Implementing Knowledge Management In Indian Academic Libraries

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ABSTRACT:

The purpose of this paper is to explore library professionals' perceptions of knowledge management concepts, its applications and their perceived challenges to incorporate it into academic library practices. The study is based on the review of literature and the results of web-based survey of sixty-four library professionals of thirty academic libraries in India. The findings suggest that the term 'knowledge management' is familiar to most of the professionals but the ways of knowing and degrees of their understanding are varied. They focused primarily on management of explicit knowledge and their roles were perceived as basic information management activities. Professional education and training programs, community of practices, information technology and knowledge sharing were identified as the important tools of knowledge management in academic libraries. Misunderstanding of knowledge management concepts, lack of knowledge sharing culture, top management commitment, incentives and rewards, financial resources and IT infrastructure are the major challenges faced by library professionals to incorporate knowledge management into library practices.

Keywords*: Knowledge management, Academic libraries*

1. Introduction

Knowledge management is newly emerging approach aimed at addressing today's business challenges to increase efficiency and efficacy by applying many strategies, techniques and tools in their existing business processes. Like other business management trends, knowledge management is also a commercial concept, emerging first in profit sector (Yang & Lynch, 2006) and then entering into the non-profit or service sector (Wang, 2006). Due to the appearance of new knowledge producers in the education sector, universities are started looking into the possibility of applying corporate knowledge management systems. Colleges and universities have significant opportunities to apply knowledge management practices to support every part of their mission. Knowledge management in universities can be applied in five key areas such as research, curriculum development, alumni services administrative services and strategic planning (Kidwell et al., 2000). Academic libraries are part of the university and its organizational culture. Whatever affects universities has an impact on academic libraries. As a result, role of academic libraries is voluminous to provide the competitive advantage for the parent organization. The success of academic libraries depends on their ability to utilize information and knowledge of their staff to better serve the needs of the academic community. Academic Libraries are pinched on both sides: reduced budget and increased demand from faculty and students. It is, therefore, paramount for academic libraries to operate more efficiently with reduced financial and human resources. Knowledge management is considered as one of the most useful solutions for academic libraries that can be adopted in order to improve their services to become relevant for their parent institutions in the present competitive and challenging environment **(**Wen, 2005; Thanuskodi, 2010). This is especially true of countries like India with a rapidly developing economy.

2. The Concept Of Knowledge Management

To define knowledge management, it is first essential to define knowledge and its relation to information and data. A common portrayal is that of a knowledge hierarchy that goes from data (facts and figures) to information (data with context) to knowledge (information with meaning) to wisdom or intelligence (knowledge with insight). Data consists of discrete, objective facts or observations out of context that are, therefore, not directly meaningful (Zack, 1999). Information

results from placing data within some meaningful context to make it useful for end users who perform tasks and make decisions. Knowledge is broader than data and information and requires understanding of information. It is not only contained in information, but also in the relationships among information items, their classification, and metadata, information about information, such as who created the information (Rus & Lindvall, 2002). Knowledge is that which people believe and value on the basis of the meaningful and organized accumulation of information through experiences, communication or inference (Dretske, 1981; Lave, 1988; Blacker, 1995).

The relationship among data, information and knowledge is reflecting increasing levels of value added from data to information to knowledge. Each stage represents different values of context, usefulness, and interpretability (Alavi & Leidner, 1999). Fleming (1996) traces the knowledge from data processed into information and concludes that:

- Data comprises of facts or observations, which are unorganized and unprocessed and have no meaning or value unless they are converted into information by analysis (numbers, symbols, figures).
- Information relates to description, definition, or perspective (what, who, when, where).
- Knowledge comprises strategy, practice, method, or approach (how).
- Wisdom embodies principle, insight, moral, or archetype (why).

Nonaka & Takeuchi (1995) state that "although the terms 'information' and 'knowledge' are often used interchangeably, there is a clear distinction between information and knowledge" (p. 27). Knowledge is what an individual possessed after assimilating facts and putting them into context, while information is knowledge shared by having been communicated. According to Polanyi (1966) "information is passive in nature, whereas knowledge is a dynamic and active resource, residing in peoples' heads" (p. 78). Knowledge is valued highly because it is closer to action (McInerney, 2002) while information on its own does not make decisions; it is the transfer of information into people's knowledge base that leads to decision-making and thereby to action (Sinotte, 2004). Thus, information is tangible in nature and available to anyone who wants to seek it out, whereas knowledge is intangible in nature and perceived as justified personal belief that increases an individual's capability to take effective action (Drucker, 1999; Alavi & Leidner, 1999).

There are many types and forms of knowledge e.g. facts, know-how, specific skills, procedural knowledge etc. For practical purposes the most important distinction is that between explicit and tacit knowledge, a distinction first elaborated in some detail by Michael Polyani (1966) and later adopted by Nonaka (1991).

