

Knowledge Management In Academic Libraries: Librarians In The 21st Century

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ABSTRACT:

This paper examines the contributions of librarians in knowledge management, and the implications for academic librarians. A review of relevant literature on contemporary issues in libraries and knowledge management was undertaken, and the current developments in knowledge management and the future for libraries, librarians, and information science professionals were discovered. There is evidence that knowledge management cuts across all spheres of human and organizational activities including libraries and archives. With knowledge management, academic librarians contribute to the improvement of employees' capacity in knowledge creation; it promotes and strengthens relationships and inter-networking between libraries, librarians, and users. KM creates enablement to mine and extract the wealth of knowledge in library employees. Information technologies, information explosion, multiple formats of information, changing users' needs and tools have assigned newer roles and responsibilities to academic librarians. It has transformed them from custodians of recorded human intellect to knowledge navigators; they have migrated from librarians to cyberians, knowledge engineers, knowledge gatekeepers, networkers and knowledge brokers. These skills and competencies have to be gripped and imbibed by all knowledge workers or they will become irrelevant in this 21st century.

Keywords: *Information technology, Knowledge management, Librarian, Academic libraries*

Introduction

Ever since the early man discovered the skill of making fire, many initiatives to transfer information, knowledge, and skills are today labeled knowledge management. However, the systematic study of knowledge as a management and scientific discipline began during the 1990s (Gupta et al, 2007). Drucker (1969) was the earliest to distinguish between manual workers and knowledge workers because in 1965 he predicted that knowledge would replace land, labour, capital, machine and other fixed assets of organizations to become the chief source of production.

In library and information science, Ranganathan (2011) was the first to advocate that a universe of subjects is synonymous to a universe of knowledge and therefore proposed the concept of knowledge management in libraries. Lee (2005) also foresaw that in the new knowledge economy, the possession of relevant and strategic knowledge and its continued renewal will enable citizens to gain competitive advantage. Though the predictions by Drucker and Ranganathan did not get immediately attention, it was in

1991 when Nonaka first used the concepts of *tacit* and *explicit* knowledge that the term, knowledge economy, knowledge management, and knowledge-based competition finally came into light. First introduced in the business sector during the 20th century, the application has penetrated into many organizations and other sectors of the economy including universities, research institutes, and libraries.

The contributions of knowledge management to libraries is seen where: i) libraries as organizations can tremendously benefit by adapting relevant knowledge management applications, ii) by creating knowledge sharing atmosphere, and iii) by adopting seamless or non hierarchical organization culture and structures in order to facilitate communication and sharing of knowledge vertically and horizontally. Every organization and institution generates and acquires huge amounts of data and information, and without effective management it is difficult to identify the information required and therefore useless. Knowledge management therefore comes as a strategy to harness organizational knowledge and enhance the capacity to derive relevant knowledge from information.

The Concept Of Knowledge & Knowledge Management

Knowledge management is a journey that moves an organization (library) from their present knowledge-chaotic environment to a knowledge-centric system (Taylor, 1999). Literature has shown that many writers such as Ugwu & Ezema, 2010; Priti, 2009; Raja et al 2009; Mutula & Mooko 2008, Gupta et al 2007; Pantry & Griffiths, 2003; Shanhong. 2000; Duffy, 2000; Rowley, 1999; Balcombe, 1999; Chase, 1998; Broadbent, 1998; Davenport et al (2000); Skyrme, 1997 & 2000; and others, have written extensively on knowledge management yet all agreed that there is no universally accepted definition. For that, writers chose to define the concept the way it relates to their peculiar field of study.

In library and information science profession, it is the insights, understandings, and practical know-how that every librarian possesses. It is the fundamental resources that allow professional and para-professional librarian to function intelligently. For that, the intellectual and knowledge-based assets of librarians were classified into two main categories namely, tacit knowledge, and explicit knowledge. The tacit knowledge includes:

- The know-how contained in the heads of librarians and other people's heads;
- The knowledge each of us carry in our heads about how to do things, and the lessons learned through experience.
- It is the innovation and creativity, which is embedded in every normal human being that helps him or her in solving some daily and challenging problems.

