An Empirical Study of Knowledge Management in University Libraries in SADC Countries

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1. Introduction

Academic libraries have transformed drastically from MARC and circulation desk to metadata and web information, print collection and inter library loans to online databases and e-resources, quiet areas to learning and knowledge commons, bibliographic instruction to information literacy and life-long learning, information management to knowledge management and so on. Accordingly, the roles of academic librarians have changed radically at both library practitioners and library school educators' levels. They are no more traditional information protectors and managers. Open access, knowledge management, digital scholarship, institutional repositories are all often owned by the libraries and the librarians.

"KM as a fad is dead. But KM as a means for organizations to grow stronger and more productive in a climate of uncertainty is gaining ground" (Knowledge Management Research Centre, 2010). The above phrase caught eye and it is self-explanatory. Indeed KM is no more a fad, but a reality to be productive and a means to gain and sustain a competitive edge over rivals in all areas of life. In this global economy which is knowledge based, economic activities have shifted from people working with their hands to people working with their heads, from tangible resources like steel to intangible resources like knowledge (Davenport 2002 in Boom, & Pimentel, 2009). Academic libraries are no exception to this change. As "Academic libraries are information centers established in support of the mission of their parent institutions to generate knowledge, and people equipped with knowledge in order to serve the society and advance the well-being of mankind" (Raja, Ahmad, Sinha, 2009:701). The main functions of academic libraries are to support the mission and vision of their parent institutions. To fulfill this function academic libraries have to evolve as their parent institutions' mission, vision and information needs change.

Thus, Knowledge management has been recognized as vital by all 21st century information professionals, who have evolved from traditional cataloguer and reference librarians to value adding service providers, teacher librarians and, most recently, knowledge managers. This study was initiated in the above background, with a main purpose to investigate the KM practices in university libraries in SADC countries. Since university libraries are academic libraries, the words university and academic are used interchangeably, but the study is limited to university libraries.

2. The concept of knowledge management

Knowledge is defined as, "The facts, feelings or experiences known by a person or group of people" (In Collins English Dictionary, 2004). According to Drucker (1989) "Knowledge is information that changes something or somebody –either by becoming grounds for action, or by making an individual (or an institution) capable of different or more effective action." There are two types of knowledge; tacit and explicit knowledge. Explicit knowledge is documented and articulated into a formal language; it is rule-based, stored in certain media and easily communicable and shared; for example, organizational databases, web-pages, subject-portals, policies and manuals. Tacit is personal, hard to document and it is knowledge in action used by people to perform their tasks every day. Tacit knowledge has a personal quality, which makes it hard to formalize and communicate. Tacit knowledge is deeply rooted in action, commitment, and involvement in a specific context (Nonaka, 1994:16). Knowledge management is the management of knowledge that is critical to a person to work more efficiently, inclusive of both tacit and explicit knowledge. Let us now look at some more definitions of KM as explicit and tacit knowledge:

KM as Explicit knowledge refers to:	Source
Knowledge that can be expressed in words and numbers and can be easily communicated and shared in the form of hard data, scientific formulae, codified procedures or universal principles.	Nonaka and Takeuchi (1995).
KM as tacit knowledge is:	
A mix of fluid experiences, values, contextual information and intuition that provides a structure to evaluate and incorporate new experiences and information. It originates and is applied in the minds of individuals.	Davenport & Prusak (2000)
KM as explicit and tacit knowledge is:	
A process or practice of creating, acquiring, capturing, sharing, and using knowledge, wherever it resides, to enhance learning and performance in organizations.	Skyrme (2001).

Table 1. Definitions of knowledge management

From the above definitions, it is obvious that KM does not consist of only tacit knowledge as indicated in some KM literature. It comprises both tacit and explicit knowledge, which are complementary. KM can be characterized as below:

- KM is a process of several activities; creating, acquiring, capturing, sharing, using and re-using it;
- It includes both explicit and tacit knowledge;
- It is an ongoing activity;
- Information is the building block of KM;
- It is action oriented or application based; and,
- The main drive behind KM is to improve organizational performance.

Thus, KM is "capacity to act" (Sveiby, 1997), and a "justified belief that increases an entity's capacity for effective action" (Nonaka, 1994). It is a "set of tools, techniques, methods, ways of working, even behaviors – that are all designed to help an organization to be more effective" (Collison, 2010), it is "what we do to accomplish our goals faster and more effectively by delivering the right knowledge to right person at the right time and in the right context" (Ugwu & Ezema, 2010:184). In the context of this chapter KM is defined as a purposeful management process to capture, exploit, share and apply both tacit and

explicit knowledge for the benefit of the employees, organization and its customers. It is integration of both internal and external knowledge into action and it is an ongoing activity.

