii) Effective [ ] (iii) Not effective [ ]

Section D: Library Knowledge Sharing Culture

22. Does the library encourage and facilitate knowledge sharing?

(i) Yes [ ] (ii) No [ ]

23. If the response to q18, is ‘Yes’ indicate with a [√] in the table below if your library encourages and creates forums for the following KM practices.

<table>
<thead>
<tr>
<th>KM Practice</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Story telling forums</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussion forums with users</td>
<td></td>
<td></td>
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<tr>
<td>Library staffs are included in project teams.</td>
<td></td>
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<tr>
<td>Presentation of research papers in conferences by librarians</td>
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<tr>
<td>Librarians encouraged to be speakers in Library Forums.</td>
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</tbody>
</table>
Induction of new staff members to library culture

Expertise and know-how of library staff is recognized and valued

Reward systems are in place for sharing new ideas and innovations.

Vision, mission, and core values clearly reflect the library’s KM orientation and are displayed in the library as a reminder of staff commitment.

There’s freedom of expression in all library forums.

There is a climate of openness, trust and tolerance in the library.

The knowledge agenda is publicly known in the library.

24. Does your library have a KM policy?
   (i) Yes [ ] (ii) No [ ]

25) Is knowledge sharing coordinated and systematic
   (i) Yes [ ] (ii) No [ ]

Section E: Library Knowledge Leadership

26. How often does the library management organize forums where stakeholders meet and share their experiences?
   (i) Very often [ ] (ii) Often [ ] (iii) As and when a need arises [ ]
   (iv) Not at all [ ]
27. How would you rate library leadership’s support for KM?

(i) Very good [ ] (ii) Good [ ] (iii) Do not know [ ] (iv) Not good at all [ ]

28. On a scale of 1-5, when 5 is ‘strongly agree’ and 1 is “strongly disagree”, please indicate the extent to which you agree or disagree that library leadership have championed application of KM in your library. Tick as applicable:

<table>
<thead>
<tr>
<th>Leadership initiatives</th>
<th>Strongly Agree (5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incentives are provided to sharing new ideas</td>
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<tr>
<td>KM champions are identified &amp; supported</td>
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<tr>
<td>KM principles are promulgated through different channels and forum</td>
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<tr>
<td>Induction program for new staff are in place</td>
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<tr>
<td>Provision of technology support as needed</td>
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<tr>
<td>Provision of more and varied training sessions to library staff.</td>
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<tr>
<td>Encourage team work</td>
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<tr>
<td>Release Library staff to participate in appropriate forums.</td>
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<tr>
<td>Redeployment of qualified staff with KM as a competency.</td>
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<tr>
<td>Encourage staff for further studies to boost their skills and competencies.</td>
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<tr>
<td>Develop and mentor new leaders</td>
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<td></td>
</tr>
</tbody>
</table>
29. Who takes part in leading KM initiatives in your library?

(i) University librarian [   ]
(ii) Deputy University librarian [   ]
(iii) A designated library staff [   ]
(iv) KM is nobody’s responsibility [   ]

30. In your own view, indicate with a tick the appropriate statement (s) that best describes how your library leadership manages its staff.

(i) Creates an environment to stimulate knowledge growth and identify barriers to knowledge creation [   ]
(ii) Creates an organization culture that facilitates the sharing of knowledge and collaborative processes both formal and informal [   ]
(iii) Develop and manage people as knowledge assets [   ]
(iv) Ensures that useful (tacit) knowledge is accessible when decisions are being made [   ]
(v) Identify, develop, and use effectively the expertise of staff [   ]
(vi) Develop competent individuals who manage and supervise the Knowledge processes and expertise of the organization [   ]
(vii) Develop and maintain processes that enable the knowledge of individuals to be used effectively [   ]
31. What type of incentives does the library management provide for sharing knowledge?