When the tacit knowledge is expressed, codified and made public, it becomes explicit knowledge. Examples include knowledge shared during meetings, brainstorming sessions, workshops, conferences, seminars, etc. The knowledge is then recorded in the form of minutes of meetings and conference proceedings. The documents from such

events represent the insights, experiences shared, codified and disseminated in an easily transferable form.

In librarianship, it is the creation, storage and collaborative sharing of employees' information within the academic library environment. In sharing and collaboration, a library's effectiveness and efficiency, productivity and profitability is enhanced. KM is therefore the process of capturing, organizing, and storing information and experiences of workers and groups within an organization and making it available to others. It is used in this paper to refer to a process that focuses on five related library activities – capturing, classifying, exploiting, sharing, and applying both the explicit and the implicit know-how for the benefit of the library, librarians, the library users, and the academic community. KM in academic libraries may include:

- a process of collecting, organizing, classifying and disseminating information throughout a library, so as to make it purposeful to those who need it;
- Its aims are to capture the tacit and explicit knowledge that employees really have but are needed by the employer and the users in the library repository and filter the surplus out.
- It involves identification of categories of knowledge needed to support the overall library activities by combining indexing, searching, and technology to help libraries in organizing data stored in multiple sources and deliver only relevant information to users.

The problem today is that in an agrarian economy, land was the main resource. During the industrial revolution, coal, iron ore, labour and other natural resources were the key. Today, there is a paradigm shift and the shift is that knowledge economy has emerged and in it, knowledge-aiding technology and human capital are the vital resources. There is enormous increase in the codification of knowledge which Priti (2009) described as “networking and digitization of information that is leading to its increase in commoditization”. Knowledge is in people's heads and managing it is an impossible task and librarians and information science professionals are the knowledge workers who Drucker envisaged.

With knowledge management around us in the 21st century, academic librarians are assigned new and challenging roles, a responsibility that ushered in other opportunities to market their products and professionalism in organization of knowledge. That was the rational Kumar (2010) noted that the role of knowledge management in libraries today has become more vital along with the development of knowledge based economy. In view of this, this paper reviews:

- The concept of knowledge and knowledge management
- Justifications for knowledge management in academic libraries
- Strategies for knowledge management in academic libraries

- Implications for library and information science profession.

Justification For Knowledge Management In Libraries

In the knowledge economy era, libraries are very importance to vocational training and lifelong education of librarians. It raises their knowledge level and ability in knowledge acquisition. The main objective of implementing knowledge management in an academic library therefore is to ensure an all-round improvement of library staff's capacity; promotion of relationships between libraries and library users; it promotes knowledge innovation, strengthening knowledge inter-networking and quickens knowledge flow. Other objectives are highlighted below.

Tacit Knowledge In Employee

Library workers sometimes change employers and or careers. They retire, and or leave their workplace with the professional knowledge acquired in the course of working in the library. When this happens, the establishment loses the experience and expertise of such employees. The wealth of knowledge that is in older employees which can be used to give the library a competitive edge is lost. A knowledge management initiative in libraries becomes imperative in order to harness the wealth, wisdom, expertise, and experiences embedded in the heads of such employees before they leave the library. This can be achieved through brainstorming, open discussions, and provision of fertile ground for creativity, sharing of ideas, organizing workshops, conferences, mentoring, web archiving, digitization, and identification and collectively addressing problems and finding solution.

Desire For Retention Of Knowledge In Employees

When an individual enters an organization, they did so with little or no knowledge of the modus operandi of the organization. Through orientation and training which such a staff undergoes, a lot of knowledge is accumulated. The learning processes that people/workers undergo enable them to accumulate some skills and once they leave the office, the entire storehouse of knowledge about the job are gone.

If the wealth of such knowledge in librarians is not to be lost, library administration must initiate knowledge management practice which may involve a lot of strategies that will tap or transmit the latent talent of the older staff to the succeeding ones. If the library could capture part of the older worker's experience through KM, then the reciprocal relationship between the employees and the employers, librarians and users would truly be achieved once that person retires.

The Desire To Create Knowledge Management Awareness

Since it is difficult to manage knowledge in people's heads what knowledge management is all about is to create a stimulating environment in which knowledge can be created, harnessed, shared and used for the benefit of libraries, librarians and library users. There are still many knowledge management concepts that are new for many researchers. By promoting and raising awareness of the benefits of KM amongst

the library users, faculties, and other stakeholders, librarians are encouraging them to have immense impacts on library performance.