To appreciate the concept of KM fully one has to understand the difference between information and knowledge.

2.2 Difference between information and knowledge management

This subject has been debated for more than two decades; there is ample literature surrounding the issue. Despite that there is ambiguity between these two terminologies. Some people can easily distinguish the two, for instance, according to Boom, & Pimentel (2009), "The main difference between knowledge and information is that knowledge is connected to the bearer and information can be disconnected from the bearer". According to McKnight (2007) Knowledge Management is about **people**, how they create, share and use information, whereas Information Management is often associated with the information technology **systems** that help to create, store and share information. However, some people are still inclined to use information and knowledge interchangeably. From the available literature and the author's own understanding the similarities and differences between the two can be identified as below:

Similarities between information and knowledge	
Both are vital for everyone	
Both are multidisciplinary	
Both are organized and disseminated using new technology	
Differences between information and knowledge	
Information	**Knowledge**
Information is more easily identified, organized and disseminated	Identification of knowledge is a complex activity
Information is always visible	Knowledge is not always visible
No analytical skill is required to gain information	To gain knowledge you need some analytical skills
Information is neutral	Knowledge is contextual
Information is a flow of messages	Knowledge is created by that very flow of information anchored in the beliefs
All information is not useful	Knowledge is often useful
Information can be disconnected from the bearer	Knowledge is connected to the bearer
Information is only organized data in a meaningful milieu	Knowledge is predictive and future-oriented
Information Management (IM)	Knowledge Management (KM)
IM emphasizes human involvement in auditing, acquiring, storing, retrieving and disseminating information	KM emphasizes human involvement in capturing, creating, sharing, learning and contextualizing information
IM success depends on the preservation and retrieval of information	KM success depends on collecting distributing and utilization of knowledge
IM is working with objects	KM is working with people
IM treats information as a resource	KM treats knowledge as resource
IM includes only explicit knowledge	KM includes both tacit and explicit knowledge

Sources: Nonaka & Takeuchi (1995:58), Chase (1998), Meadow et al (2000:35), Jain (2007), Boom & Pimentel (2009).

Table 2. Similarities & Differences between Information and Knowledge Management

It is apparent from the above table that there is a substantial difference between information and knowledge. At the same time it cannot be overemphasized that information is the building block of KM. In other words, all knowledge is information, but all information is not knowledge. What is knowledge in one context can be information in another context, thus both are dependent upon the context and purpose which they are used for.

3. Major impetus of KM in academic libraries

KM literature reveals the following major drivers of KM in academic libraries:

Survival factor with increased user demands and competition: Due to other information providers as competitors, libraries face survival problems and must strive to find innovative ways to provide customer service. KM is the most recent and most discussed survival factor for libraries. According to a study carried out by Sarrafzadeh, Martin, & Hazeri (2010), 82.2% LIS professionals regarded KM as a survival factor for libraries to respond to challenges they face in a continuously changing environment. Since KM equips academic libraries with ample amenities to satisfy the incessantly changing library customer needs, it is a survival kit and a strategic tool for academic libraries.

Increased visibility of libraries: Libraries often have a poor image; they are not visible to their parent organization and work in isolation. The ultimate aim of KM is to achieve an organization's mission. Therefore, all parts of an organization (including libraries) must ensure that KM contributes towards the realization of the organizational mission and vision. Adoption of KM could assist library and information professionals in meeting user needs aligned with the organization's strategic goals and objectives. In addition, KM provides libraries with the opportunity to collaborate with other units in their organizations and hence become more integrated into corporate operations and enhance their overall visibility within the organization (Sarrafzadeh, Martin, & Hazeri, 2010). KM endows academic librarians with various platforms to collaborate with academia, such as playing a leading role in electronic and open access publications by providing guidance on copyright issues, and self-archiving published articles in institutional repositories. All these activities improve the visibility of academic libraries.

Academic libraries as knowledge creating organizations: Academic libraries are perceived as knowledge creating organizations, as a system of integrated activities and business processes that work together collaboratively to facilitate accomplishing overall organizational goals (Daneshgar & Parirokh, 2007). Academic libraries are the treasure house of knowledge to cater for the needs of scholars, scientists, technocrats, researchers, students and others who are in the mainstream of higher education (Guru et al, 2009). Librarians are acknowledged as knowledge creators through content management, organization of knowledge, and evaluating the validity and reliability of information obtained from unfamiliar sources (Sinotte, 2004). Librarians bring a set of values that are fundamental to the long-term survival of scholarship. Librarians care about access and understand that some resources may have value to disciplines and time periods beyond their initiation (Case, 2011). Academia stimulates the creation and transmission of knowledge, and academic libraries have played a significant role in supporting such activities (Kim & Abbas, 2010). Thus, academic libraries are knowledge creating and knowledge-based organizations. "Historically, as a basis for collection, organization, storage, and distribution of knowledge and information, libraries represent an important link to the knowledge innovation and management" (Roknuzzaman & Umemoto, 2009:651).