(i) Monetary incentives [  ]
(ii) Training opportunities [  ]
(iii) Promotions [  ]
(iv) Throwing parties [  ]
(v) Presents [  ]
(vii) Recognition in public forums [  ]
(viii) Sponsorship to conferences [  ]
(ix) Distinguishing them in library yellow pages [  ]
(x) Public recognition as an expert [  ]

SECTION F: ICT IN LIBRARIES

32. a) Have you had any training in computer application skills?

   (i) Yes [  ] (ii) No [  ]

b) If yes, to Q 32, what level of computer proficiency do you have?

   (i) Basic [  ] (ii) Moderate [  ] (iii) Expert [  ]

33. How many computers does the Library have?

   (i) None [  ] (ii) 1 - 10 [  ] (iii) 10-20 [  ] (iv) Over 20 [  ]

34. Are the computers in the library internet connected?

   (i) Yes [  ] (ii) No [  ]

35. (a) Do you have an e-mail address?

   (i) Yes [  ] (ii) No [  ]
b) If yes, for what purpose do you use the e-mail address?
   (i) Personal use [    ]
   (ii) Administration use [    ]
   (iii) Others (specify) -----------------------------------------------

36. (a) Does the library encourage online group conversations among staff?
   (i) Yes [    ]  (ii) No [    ]

b) If yes, to Q36 a, above indicate with a tick the ICT tools the library provides for that purpose.
   (i) E-mail [    ]
   (ii) Chat [    ]
   (iii) Instant messaging [    ]
   (iv) Message boards [    ]
   (v) Peer-to-Peer applications [    ]
   (vi) Real Time Meeting Interfaces [    ]
   (vii) Others (specify) -----------------------------------------------

37. Does the library have the following technical structures to enhance communication?
   (a) Intranet Yes [    ]  No [    ]
   (b) Portal Yes [    ]  No [    ]
   (c) Website Yes [    ]  No [    ]
   (d) Others (please specify) -----------------------------------------------
38. On a scale of 1-5, where 5 is “strongly agree” and 1 is “strongly disagree”, please indicate the extent to which you agree that the following ICT support is available to librarians.

<table>
<thead>
<tr>
<th>ICT</th>
<th>Strongly Agree(5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly Disagree (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology links all members of the library to one another and to all relevant external publics.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Technology has created an institutional memory accessible to the entire university.</td>
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<tr>
<td>Technology that supports collaboration is rapidly being placed in the hands of staff and university employees.</td>
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<tr>
<td>The information systems in place are real-time, integrated and smart</td>
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<tr>
<td>The library has invested greatly in IT literacy for its staff.</td>
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<tr>
<td>Library service is not limited by geographical barriers</td>
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<tr>
<td>Knowledge outcomes are communicated to the staff through ICT.</td>
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<tr>
<td>Knowledge systems enables knowledge identification, capture, organization, sharing and dissemination and utilization.</td>
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<tr>
<td>The library has a knowledge repository where staff can get all information and appropriate sources of knowledge</td>
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</tbody>
</table>

39. In your own view, do you think the available ICT’s have been adequately utilized for knowledge sharing among your colleagues?
39. In your own view, do you think the available ICTs have been adequately utilized for knowledge sharing among your colleagues?

(i) Yes [ ]  (ii) No [ ]

40. If your response to q39 above is “No” kindly give reasons why.

………………………………………………………………………………………………………

41 Are you knowledgeable that the MS Office Suite can be used to store and retrieve knowledge for promoting KM in library operations?

(i) Yes [ ]  (ii) No [ ]

Section G: Organization Knowledge

42. On a scale of 1-5, where 5 is “strongly agree” and 1 “strongly disagree”, please indicate the extent to which you agree that the following support services and facilities are available to enhance KM practice.

<table>
<thead>
<tr>
<th>Organizational framework.</th>
<th>Strongly agree(5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge policies are formulated and accessible to all staff</td>
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<tr>
<td>Knowledge values are explicitly stated and promulgated.</td>
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<tr>
<td>Lines of communication across the library are well developed.</td>
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<tr>
<td>Vision, Mission &amp; Strategic plans reflect KM orientation within the library.</td>
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<tr>
<td>Library structure is open to facilitate sharing.</td>
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<tr>
<td>Library structure has provision for meeting rooms for knowledge</td>
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</tbody>
</table>
sharing and discussions.