The Impact Of Information Technology

The combination of computers, databases, and telecommunications, especially the Internet, provide librarians with an incredible number of options for improving the way libraries as organizations function. Information technology has facilitated the codification of tacit knowledge in worker and made them available simultaneously to other employees in remote locations. It improves user services, clients' satisfaction through a more professional approach to service delivery, and higher productivity. Information Technology in knowledge management helps to maximize the benefits and provides confidence in academic librarians. Raja et al (2009) noted that the implementation of knowledge management in academic libraries is driven by its mission rather than by the competition from internet-based reference services or electronic books

Strategies For Knowledge Management In Academic Libraries

Jantz (2001) maintained that knowledge management can help transform the library into a more efficient knowledge sharing organization. And one of the major objectives of KM which Kim (1999) pointed out was that knowledge management practices aims to draw out the tacit knowledge people have. Therefore there are a number of approaches that academic librarians should follow and harvest the tacit and explicit knowledge of workers to the full advantage of the library. These include acquisition of modern tools, updating skills and standardization, knowledge creation, knowledge capturing, knowledge sharing, and skills in ICT.

Acquisition Of Knowledge Management Tools

Librarians should first and foremost have knowledge of the tools, skills, and competencies needed for effective knowledge management and take steps to acquire them. Raja et al (2009) enumerated the types of knowledge-related tools which are effective in managing and handling information in academic libraries to include, the Intranets/Extranets, electronic document management, data analysis, data warehousing, mapping tools, machine learning, workflow management systems, groupware, information retrieval tools, and web archiving. To implement knowledge management in academic libraries, a lot of financial involvement is required. Writing on the techniques and tools for knowledge management in academic libraries, Gupta et al (2007) concentrated their contribution under six key areas namely finance, cost analysis, information technology, standards, retrieval tools and metadata.

Without finance, information resources cannot be acquired and accessed. For efficient and effective knowledge management, cost analysis is very essential, while knowledge is the key factor in the application of IT in information handling activities. Libraries should ensure that adequate fund is available before embarking on knowledge management project.

Rewarding Competencies

The exchange of information in the society is possible only if compatible standards, skills, and techniques for information and knowledge transfers are followed. Ugwu and Ezema (2010) studied the competencies for successful knowledge management applications in Nigerian academic libraries and reported that the skills needed for successful applications are cultural skills, leadership skills, strategic and restructuring skills, among other skills. They recommended that training and retraining of librarians to face the challenges of knowledge economy are essential for effective application of KM in Nigerian university libraries. Also Maponya (2004), and Priti (2009) in their different studies recommended some skills and competencies needed for KM in university libraries. These include a sharp and analytical mind for librarians; innovation and inquiring spirit; and literacy on how to use the appropriate technology to capture, catalogue and disseminate information and knowledge to the targeted audience. Priti wrote that personal competencies, good communication and personal skills; understanding flexible needs of users; development of creative solutions; ability to market the concept of KM and its benefits; creative and long term vision; analytical and lateral thinking ability and cultural adaptability skills, etc, are among the skills and competencies which academic librarians needed most in order to operate in this 21st century.

Knowledge Creation

Whether the key objective of academic libraries is to provide resources and information services to support the university community, the core resource that is required is knowledge. That is, the knowledge of the library's operation, library users and their needs, the library collections, and of library facilities and technologies available. Knowledge of these must be put together so that new knowledge is created and subsequently lead to the improvement and development of services to the users. However, this diverse knowledge is rather dispersed across library sections and library hierarchy and knowledge creation is the outcome of an interactive process that will involve a number of individuals in a library setting. For that reason, only where there is interaction and communication can there be a comparison of each person's ideas and experiences with others. Knowledge creation is a particularly important strategies and process of knowledge management because it focuses on the development of new skills, new products, better ideas and more efficient processes..

In addition, knowledge creation refers to the ability to originate novel and useful ideas and solutions. Knowledge in the context of academic libraries can be created through understanding the user needs and requirements as well as the university's curricula. Academic librarians can become part of the knowledge creation process through participating in the teaching and research activities of the university.