Explicit knowledge is formal and systematic; codified in the form of product specification or scientific formula or a computer program; and stored in textbooks, documents, databases, web pages, etc. (Nonaka, 1991, p. 98; Aurum et al., 2008). Tacit knowledge, on the other hand, is highly personal knowledge embedded in individual experience and involving such intangible factors as personal beliefs, perspectives, instincts and values. For the effectiveness of knowledge management process, it is essential to capture, share and transfer both tacit and explicit knowledge because "effective transformation of knowledge in an organization reduces duplication, improve productivity and cut cost" (Clarke, 2004) whereas, "lack of transfer lead to information overload and confusion as well as wasted manpower" (McCambell, 1999). Explicit knowledge can adequately be captured, stored and transferred with the help of electronic tools whereas, tacit knowledge that potentially represents great value to the organization, but far more difficult to capture and diffuse. However, most efficient way to convey tacit knowledge throughout the organization is face to face interaction and "the practices such as apprenticeships, mentoring, communities of practice, network analysis may prove effective" (Nelson, 2008).

There are plenty of definitions of knowledge management in the literature, which have generally been quite diverse, but have in common an emphasis on the distinctiveness from information management. Knowledge management has been defined as a method of management that governs the creation and utilization of both tacit and explicit knowledge in an organization (Newman, 1991; Shanhong, 2000; Ajiferuke, 2003). It has also been defined as a processses or practices of

creating, acquiring, capturing, sharing and re-using organizational knowledge (know-how) to improve performance and achieve goals and objectives of an organization (Davenport & Prusak, 1993, Abell & Oxbrow, 2001; Townley, 2001; White, 2004; Jain, 2007). In more practical aspect knowledge management may be defined as the capabilities by which communities within an organization capture the knowledge that is critical to them, continuously improve it and make it available in the most effective manner to people who need it, so they can exploit it creatively to add values as a normal part of their work (Hayes, 2004; Butler, 2000; Skyrme & Amidon 1998).

Thus, knowledge management is an ongoing process, which comprises of various methods, steps and strategic efforts of an organization to gain competitive advantage by utilizing its knowledge assets which resides in its employees, products, processes and clients. However, the most important step is to identify knowledge which can be considered as an asset for the organization and utilize it to productivity and performance.

3. Review Of Literature

A body of literature reveals that there is a close link between information management and knowledge management (Townley, 2001; Ajiferuke, 2003; Gandhi, 2004; Blair, 2002; Schlogl, 2005). Although Information and data management have been recognized as an aspect of knowledge management (Ajiferuke, 2003; Massa & Testa, 2009) but some researchers distinguished knowledge management from information management due to its emphasis on collaborative learning, capture of tacit knowledge and value-add obtained through best practices, mentoring and data mining (Gandhi, 2004; Southon & Todd, 2001; Morris, 2001).

There is no consensus among the scholars regarding the claim that knowledge management is a new field for academic libraries, since much of the terminology and techniques such as knowledge mapping and knowledge organization seem to have been borrowed from both information management and librarianship (Koenig, 1997; Blair, 2002). Roknuzzaman et al. (2009) argue that library itself is a knowledge-based organization where collection and maintenance of recorded knowledge by librarians is a practice as old as civilization itself.

Knowledge management has been seen as a survival factor for libraries to overcome the challenges library professionals face in the changing and competitive environment (Sinotte, 2004; Wen, 2005). Respondents in a study by Sarrafzadeh et al. (2010) agreed by strong majority that knowledge management can contribute to an improvement in the future prospects of libraries. Libraries can also improve their knowledge-based services for internal and external users through creating an organizational culture of sharing knowledge and expertise within the library (Teng & Al-Hawamdeh, 2002; Roknuzzaman et al., 2009).

The review of literature reveals that knowledge management provides new opportunities for librarians and information specialists to expand existing roles and responsibilities. Butler, 2000; Sinotte, 2004; Southon & Todd, 2001; Hayes, 2004; Sarrafzadeh, 2005; Abell, 2000). There are an increasing number of job opportunities with new job titles and positions emerged from knowledge management (Roknuzzaman & Umemoto, 2009). These new job titles are: knowledge engineer, knowledge editor, knowledge analysts, knowledge navigator, knowledge gatekeeper, knowledge brokers, and knowledge asset managers. Knowledge management has also been seen as threat for library professionals to survive in the competitive and complex academic and professional environment. If library professionals remain reluctant to gaining new skills they will becoming irrelevant to their organization and will probably lose out in competition for employment to people from other fields (Sarrafzadeh, 2005).