Hence, Debowski (2006) puts emphasis on the need for cultivation of new knowledge competencies through the development of appropriate work-based learning programmes for librarians as early advocates of the knowledge management.

Increased value of knowledge in the knowledge economy: In a study undertaken by Roknuzzaman & Umemoto (2009), knowledge economy was considered to be one of the important drivers for libraries' movement towards KM. The above authors have noted that the value of knowledge has always been central to library practice, but the new knowledge-based economy places its significance more than ever before. Increasingly, governments and funding agencies are recognizing universities as knowledge industries for creating new knowledge and innovation through their research. Hayes (2004) strongly maintains that "A university can be viewed as a knowledge factory creating new knowledge through research and by educating knowledge workers, both of which are essential for the modern economy". Thus, being the knowledge-intensive institutions, some university librarians have adopted KM and have already expanded their existing roles. By utilizing their traditional skills university librarians are playing a crucial role in dissemination and exchange of knowledge among students and teaching staff in order to enhance learning, teaching and research activities. All of this contributes towards a knowledgeable and learned society and knowledge economy.

Need of improved library services and customer satisfaction: Another force for adopting KM in academic libraries is the promotion of existing library practices and better services for clientele (Roknuzzaman & Umemoto, 2009). Due to the rapid advancement in information technology and changing needs of customers, there is an increased need for a more improved approach to library service delivery at the academic libraries. KM enables librarians to capture, store, organize, share and disseminate the right information to the right customer at the right time. Customers are paramount and knowledge about them is important for all organizations; no organization can survive without them. It is customer knowledge around which an organization's services and products are focused. The "availability of sophisticated ICT infrastructure combined with emerging business processes such as various service orientation configurations, constitute major characteristics of many of today's libraries in western universities" (Daneshgar & Bosanquet, 2010:21) and around the world. The two authors classify customer knowledge in academic libraries into (i) knowledge about customers, (ii) knowledge from customers and (iii) knowledge for customers including both explicit and tacit knowledge. It is expected that KM activities will build a greater understanding of customers and their requirements and as these requirements will hopefully lead to the delivery of more appropriate and timely services (Daneshgar & Bosanquet, 2010). Customer knowledge management is central for both improved library services and for high customer satisfaction. Customer feedback informs the provision of library services. Thus, academic libraries are adopting KM to make libraries the centers of customer service. By using the right tools university librarians can empower their customers with the right contents at the right time, in the right format. For instance, using web applications such as Web 2.0 and Web 3.0 libraries can reach users wherever they are and social tools can further improve customer service and overall library services.

To surmount budget constraints: Academic libraries are always constrained with budget declines. As noted by (Roknuzzaman & Umemoto, 2009), many libraries suffer from shrinkage of budget and skilled human resources, two of the important factors for any KM project. KM equips academic libraries with abilities to produce more with less and reduces duplication of efforts, for example, using online reference services, a reference librarian can serve multiple users in one time, which is cost and time effective.

Information explosion: This is the rapidly increasing amount of information and consequently availability of more information/knowledge to everyone. According to the experts, human knowledge is doubling every thirty two hours. Due to this, we are in a state of information overload and decay of existing knowledge, which is continuously replaced with new knowledge. According to Israel (2010), this information explosion affects library users in a variety of ways; it damages health, leads towards bad decision making and creates information anxiety. In the same way, the information explosion confronts university librarians with many challenges; such as, selection and acquisition of library resources, organization of acquired resources, collection development, cataloguing, and reference services. At the same time it enables users to select from a wide range of resources (Israel, 2010), which creates competition. Information explosion and knowledge growth calls for innovative approaches to manage the right knowledge. Since KM emphasises on updating of knowledge regularly in order to remove obsolete information and avail the most updated information, using the KM systems academic librarians can overcome the problem of information explosion to a greater extent.