Librarians are encouraged to plan for their own learning and development.

43. On a scale of 1-5, where 5 is “strongly agree” and 1 is “strongly disagree”, please indicate the extent to which you agree that the following factors have influenced effective application of KM in your library. Tick [✓] as applicable.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Strongly Agree(5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree(1)</th>
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</thead>
<tbody>
<tr>
<td>Staff perception of KM as a vital practice in Library operations</td>
<td></td>
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<tr>
<td>Personal motivation to share knowledge</td>
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<tr>
<td>Resistance to changing traditional library services</td>
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<tr>
<td>The way the practice (KM) was introduced</td>
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<tr>
<td>Inadequate knowledge of technology application by staff.</td>
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<tr>
<td>Inadequate IT infrastructure</td>
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<tr>
<td>Poor leadership support</td>
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<tr>
<td>Library culture that inhibits sharing</td>
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<tr>
<td>Rigid and hierarchical Library organization structure.</td>
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<tr>
<td>Closed library office design</td>
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<tr>
<td>No time to meet as a social system and share</td>
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<tr>
<td>No facilities set aside where staff can meet formally or informally</td>
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<tr>
<td>and share ideas.</td>
<td>Lack of identifiable cases where KM effort has produced a success ‘story’ to emulate.</td>
<td>Lack of specific training in KM</td>
<td>Too much workload</td>
<td>Inadequate knowledge of the benefits of KM in library operations.</td>
<td>Perception that KM is too expensive, too time consuming to implement.</td>
</tr>
</tbody>
</table>

I sincerely thank you for taking time to complete this questionnaire.
APPENDIX B

QUESTIONNAIRE FOR DEPUTY UNIVERSITY LIBRARIANS

Dear Deputy University Librarian,

Re: Request for Participation in Questionnaire for PhD Research Project

I am a PhD candidate at Kenyatta University conducting a survey on determinants of effective KM practices in selected university libraries in Kenya. I have selected you as one of my respondents to facilitate in data gathering particularly because of your experience and position in library management. I will be glad if you will assist me to attain this end by filling the attached questionnaire. The questionnaire will take you very limited time to complete. The data gathered will be used only for the purpose of this study and will be treated with utmost confidentiality.

This study, when, eventually completed, will help the university library appreciate the value of knowledge management in its overall performance and reduce any stereotype misconceptions that could have hindered KM practice in the library.

Thank you for your time and cooperation.

Zipporah W.Gichuhi
0722 740 365
Section A: Background Information.

Please indicate the following appropriately.

1. (i) Your university-----------------------------------------------

   (ii) Your designation---------------------------------------------

   (iii) Your academic qualifications-------------------------------

   (iv) Your Professional qualifications---------------------------

   (v) Your Gender: Male---------------------------------------------
       Female --------------------------------------------------------

Please respond to the following questions by ticking [✓] appropriately.

2. How long (in years) have you held your current position in the Library?
   (i) Less than 5 years [ ] (ii) 5 – 10 years [ ] (iii) Over 10 years [ ]

3. What is your age bracket?
   (i) Below 25 years [ ] (ii) 35 – 50 [ ] (iii) Above 50 [ ]

Section B: Knowledge Management in Libraries

4 a) Is KM a function of your Library?
   (i) Yes [ ] (ii) No [ ]

(b) If NO, what reasons would justify its lack of application in the library?
   (i) Have no idea what KM is all about [ ]
   (ii) Not interested [ ]
   (iii) KM is the same as Information management [ ]
   (iv) ICT infrastructure is inadequate [ ]
   (v) KM is too expensive to implement [ ]
   (vi) No time for KM effort [ ]
   (vii) Do not know [ ]
5. In a scale of 1-5, where 5 is ‘strongly agree’ and 1 is ‘strongly disagree’, please indicate the extent to which you agree that the following misconceptions could have affected KM practice in your library.