Knowledge Sharing

Expertise exists in people, and much of this knowledge is tacit rather than explicit which makes it difficult to be shared. Knowledge sharing in library is simply about transferring the dispersed know-how of professional librarians and faculty members

more effectively. Knowledge sharing is based on the experiences gained internally and externally in the organization. Internally, it is shared during staff meetings, seminars, workshops, orientations committees and board meetings. In many academic libraries, 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. Today, more emphasis is placed on formalizing knowledge sharing. Jantz (2001) noted that in many library settings; there is no systematic approach to organizing the knowledge of the enterprise, and making it available to other librarians and staff of the library. For academic libraries to utilize their know-how, it is necessary that they become knowledge-based organizations. Academic libraries need to prepare themselves for using and sharing knowledge.

The expertise and know-how of other librarians should be valued and shared through meetings, conferences seminars in which the outcome is documented. That is why it is vital that knowledge should be shared and distributed within an organization so that isolated information or experience can be used by the whole company. Making this know-how available to other librarians will eliminate or reduce duplication of efforts and form the basis for problem solving and decision-making.

Knowledge Capturing/Acquisition

Capturing and acquiring knowledge is crucial to the successful development of a knowledge-based economy in libraries, but most organizations often suffer permanent loss of valuable experts through dismissals, redundancies, retirement and death of their employees. The reason for this is that much knowledge is stored in the heads of the people and it is often lost if not captured elsewhere. The surest way to avoid collective loss of organizational memory is to identify the expertise and the skills of staff and capture it. Academic libraries need to develop ways of capturing its internal knowledge; devise systems to identify people's expertise and develop ways of sharing it. Maponya (2004) and Mutulua & Mooko (2008) recommended that a formal process of capturing knowledge can include collating internal profiles of academic librarians and also standardizing routine information-update reports. As users became more sophisticated, academic libraries need to develop innovative ways to respond and add value to their services. Academic libraries need to be aware and to aim at capturing the knowledge that exists within their personnel. The type of enquiries, for example, that is commonly received at the reference and circulation lending desks should be captured and a folder of *frequently asked questions* (FAQ) be created to enable librarians not only to provide an in-depth customized reference service but also to become knowledgeable about handling different enquiries.

Knowledge Networking

Librarians have been dealing with inter-library loan, in-service training of employees in other libraries for a long time. Today they are involved in searching online databases and web archiving of e-resources for their clients. This kind of experience can be very helpful in building knowledge bases and repositories, which is a crucial area of knowledge management. Since Knowledge acquisition is the starting point of

knowledge management in libraries, Shanhong (2000) opined that knowledge in academic libraries can be acquired through:

- Establishing knowledge links or networking with other libraries and with institutions of all kinds;
- Attending training courses, conferences, seminars and workshops;
- Subscribing to listservs and online or virtual communities of practice;
- Buying or borrowing knowledge products or resources in the form of manuals, blueprints, reports and research reports from other libraries and organizations.

In view of this imperative, academic libraries need to gear up to equip their librarians with the know-how they needed to cope with the rapid changes in the 21st century.

Implications For Library And Information Science Professionals

The characteristics of the knowledge economy today suggest a number of implications for librarianship. Because an economy built on knowledge is fundamentally different from the one built on physical collections, knowledge management has assigned newer roles to academic librarians. In this 21st century, librarians are no longer meeting the information needs of users through the traditional avenue of simply adding to their collections. There are lots of transformations in their roles. As knowledge workers, they must extend their expertise beyond collection management to knowledge acquisition and management. They have to extend their expertise in selecting, organizing, and preserving information. They must be willing to move outside the walls of the traditional library and work assiduously with technologists, faculty, and students. This means that librarians are no longer merely custodians of information; rather, they will act as knowledge managers who will work with users in collecting and analyzing strategic intelligence, act as trainers and consultants to transfer knowledge throughout the organization.