4. Challenges/barriers to knowledge management in academic libraries

The KM literature (Jain, 2007, Raja, Ahmad, Sinha, 2009, Roknuzzaman & Umemoto, 2009, Guru et al, 2009) reveals the following major impediments to incorporate KM into library practice:

- *Reluctance of library practitioners:* According to (Roknuzzaman & Umemoto, 2009), the response of LIS practitioners to KM is comparatively slow and they are reluctant to incorporate KM into library practice because of their traditional mind set. Some librarians do not take any initiative for positive changes in their libraries.
- *Lack of incentives:* Incentives are the biggest motivators. In the absence of proper incentive plans, academic librarians observe reluctance towards KM activities.
- *Inadequate staff training:* The success of KM projects are dependent on adequate training plans in all the activities of KM process, e.g. training in knowledge capture, organization, dissemination, and use of new technology skills.
- *Insufficient tools and technologies:* This refers to libraries not being well-equipped with KM enabling technologies.
- *Lack of sufficient budget / funds:* Budget is a two-way issue. On one hand, librarians are adopting KM to solve financial problem by producing more with less. On the other hand, due to budgetary constraints libraries are not well-equipped with essential infrastructure for KM, e.g. new technology, training, incentives.
- *Misunderstanding of KM concepts:* Many academic library managers do not understand the concept of KM properly; hence, they are not able to appreciate and support KM project fully.
- *Lack of a centralized policy for KM:* It is the first step in any KM initiative however most academic libraries lack a centralized policy for KM initiatives.
- *Intellectual challenge:* to manage tacit knowledge and pull the relevant information from the overflowing reservoir of information is another big challenge in the academic libraries.
- *Cultural challenge:* Developing the right culture and environment for capturing, sharing and creating knowledge is a limitation to knowledge adoption in academic libraries. Particularly, librarians are not familiar with capturing and sharing tacit knowledge embedded within the experience, talent, and intuition of the library staff.

- *Managing central knowledge repositories:* Increasingly, all organizations are developing institutional repositories for the parent organization. There are difficulties in generating contents for knowledge repositories, especially in the beginning. Mandatory self-archiving policies are found to be a good solution, but wide implementation of such policies is a challenge (Xia, 2009).
- *Digitization of library resources:* Not all academic libraries are well-equipped with the necessary infrastructure, such as, technology, staff expertise in digitization, copyright issues.
- *Lack of collaboration:* The success of any KM project depends on strong collaboration and partnership within and without the library. On an internal basis collaboration is required between senior and junior staff, teaching faculties and students, human resource and IT staff units. External collaboration is strong partnerships with other libraries or allied corporate organizations. Often such collaborations are lacking and this becomes an obstacle to KM success. As observed by Roknuzzaman & Umemoto (2009), generally the junior staff are reluctant to share their knowledge and ideas with their seniors, because they feel that there is no benefit of it. Traditionally librarians were not used to working with IT departments, however due to the emergence of the digital age and knowledge economy today librarians have to work hand-in hand with IT experts.
- *Change management:* Academic librarians often find it difficult change their mind-sets to become knowledge managers from traditional librarians.

In the above background this section now presents the major findings of the preliminary studies.

5. Research findings

This preliminary study was undertaken to investigate the KM practice at the university libraries in SADC countries. The data was collected in July-September 2011.

5.1 Scope & context of the study

SADC (Southern African Development Community) was established in April 1980 by the Governments of nine Southern African countries. Currently SADC has a membership of 15 Member States, namely; Angola, Botswana, Democratic Republic of Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe (Southern African Development Community, 2011). It was difficult to determine the total number of university libraries in these SADC countries in the absence of availability of information on the internet.

5.2 Research purpose & objectives

As mentioned in the introduction, the main purpose of this study was to explore the KM practice in university libraries in SADC countries. To meet this purpose, the objectives of this study were:
- to discover the understanding of knowledge management concept;
- to ascertain the reasons for practicing knowledge management in university libraries; and,
- to explore the challenges associated with knowledge management practice.

5.3 Methodology

A structured questionnaire was used to carry out the study, including both quantitative and qualitative questions. Reasons for employing this approach were to ensure reliability, time

effectiveness and mutual inclusiveness. A total of thirty (30) questionnaires were delivered electronically, of which only 12 were returned (40% response rate).

The purpose of any sampling is to secure a sample which will represent the characteristics of the entire population. In this study the purposive sampling was used because the aim of the study was to collect data from librarians from each SADC university library. If the director was not available, any staff member could participate in the survey. It was assumed that one questionnaire would represent the whole library and therefore there was no need to repeat the survey with other library staff.

As it was not a large amount of data, data analysis was done by simple frequency count and cross tabulation, comparing responses across demographic variables. The qualitative (open-ended) questions were analyzed separately, by identifying and grouping key responses into themes, after which related/associated themes were further grouped into variables for frequency count.