<table>
<thead>
<tr>
<th>Misconceptions</th>
<th>Strongly Agree(5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly Disagree (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KM is the same as Information Management</td>
<td></td>
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<tr>
<td>KM is too expensive to implement</td>
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<tr>
<td>KM is a complex practice</td>
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<tr>
<td>KM is not for libraries</td>
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<tr>
<td>KM is only applicable where high technology is in place</td>
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<tr>
<td>KM has not worked in libraries</td>
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<tr>
<td>We are okay even without KM</td>
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</tbody>
</table>

6. Are you aware of the great benefits KM can render a library?
   (i) Yes [ ]   (ii) No [ ]

Section C: Communication Channels

7. How often are meetings held in the library?
   a) For all staff
      (i) Very often [ ]
      (ii) Often [ ]
      (iii) Rarely [ ]
      (iv) Not at all [ ]
   
   b) For senior staff
      (i) Very often [ ]
      (ii) Often [ ]
      (iii) Rarely [ ]
      (iv) Not at all [ ]

8. Do you normally consult the staff before introducing a new service or practice?
   (i) Yes [ ]   (ii) No [ ]
9. If yes, to question 6 above, what channels of communication do you normally use?

(i) Meeting [ ] (v) Personal contact [ ]
(ii) Memos [ ] (vi) Telephone [ ]
(iii) Circulars [ ] (vii) e-mail [ ]
(iv) Notice boards [ ] (viii) Get together [ ]
(ix) Any other (please specify) ---------------------------------------------------

10. Do you normally identify change champions to highlight beneficial outcomes of a new practice to the library?

(i) Yes [ ] (ii) No [ ]

11. How regularly do you communicate new changes to the staff?

(i) Very regularly (ii) Regularly (iii) Not regularly [ ] (iv) Not at all [ ]

12. Have you officially introduced KM to your library staff?

(i) Yes [ ] (ii) No [ ]

13. If response to question ‘11’ is yes, what would you say the response has been?

(i) Very good (ii) Good (iii) Not sure [ ] (iv) Not good at all [ ]

14. If response to question ‘12’ is ‘Not good at all’, what would you say has contributed to this response?

(i) The channel of communication used was not appropriate [ ]
(ii) The message passed on was not well thought out [ ]
(iii) The timing of communication was poor [ ]
(iv) The state of informer was not good [ ]
(v) The benefits of KM were not well spelt out and appreciated [ ]
(vii) Any other (please specify) --------------------------------- ---
Section D: Library Knowledge Sharing Culture

15. What measures have the library put in place to encourage a culture of knowledge sharing?

(i) Have incentives to those who share valuable knowledge [ ]
(ii) Involve staff in project teams within and without [ ]
(iii) Release staff to participate in knowledge sharing forums [ ]
(iv) Knowledge sharing is a core value [ ]
(v) Have set aside rooms and facilities for discussion forums [ ]
(vi) Every staff has a right to be heard [ ]
(vii) Suggestions for improvement are received and discussed [ ]
(viii) Regular staff meeting is the norm [ ]
(ix) Encouragement to cross training staff [ ]
(x) Story telling sessions are scheduled [ ]
(xi) ICT infrastructure is accessible to all staff 24/7 [ ]
(xii) Freedom of expression is encouraged [ ]

m) Any other (please specify) ________________________

16. Do you encourage staff to work as members of a team in any given project?

(i) Yes [ ]
(ii) No [ ]

17. If your response to q ‘15’ is yes, how do you get feedback?

(i) Team leader writes a report to university librarian [ ]
(ii) Create a forum for team members to present their findings to library Management [ ]
(iii) Team leader presents group findings to Library management committee [ ]
(iv) Any other way (Please specify) ---------------

18. How do the other libraries staffs get to know the outcome of completed projects:

   (i) Notice Board announcements [ ]
   (ii) Library Intranet [ ]
   (iii) Library Website [ ]
   (iv) Grapevine [ ]
   (v) Section heads [ ]
   (v) Any other (please specify) ______

19. Does the library have an incentive package for sharing of new ideas or innovations for staff?

   (i) Yes [ ]    (ii) No [ ]

20. If your response to q ‘18’ is yes, what are some of the incentives?

   (i) Public recognition [ ]
   (ii) Financial reward [ ]
   (iii) Sponsorship to conferences/workshops/seminars [ ]
   (iv) Promotion [ ]
   (v) Distinguishing them in the Library’s yellow pages directory [ ]
   (vi) Any other (specify) ----------------------------------------

Section E: Library Knowledge Leadership.