In this paradigm shift, academic librarians will be:

- Knowledge management developers, working more closely with faculties and students to design, organize, and maintain a broader range of digital assets; they are knowledge brokers *that* have networks of contacts as consultants and specialize in providing expert advice within and outside the library shores.
- They are knowledge management integrators who have a more active role in the educational and research mission of university, integrating information resources and services in their course and research projects and at the same time knowledge gatekeepers who are acting as subject experts.
- Academic librarians are knowledge management educators who are teaching and training students and faculty information literacy programme and how to organize, preserve, and share their own information resources;

- As research assistants for both personal and professional development and for providing up-to-date assistance to library users, they are also knowledge editors that repackage knowledge into the most accessible and most appropriate formats for the patrons.
- Knowledge management researchers -- applying library and information science and new digital technology to create new organizational (metadata), retrieval, and storage (preservation) options. Knowledge management in academic libraries allows librarians an opportunity to see oneself not just as service oriented, but mostly value oriented.

Conclusion

The major thrust of KM in librarianship is to enhance accessibility of information, and customize to the professional needs. In view of this therefore, the ability to work across organizational boundaries, and the willingness to take opportunities to try different roles and ways of working are essential for the information professionals in knowledge economy environments

In the present scenario knowledge management is a powerful tool for promoting innovation, realizing and re-engineering the various aspects of day-to-day activities of an organization. Knowledge is growing very fast in every aspect of life and it is becoming very difficult for knowledge professionals to capture and disseminate the available information to the deserving person without using the emerging technologies. The utility of knowledge management in an academic library cannot be ignored. For example, knowledge management helps library professionals in improving the services being rendered to their users. Information professionals have to recast their roles as knowledge professional, librarian's roles should not be limited to being the custodians of information but to acquire skills to keep themselves afloat to cope intelligently and objectively with the effective and efficient knowledge management in academic institutions. This is achievable by retooling and re-skilling with modern facilities required in contemporary library environment.

Recommendations

There is a need to reshape the structure of academic libraries for them to be able to improve the services they provide to library users. That was why university librarians are urged to make their libraries more clients-centered, to re-design work processes in line with university's goals, and re-structure the tools in order to support front-line performance. The emphasis is more on the needs of the library user than the needs of the library. It is emphasized that the hallmark of a university education, information sharing, team-based structure, empowered employees, decentralized decision making and participative strategy should be promoted through knowledge management. Like other organizations, academic libraries need to reshape their structures to better serve their clients

Academic librarians need to go an extra mile to understand the information and knowledge needs of users. They should be in a position to map internal and external

knowledge that would assist them in increasing their efficiency. In other words, academic librarians should extend their information management roles and enhance their knowledge management competencies. Foo *et al.*, (2002) pointed out that academic librarian as knowledge workers need to play active roles in searching for innovative solutions to the issues involved in adapting new technologies into their environment.

The challenge for academic librarians is to manage services, which offer users a carefully selected mix of multiple formats and media. Academic libraries should rethink their role in the whole university community. There is imperative to support the needs of the users since the teaching and learning patterns in universities have changed. As information and research resources become more varied, this places a challenge to academic libraries. There is a serious argument that the changes in the nature of information, in research strategies and in the structure of higher education are affecting academic libraries. These changes define much of the shifting context within which academic libraries must operate. Budd (1998) suggested that the changes brought by electronic media necessitate transformation in the way librarians think about their jobs, the users of information and communication process of which they are part of. Academic librarians must strive to remain competent navigators of each medium in order to assist the library users.

In view of this modern trend, academic librarians need to liaise with library users, departments, and faculties to support teaching, learning and research in universities. As Maponya (2004:11) explained, liaison is very important in an environment of resource-based learning where scholars are encouraged to carry out more independent work and make wider use of a range of learning resources. These challenges therefore require academic librarians to offer user-friendly ICT oriented facilities such as providing for remote access to information and services analyze the changing user needs and give support to users in like new academic environments.

References

Balcombe, J. (1999). Getting out of the box: The role of the information professional in knowledge management. *The Law Librarian*, 31(2):91-94.

Broadbent, M. (1998). The phenomenon of knowledge management: what does it mean to the information professional? *Information Outlook*, 2(5):23-36

Budd, J. M. (1998). *The academic library: its context, its purpose and its operation*. Englewood, Colorado: Libraries Unlimited

Chase, R.L. (1998). Knowledge Navigators: Available online at: <http://www.sla.org/pubs/serial/io/1998/sep98/chase1.html>. Accessed July 2, 2011

Davenport, T. H. & Prusak, L. (2000). *Working Knowledge: How organizations manage what they know*. Boston, Ma: Harvard Business School Press.