The role of library professionals and their involvement in knowledge management programs has been widely discussed in the Library & Information Science (LIS) literature. Most of the professionals involved in knowledge management programs are playing key roles such as design of information infrastructure, development of taxonomy, or content management, development of Intranet and institutional repositories, embedding information literacy instruction in curriculum and applying Web.2 tools for knowledge sharing (Ajiferuke, 2003; Branin, 2003; Clarke, 2004; Roknuzzaman et al., 2009; Sarrafzadeh et al., 2010).

There is no shortage of challenges for library professionals to implement knowledge management in academic libraries. Lack of skills and competencies, reluctance of library professionals to accept the change, misunderstanding of knowledge management concepts, lack of knowledge sharing culture, lack of incentives or rewards for innovation and sharing knowledge, top management commitment, lack of collaboration and lack of resources are the major challenges discussed in LIS literature (Jain, 2007; Ugwu & Ezema, 2010; Sinnote, 2004; Roknuzzaman et al., 2009; Sarrafzadeh et al., 2010).

A body of literature shows that in recent years, academic libraries have also taken knowledge management seriously. A case study of White (2004) on knowledge management elements within Oxford University Library Services (OULS) focuses on perceptions of library staff on knowledge management and their willingness of knowledge sharing. Both Jantz (2001) and Stover (2004) focused on the introduction of new knowledge management systems to capture the tacit knowledge of reference librarians. Jantz (2001) has described the introduction of a new tool that has been developed by a team of reference librarians within the New Brunswick Campus Libraries of Rutgers University to capture and reuse the tacit and informal knowledge of reference librarians. Similarly, Branin (2003) describes a knowledge bank at Ohio State University as a knowledge management system. This knowledge bank is a digital institutional repository to capture all the intellectual assets of the university in a range of formats, including those that are unpublished, unstructured and unique. Wen (2005) describes a pragmatic approach to implement knowledge management in academic libraries utilizing the existing staffing, technology, and management structure following either bottom-up or top-down strategy. Clarke (2004) believed that in order for knowledge management to be successful in any organization, there must be a navigational tool. He shared his experience of a Knowledge Management System (KMS) developed for use throughout the main library at the University of the West Indies in Trinidad. This tool was developed because the records, files, and policies and procedures of the library were not properly maintained or organized. This poor organization of resources resulted in confusion, duplication, and wasted manpower. Employees were unable to locate required information easily, and often no one had the knowledge. To resolve the resulting problems, a KMS was implemented. The KMS was called "The Secretarial Manual." Mphidi and Snyman (2004) focused on the utilization of intranet as a knowledge management tool in academic libraries, especially in South Africa. Daneshgar & Parirokh (2007) introduced a formal methodology for deriving conceptual knowledge schema for today's academic libraries. This knowledge schema is defined in the form of a set of knowledge structures and their relationships, and with the purpose of identifying organizational learning requirements. Townley (2001) discussed the value of knowledge management in academic libraries; according to him knowledge management offers libraries the opportunity to improve effectiveness, both for themselves and their parent institutions. Yi (2006) reported that that knowledge management is being applied to academic library strategic planning for creating portal for external information including links to library patron groups, research groups and publications. Octavia- Luciana Porumbeanu (2010) analyzed the elements that characterize the organizational culture in Romanian academic libraries to investigate whether knowledge management can be implemented. The findings of the study show that there are fairly favorable conditions for a future implementation of knowledge management practice in Romanian academic libraries.

4. Research Problem

There is an extensive and rich literature on knowledge management and its implications in academic libraries (Jantz, 2001; Branin, 2003; White, 2004; Stover, 2004; Clarke, 2004; Mphidi & Snyman, 2004; Wen, 2005; Yi, 2006; Daneshgar & Parirokh, 2007; Octavia- Luciana Porumbeanu, 2010). But most of the studies come from a western perspective. Therefore, it was necessary to discover its relevance and importance within a developing country perspective such as India.

Although, India has witnessed knowledge management practices by some business organizations such as Wipro technologies, Infosys, Tata Consultancy Service, ICICI Bank, etc. (Mohanty & Chand, 2005; Goswami, 2008; Singh et al., 2006). An analysis of the review of literature shows that academic libraries in India have recently been started to acknowledge the importance of

knowledge management (Malhan and Gulati, 2003; Raja et al., 2009; Subramanian, 2007; Thanuskodi, 2010). But no evidences regarding practical applications of knowledge management in academic libraries were found in LIS literature.. Specific concerns regarding the library professionals' perceptions of knowledge management concepts, its applications and their perceived challenges have also been neglected in the research. Therefore, this study is an attempt to fill up this gap.