21. How do you regard yourself?

   (i) An information Manager [ ]
   (ii) A Knowledge Manager [ ]
22. As a manager, do you encourage your staff to appreciate KM and practice it?
   (i) Yes [ ] (ii) No [ ]

23. Do you regard KM as an important function for improved service provision?
   (i) Yes [ ] (ii) No [ ]

24. If your response to q ‘22’ is yes, do you have a KM strategy in place?
   (i) Yes [ ] (ii) No [ ]

25. Please indicate if you do any of the following KM practices.
   (i) Championing KM practices in the Library
       Yes [ ] No [ ]
   (ii) Sponsoring staff for training in KM
        Yes [ ] No [ ]
   (iii) Enforcing induction of new staff to Library knowledge sharing culture
        Yes [ ] No [ ]
   (iv) Budgeting for KM in the library budget
        Yes [ ] No [ ]
   (v) Organizing forums where stakeholders meet and share their experiences.
        Yes [ ] No [ ]
   f) Have put in place key strategies to ensure that change is introduced and accepted
        Yes [ ] No [ ]
Section F: ICT in Libraries

26.a) Do you have access to a personal computer in your office?

(i) Yes [ ] (ii) No [ ]

(b) If yes, to question 25 (a) above, what purposes do you use the computer?

(i) Personal use [ ]

(ii) Administration [ ]

(iii) Communicating with colleagues [ ]

(iv) Others (specify) ____________________

27. How would you rate the adequacy of ICT infrastructure available to staff in your library?

(i) Very adequate [ ] (ii) Adequate [ ] (iii) Inadequate [ ].

28. Are all the staff connected to each other electronically?

(i) Yes [ ] (ii) No [ ]

29. How would you rate the IT competency levels of the library staff?

(i) Basic [ ] (ii) Medium [ ] (iii) Experts [ ]

30. How would you describe the internet speed in the library?

(i) Extremely fast [ ]

(ii) Fast [ ]

(iii) Satisfactory [ ]

(iv) Slow [ ]

(v) Extremely slow [ ]
31. What virtual communication channels are available to the library staff?
   (i) E-mail [ ]
   (ii) Teleconferencing [ ]
   (iii) Asynchronous discussion, conversations & conferences [ ]
   (iv) Real time communication (chat) [ ]
   (v) Instant messaging [ ]
   (vi) Any other (specify) ---------------

32. Does your library have the following knowledge application?
   (i) Knowledge databases for storing knowledge and information [ ]
   (ii) Knowledge route maps and directories which point to people, document collection and datasets that can be consulted [ ]
   (iii) Knowledge networks and discussions [ ]
   (iv) Knowledge repositories [ ]

Section G: Organization Framework.

33. On a scale of 1-5, where 5 is “strongly agree” and 1 is “strongly disagree”, please indicate the extent to which you agree that the following structural elements could have undermined knowledge management practice in the library.