Drucker, P. (1969). *The Age of Discontinuity: Guidelines to Our Changing Society*. New York: Harper & Row.

- Duffy, J. (2000). Knowledge management: What every information professionals should know. *Information Management Journal*, 34(3):10-18.
- Foo, S, Chaudry, A.S. and Logan, E. (2002). Academic libraries in transition: challenges ahead. *Proceedings of the World Library Summit, Singapore*, April 22-26. Available online @ http://islab.sas.ntu.edu.sg:8000/user/schubert/publications/2002/02wls_fmt.pdf
- Gupta, S. Kumari, V. and Negi, A. (2007). Knowledge management in Academic Institute and Role of Knowledge Managers. Available http://library.igcar.gov.in/readit/2007/conpro/s5/s5_1.pdf. Accessed July 2, 2011
- Jantz, R. (2001). Knowledge management in academic libraries: special tools and processes to support information professionals. *Reference Services Review*, 29(1), 33-39
- Kim, S. (1999). The roles of knowledge professionals for knowledge management. *65th IFLA Council General Conference*, Bangkok, Thailand, August 20-28. <http://www.ifla.org/IV/ifla65/papers/042-115e.htm> Accessed August 27, 2010.
- Kumar, A.K. (2010). Knowledge Management and new generation of Libraries information Services: a concept. In *International Journal of Library and Information Science* 1 (2) Available online @ <http://www.academicjournals.org/ijlis>, Accessed Aug 7, 2010
- Lee, Hwa Wei (2005). Knowledge management and the Role of Libraries Available @ <http://www.white-clouds.com/iclc/cliej/cl19lee.html>, Accessed August 27, 2010
- Mutula, S.M. & Mooko, N.P. (2008). Knowledge Management, In L.O. Aina et al (Eds). *Information and Knowledge management in the digital age: concepts, technologies and African perspectives*. Ibadan: Third World Information Services, p. 267-299.
- Nonaka, I. (1991). The knowledge-creating company. *Harvard Business Review*, November-December, pp 96-104.
- Pantry, S. & Griffiths, P. (2003). Librarians or Knowledge Managers? *Business Information Review*, 20(2):101-110
- Priti, J. (2009). Knowledge management for 21st Century Information Professionals. *Journal of Knowledge Management Practice* 10(2): June. Available: <http://www.itlinc.com/articl1193.htm>
- Maponya, P.M (2004). Knowledge management practices in academic libraries: a case study of university of Natal, Pietermaritzburg libraries.
- Raja, W. Ahmad, Z. and Sinha, A.K. (2009). Knowledge Management and Academic Libraries in Information Technology Era: Problems and Positions. Available

http://crl.du.ac.in/ical09/papers/index_files/ical_124_198_418_2_RV.pdf. Accessed July 2, 2011

Ranganathan, S. R. (2011). Five laws of librarianship. In Wikipedia the Free Encyclopedia. Available online at http://en.wikipedia.org/wiki/Five_laws_of_library_science. Accessed February 24, 2011

Rowley, J. (1999). What is knowledge management? *Library Management*, 20(8):416-419

Shanhong, T. (2000). Knowledge Management in Libraries in the 21st Century. 66th IFLA Council and General Conference held in Jerusalem, Israel, 13-18. Available @ <http://archive.ifla.org/IV/ifla66/papers/057-110e.html>, Accessed August 27, 2010

Skyrme, D. (1997). Knowledge management: making sense of an oxymoron (Management Insight, 2nd series, no 2). Available online at <http://www.Skyrme.com/insights/22km.htm>.

Skyrme, D. (2000). Knowledge management: approaches and policies. http://www.skyrme.com/pubs/deeds_km.doc.

Taylor, R.M. (1999). Steps on the Path of Knowledge. In Milne, P. (2000). Information professionals and the knowledge aware, intelligent organization. *Australian Library Journal* 49(2): 139-151.

Ugwu, C.I & Ezema, I.J (2010). Competencies for Successful Knowledge Management Applications in Nigerian Academic Libraries. In *International Journal of Library and Information Science* 2(9): 184-189. Available online at <http://www.academicjournals.org/ijlis>. Accessed July 2, 2011

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