5.4 The major findings

Out of 12 participating libraries 8 (67%) claimed to be practicing knowledge management (KM) and considered themselves as knowledge managers. The following section presents the major findings.

SADC Countries	No. of Participating Libraries
Botswana	1
Malawi	1
Namibia	1
South Africa	4
Tanzania	2
Zambia	2
Zimbabwe	1

Table 3. Participating Libraries N=12

A systematic way of gathering, organizing, managing, disseminating and use of information & knowledge.
KM refers to collection, processing and dissemination, both published and unpublished and non-documented information emanating from traditions and practices.
KM is the process of codifying what employees know, and sharing that information among employees in order to devise best practices.
The effective management of knowledge to preserve organizational knowledge.
A process of organizing/managing knowledge for easy retrieval, use and retention for future use.
KM is the utilization of existing knowledge and share it.
KM is a process that helps organizations find, select, organize, disseminate and transfer important information and expertise necessary for activities such as problem solving, dynamic learning, strategic planning and decision making.
The ability to manage knowledge.
KM is about the sharing and retaining of knowledge and expertise in the organization. To persuade people to share knowledge, they have to be motivated and provided with the necessary tools.

Table 4. KM defined by the respondents N=12

Reasons	%	No.
To improve library services	100	12
To improve library productivity	92	11
To produce more with less due to dwindling library budget	92	11
To leverage existing knowledge	83	10
To manage information explosion	67	8
To manage rapid knowledge decay	67	8
To make informed decisions	67	8
To establish best practices	50	6
To avoid duplication of efforts	50	6

Table 5. Reasons for practicing KM N=12

Challenges	%	No
Constant budget decline	92	11
Lack of incentives	83	10
Inadequate staff training	83	10
Limited expertise in KM	58	7
Lack of clearly defined guidelines on KM implementation	75	9
Insufficient Technology	67	8
A lack of knowledge sharing culture	58	7
A lack of cooperation among juniors and seniors	42	5
To track the materials from departments is time consuming	33	4

Table 6. Challenges in knowledge management N=12

6. Discussion

This section discusses the major findings of the study based on the three research objectives.

6.1 Understanding the concept of KM

The majority of the participants seemed to understand the concept of KM, which is apparent from Table (4); the KM concept was well-defined by the participants. A similar survey conducted in 2006 showed KM practicing libraries as only 45%, the number has increased to 67%. Therefore, an increase in the number of libraries practicing KM is also an indication that there is a greater understanding of the KM concept. Other optimistic signs were from those who did not practice KM, but completed the questionnaire and preferred to be called information scientists and knowledge custodians rather than simply librarians or information managers. As in general comments, one respondent mentioned, "Today KM is a way forward to 21st Century librarians, but due to resource constraints we are not able to practice it". Yet another added, "This is a good study to evaluate ourselves. KM is a strategic tool to manage the ever-changing library users needs". These developments are in line with what Roknuzzaman & Umemoto (2009) have suggested that library practitioners need to broaden their understanding, change traditional mindset, and to apply a holistic approach

of KM system design and library practice focusing on both explicit and tacit knowledge. The following section further puts forward participants' understanding of the KM concept.

6.2 Reasons for practicing knowledge management

The main reasons for KM adoption were identified as; to improve library services and productivity, to produce more with less due to financial constraints, to leverage already existing knowledge, to manage information explosion, to manage rapid knowledge decay, to make informed decisions, to establish best practices, and, to avoid duplication of efforts. Let us now briefly deliberate on each of the above points.

To improve library services and productivity: To improve library services was identified as one of the most important reasons to initiate KM by all the participants (100%), while a majority of 92% acknowledged that they were practicing KM to improve productivity. Indeed KM improves library services as well as library's overall productivity in numerous ways. Library services are improved by providing time and cost-effective, customer-focused and 24 hours library services in a consistent manner. Through KM systems, each customer receives the same answers for similar queries; it would be difficult to monitor consistency of customer services without KM systems. All this leads university libraries towards improved services and productivity. By reducing duplication of efforts and using time and cost-saving information and knowledge management strategies librarians are released to utilize their time in more productive tasks such as research and innovative projects. At the same time library customers can also set up virtual "my library" and various learning spaces for improved library services. Online Reference services such as "Ask a Librarian" service automates responses to many queries by providing customers answers from an established knowledge base.