<table>
<thead>
<tr>
<th>Organization framework</th>
<th>Strongly Agree(5)</th>
<th>Agree (4)</th>
<th>Uncertain (3)</th>
<th>Disagree (2)</th>
<th>Strongly disagree(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No meeting rooms in place for staff</td>
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<tr>
<td>Organization Structure is rigid &amp; hierarchical</td>
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<tr>
<td>Closed office designs</td>
<td></td>
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<tr>
<td>Mission &amp; Vision statements and strategic plans are</td>
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</table>
not promulgated

<table>
<thead>
<tr>
<th>Library structure is difficult to access</th>
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<tbody>
<tr>
<td>Centralized authority</td>
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</tbody>
</table>

I sincerely thank you for taking time to complete this questionnaire
APPENDIX C
INTERVIEW GUIDE FOR UNIVERSITY LIBRARIANS

1. Does your library have KM as one of its core functions / processes?
   (i) Yes                                          (ii) No

2. If yes, to Q1 above do you have a Knowledge policy in place?

3. If yes to Q1 above, do you have a KM strategy that lays the framework in realizing KM effort.

4. How would you rate the level of KM practice in the library?
   (i) High    (ii) Average    (iii) Low

5. Is KM budgeted for?

6. If KM is not a function of the library, do you have plans for formally introducing it in the library in the next 12 months?
   (i) Yes                                          (ii) No

7. If you have such a plan, have you sold the idea to your members of staff? What was their reaction?

8. If KM is not a function of the library, what would you consider as the main factors that have hindered KM’s implementation in your Library?

9. Do you have a way of knowing what knowledge and expertise is held by your library staff and even within the university?

10. If yes to above question, is this knowledge made known to other staff and users and how?

11. Does the library create and maintain yellow pages (electronic organization staff profiles/directories/expert locators)?

12. Does the library have mechanisms of acquiring tacit knowledge of its staff and university staff in general?
   (i) Yes                                          (ii) No

13 a) If yes to Q12 above, which of the following techniques for acquiring knowledge does your library use?
a) Interviews       (b) Commentating

c) Observation       (d) Learning by being told

e) Questionnaire or surveys       (f) Story telling

g) Brainstorming or adhoc sessions       (h) Focus groups

i) Learning from others (benchmarking)       (j) Participation

k) Documentation       (l) Knowledge mapping

m) Others (specify)........................................................................

(b) If no, to Q 12 above, what hinders the library from capturing such knowledge?

14. What technological tools does the library have for knowledge capture management process? Are users well conversant in their use?

15 What knowledge bases does the library maintain? Are they accessible to all library staff online/physically?

16. Do you have a KM system that supports creation, capture, storage and dissemination of knowledge?

17. Does the library have a knowledge management repository? Who accesses it?

18. How often do you share new information with your staff?

19 Do you create forums where staff and other stakeholder share knowledge among themselves or listen to experts? Name these forums.

20. Is knowledge competency a criterion for hiring, evaluating and compensating library staff? Does the library encourage technological skill development among its staff?

21. Do you encourage your staff to experiment and innovate by providing them with time and timely feedback on projects?

22. What reward or motivation incentives do you have for knowledge creators or those who share valuable insights?

23. Does the library structure encourage knowledge sharing?

24. What contribution if any, have you, as the librarian, made in the support of KM initiative in your library?

26. Do you encourage your staff to work in projects or in product development teams to create innovative solutions?
27. As a manager, do you understand the scope and opportunity KM would offer to your library? Has this insight been disseminated to other staff of the library?

28. What measures have you taken to champion KM in your library?

Thank you

Zipporah W. Gichuhi
0722 740 365
APPENDIX D

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: 254-020-2213471, 2241349
254-020-310571, 2213123, 2219420
Fax: 254-020-318245, 318249
When replying please quote
secretary@ncst.go.ke

Our Ref:
NCST/RCD/14/012/565

Zipporah Wanjiku Gichuhi
Kenyatta University
P.O BOX 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on
“Determinants of effective knowledge Management practices in selected
university libraries in Kenya” I am pleased to inform you that you have
been authorized to undertake research in Nairobi Province for a period

You are advised to report to the Vice Chancellors of Public and private
universities before embarking on the research project.

On completion of the research, you are expected to submit two hard
copies and one soft copy of the research report/thesis to our office.

DR.M.K.RUGUTT, PhD, HSc.
DEPUTY COUNCIL SECRETARY

Copy to:
The Vice Chancellors
Public and Private Universities

"The National Council for Science and Technology is Committed to the Promotion of Science and
Technology for National Development."