To produce more with less: This was recognized as another reason to encourage KM in university libraries by 92% of the participants. Certainly KM is a good solution to produce more with less by managing the most relevant information and omitting the irrelevant. It is well-articulated in the KM literature that the budget shortfall is a primary driving force as well as an obstacle for the implementation of KM in academic libraries. Wen (2005) has rightly observed that in recent years, budgets in academic libraries are stagnant at best and declining in general. Academic libraries have felt the pinch from both sides – less budget and more demand, they have sensed the threat of being marginalized by internet-based information services and students and faculty's own information gathering efforts. Hence, it is important for academic libraries to operate more efficiently with reduced financial and/or human resources and produce more with less. Emphasizing the management of most critical and actionable information, KM can support this endeavor. For instance, university libraries may be stocked with irrelevant books and other information materials, which are seldom used. By investing only in relevant information and knowledge the issue of budget decline can be addressed to some extent. Today the focus has changed from "just in case to just in time information".

To leverage already existing knowledge: This was acknowledged as another reason for practicing KM by a majority of 83% participants. Often organizations do not know what knowledge they already have. Owing to this, even the large global corporations are spending money on training and development to gain knowledge that they already have (Goodman & Schieman, 2010). KM leverages the existing knowledge within an organization. Through needs assessment, knowledge mapping and knowledge auditing exercises, hidden

organizational knowledge becomes visible and usable. Thus, by practicing KM, organizations can identify and leverage their collective knowledge to compete, including the creation, storage/retrieval, transfer, and application of knowledge (Alavi & Leidner, 2001). Indeed KM is a useful mechanism to leverage existing knowledge.

To manage information explosion: This was observed a significant factor to accept KM by 67% participants. With too much information to digest, a person is unable to locate and make use of the information one needs and this information overload can hinder information usefulness to the individual (Israel, 2010). Information explosion is the negative aspect of knowledge sharing. Increased information sharing leads to increased information explosion and hence academic librarians are increasingly challenged to solve this dilemma of information overload. The situation is worsened due to limited financial resources. KM solves this dilemma of information explosion by managing the right information, to the right people at the right time.

Due to information explosion and overabundance, the main issue now is to recognize, locate and utilize this specialized knowledge and most critical knowledge embedded in organizational databases, processes and routines as a distinct factor of production to increase productivity and competitiveness (Saadan, 2001). KM is one such tool that can help in managing information explosion by managing what is most critical and essential.

To manage rapid knowledge decay: Managing knowledge decay was perceived as a critical factor to adopt KM by 67% of the participants. Due to information and knowledge explosion knowledge is decaying faster than ever before. It is indeed important to practice KM to deal with the rapid knowledge decay to serve the users with the right knowledge at the right time and avoid sifting through decayed and obsolete knowledge. This requires academic librarians to renovate the existing library environment and promote a knowledge-sharing culture by initiating communities of practice, management of best practices, change management, organizational learning, and use of appropriate knowledge-sharing technologies (Roknuzzaman & Umemoto, 2009). KM systems emphasize continuous update and maintenance of knowledge in order to manage rapid knowledge decay.

To make informed decisions: This was perceived as important to adopt KM by 67% of the participants. KM equips each person with informed decision making capability. When people have access to the right information and knowledge, they will definitely be able to make wise decisions.

To establish best practices: This was another reason to take up KM articulated by 50% of the participants. A best practice is "A method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark" (Business Dictionary, 2011). KM is a complex set of processes and procedures, some more successful than others. KM emphasizes the identification of such best practices because tried and tested solutions and practices are always superior over newly introduced ones. Due to long-term experience best practices are time and cost-effective, they provide operational excellence, and enhance performance capabilities to create competitive advantage. They create a learning environment and reduce training needs. However, it has to be noted that no practice is best for everyone and no best practice remains best forever. Academic libraries should continuously look for better best practices.

To reduce duplication of efforts: This was found to be another reason to approve KM by 50% of the participants. Knowledge sharing is one of the most critical components of KM.

Often academic library practitioners are doing similar things in their own divisions in isolation. A good example of such a practice can be a reference service. Individual librarians continue doing their personal research on how to serve their customers, while they could long establish a reference query database and update it regularly on the receipt of a new query and share it. However, with the advance of technology, there are online and virtual reference services, such as Knowledge Base of QuestionPoint, which reduces response time and duplication. Using KM applications duplication of efforts is reduced, training needs are minimized and all services are time and cost-effective.

6.3 Challenges in KM practice

The study identified the major challenges in practicing KM as; constant budget decline, lack of incentives, inadequate staff training, limited expertise, lack of clearly defined guidelines on KM implementation, insufficient technology, and a lack of knowledge sharing culture. A lack of cooperation among juniors and seniors and tracking the materials from departments did not appear to be major challenges. Now the main challenges faced by the knowledge practicing university libraries are discussed.

Unremitting budget decline: This was perceived as a challenge by 92% of the participants. Budget decline features twice, as a reason to adopt KM, as well as a challenge to practice KM. It is a well-known fact that unlike the private or business sector, academic libraries typically do not have extra financial resources to reward staff. Budget has an impact on everything including inadequate tools and technologies, a lack of reward system, poor training plans and a lack of expertise in KM. With a stagnant or dwindling library budget, academic libraries have to increase their operational efficiency in order to meet this challenge. Indeed, when libraries face tight budgets or budget reductions, it is only too natural for the library administration to hesitate to invest in such a Knowledge Management system (Wen, 2005). This calls for an adequate budget for the success of KM implementation.

Incentives & staff motivation: Lack of incentives was yet another critical issue for 83% of the participants in order to motivate library staff for KM especially for knowledge sharing. At the same time it is not an easy feat to motivate staff to contribute and share their knowledge. Some staff may not want to share their knowledge for fear that once their knowledge is shared, they might no longer be valued or deemed indispensable. Some staff may not share their knowledge for free, as there are free riders, who only take for granted others' knowledge but never share their own (Susarla, Liu, & Whinston, 2003). Rewards are good motivators to KM adoption and building organizational trust among librarians. To develop a motivational workforce reward programs should be aligned with human resource development policies to be seen as a vehicle for cultural change. Aharony's (2011) findings established that the more staff received rewards the more they trusted the organization and were ready to collaborate, and they had a more positive attitude toward KM (Constant, Kiesler & Sproull, 1994, Aharony, 2011).

Inadequate staff training & limited expertise: Inadequate staff training was acknowledged as a challenge by 83% and limited expertise by 58% of the participants. Both are important and complementary. For effective application of KM adequate training is vital and insufficient training might lead to limited expertise. According to Townley (2001), training and support for the adoption of new knowledge and behaviors are perhaps the most important and costly part of any knowledge management application. Advocating the need for training need, Lee (2005) emphasizes that as a learning

organization, libraries should be allocated annual funding to provide continuing education and staff training to all staff members. Knowledge must be renewed and expanded to prevent it from becoming stagnant. Skills development of staff was considered the first and foremost to create KM culture in academic libraries in Nigeria (Ugwu & Ifeanyi, 2010). Thus, training is vital and staff need to be trained in each aspect of KM, knowledge capturing, storing, retrieval and dissemination and formulation of knowledge strategy. As university libraries play a leading role in today's changing world in generating ideas and advancing societies, they need to be knowledgeable enough in order to cope with the rapid changes and strong competitive environments (Daneshgar & Parirokh, 2007).

A lack of clearly defined guidelines on KM implementation: This was pointed out as a challenge by 75% of the participants and this seems to be a problem world-wide. For example, only twelve (12) UK universities had a Knowledge Management strategy (McKnight, 2007). Establishing principles for KM implementation are fundamental to KM success; which are referred as KM strategies. Formulating a KM strategy should be the first step in any KM initiative. A KM strategy is a plan that describes how an organization will manage its knowledge better for the benefit of the organization, employees and other stakeholders. Based on the real needs and problems in a particular library, a KM strategy should stipulate the overall KM vision aligned with organizational strategic plans including specific objectives, action plans, budget, mentoring and training plans and associated challenges including an evaluation plan to measure the expected outcomes of KM initiatives. An audit of all the information and knowledge systems in an organization can help identify the urgent need for IM and KM strategies (identifying the multiplicity of data sources held in filing cabinets, insecure laptops, hard disks that are not regularly backed-up, in the heads of key staff approaching retirement etc). The audit can also determine the priorities for attention in the information and knowledge management strategies (McKnight, 2007). Thus, clearly defined guidelines are essential to reap the benefits from KM implementation.

Insufficient technology: Inadequate technology was acknowledged as a challenge by 67% of the librarians, while sufficient technology is decisive for KM success. It enables KM initiatives in two ways: by connecting people with contents providing the means for people to capture, discover, organize, store, retrieve and disseminate knowledge/information, and connecting people with people using collaborative software such as electronic communication tools, electronic conferencing tools, collaborative management tools and workflow management systems. A good IT infrastructure is not a sufficient condition for the success of KM but a necessary condition for it (Arora, 2002). Insufficient technology impedes the successful implementation of KM in academic libraries. Lack of sufficient technologies can be attributed to budgetary constraints. Therefore, there is a need for a proper budgetary planning in order to acquire adequate KM enabling technologies for the successful execution of KM project.

A lack of knowledge sharing culture: A lack of knowledge sharing culture was perceived a challenge by 58% of the participants. This is one of the critical factors, and the first cultural roadblock in KM implementation. The finding of this study corroborates with what Parirokh, Daneshgar, & Fattahi (2008) had established in their study that KM and knowledge sharing issue had not been institutionalized in the majority of academic libraries. The above authors have envisaged that the knowledge-sharing capabilities of academic libraries will eventually become one of their major critical success factors,

developing a knowledge sharing culture is the backbone of KM success. Academic librarians have to share knowledge with their students, teaching staff and other stakeholders. However, a knowledge sharing culture is more conducive to knowledge creation and enhanced performance and reduces duplication of efforts. There is a range of technologies and tools to share knowledge such as the internet, intranets and extranets, groupware technologies e-mails and Lotus Notes discussion databases, chat rooms, expert-led discussions, web seminars, online meetings, virtual class room sessions, video-conferencing, sharing resources through library consortium. A knowledge sharing culture involves both organization and library staff. Organizational support refers to availability of appropriate KM enablers such as organizational procedures, culture and technological infrastructures. On an individual basis it refers to librarians' personal interests and the degree of enthusiasm for sharing knowledge (Parirokh, Daneshgar, & Fattahi, 2008). This again calls for change management at an organizational as well as an individual level. Organizations need to put in place appropriate incentives and training plans in order to motivate library staff for knowledge sharing and individual staff need change of mindsets to appreciate the benefits of knowledge sharing. Often librarians fail in locating and managing the knowledge potential in the heads of their own people (Selhorst, 2009). Parirokh, Daneshgar, & Fattahi (2008) have suggested numerous activities and strategies that can encourage knowledge sharing among librarians; research projects, training programs, online newsletters, teaching methods, knowledge-sharing policies and strategies, leadership and dedication of time, group discussions, communication channels, formal procedures including publication of manuals for staff and documenting experiences.

7. Conclusion & recommendations

Based on the findings and discussion it can be concluded that the majority of the participating librarians have recognized the importance of KM by distinguishing the reasons and challenges of practicing KM. However, challenges also point out that even after twenty decades, KM still remains a challenge for many university libraries in Africa. According to Yaacob (2010:14), "KM is a challenge to the information professionals and for the fields of librarianship and information science and needs to be taken seriously to leverage the intellectual assets and to facilitate knowledge utilization and creation". In order to achieve this "today's university libraries should assume active roles in becoming knowledge creation organizations and must strive for turning into truly humanistic knowledge societies where constant learning is possible for every librarian." (Daneshgar & Parirokh, 2007:31). Thus, KM is a way forward to survive and thrive for academic libraries/librarians.

To overcome the identified challenges and successful KM implementation in university/academic libraries, the author makes the following recommendations:

- First and foremost, a KM strategy is vital to lay out the background, expected outcomes and resource implications;
- Parent organizations should take KM seriously and allocate sufficient financial resources in order to provide needed KM infrastructures;
- To understand and adapt KM effectively, a rigorous training is essential for academic librarians;
- There should be adequate incentives for academic librarians to motivate them for KM practice and to create a knowledge sharing culture;

- To revitalize the library undertakings there is a need of proactive, self-confident, self-promoting, customer-focused and well-prepared library staff.
- There is a need for a mechanism to measure and monitor the progress and challenges of KM initiatives.

Further research

Based on the findings, there is a need for further research in the following areas:

- A more comprehensive study of Knowledge Management practices in University Libraries in Africa
- Role of incentives in promoting a knowledge sharing culture in academic libraries in Africa
- Customer knowledge Management in academic libraries.

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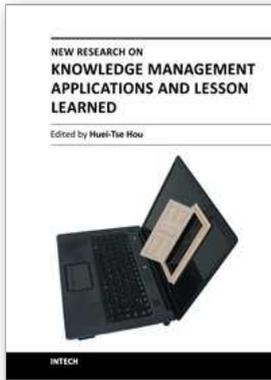
New Research on Knowledge Management Applications and Lesson Learned
Edited by Dr. Huei Tse Hou

Due to the development of mobile and Web 2.0 technology, knowledge transfer, storage and retrieval have become much more rapid. In recent years, there have been more and more new and interesting findings in the research field of knowledge management. This book aims to introduce readers to the recent research topics, it is titled "New Research on Knowledge Management Applications and Lesson Learned" and includes 14 chapters. This book focuses on introducing the applications of KM technologies and methods to various fields. It shares the practical experiences and limitations of those applications. It is expected that this book provides relevant information about new research trends in comprehensive and novel knowledge management studies, and that it serves as an important resource for researchers, teachers and students, and for the development of practices in the knowledge management field.

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