5. Purpose Of Study

The overall goal of this study is to analyze and establish the importance of knowledge management applications in academic libraries with following purposes in mind:

- to examine library practitioners' awareness of the term "knowledge management";
- to identify their perceptions of knowledge management concepts and its applications in academic libraries;
- To examine their perceived challenges to incorporate knowledge management into library practices

6. Methodology

A web-based questionnaire survey method was used for this study to attain the defined objectives. A questionnaire consisting of open and close ended questions was designed and distributed through FreeOnlineSurveys.com. The designed survey was e-mailed to one-hundred-and-twenty five library professionals working in the libraries of Central Universities, Indian Institutes of Technology (IIT) and Indian Institutes of Management (IIM). The details of library professionals were identified through the directories and websites of their respective universities/institutes. The link of the web-based questionnaire was sent via email to the selected participants. Each participant was requested to voluntarily participate in this study, spent ten to fifteen minutes responding to the questionnaire and return survey within ten days.

7. Results And Discussion

A total of seventy-four (59.2%) responses were received. Of the seventy-four respondents, four were university librarians, seven were deputy librarians, twenty were assistant/college librarians, seventeen were professional assistant, twenty-three were semi-professional/library assistants and remaining three were other information professionals. The average reported working experience in library and information sector was 14.7 years. The majority of the respondents (51.3%) had master degree in library and information science, followed by M. Phil. Degree (24.3%), PhD. Degree (21.6%) and master of computer application (2.7%).

7.1. Awareness And Perceptions Of Knowledge Management Concepts

The respondents were first asked to know whether they are aware of the term 'knowledge management'. The result shows that knowledge management is already a well known phrase for library professionals as 96.7% of the respondents replied in affirmation. Further, they were asked the ways of knowing about knowledge management. The analysis of data indicates (see figure 1) that library professionals came to know about knowledge management through different ways. However, most of the respondents (41.89%) indicated that they came to know by reading about it in the literature, followed by attending conferences, workshops and seminars (31.08%), discussion with colleagues (16.21%) and learn from their practical work (10.81%).

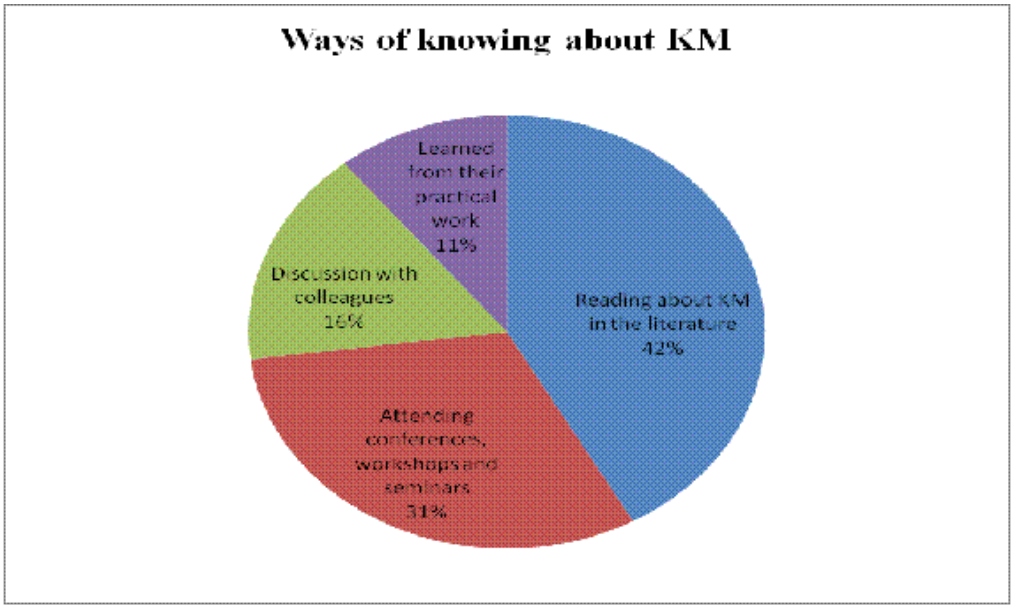

Figure 1

The concept of knowledge management is not well defined according to several experts, and there is no unanimous accepted definition of knowledge management (Johannsen, 2000; Koenig, 2001) especially in the context of academic libraries (Yi, 2006). Therefore, academic libraries require a definition of knowledge management that corresponds to the libraries' characteristics and performance expectations. Therefore, respondents were asked to define knowledge management in their own words. Some of the respondents took this challenge and defined knowledge management. Their responses confirmed that the term knowledge management has varied connotations for different library professionals. They conceptualize knowledge management from different viewpoints which may be categorized as information management viewpoint, system, process and technology viewpoint, and culture and method of management viewpoint. Their views on knowledge management have been illustrated in table 1.

Table 1: Library Professionals' Views On Knowledge Management Concepts

"*Processing and organization of information sources is knowledge management"*
"Knowledge Management defined as accessing information, sharing it, on a need to know basis, to either increase the professionalism or the value of the individual employee, which then increases the performance of the library".
"*To identify the organizational tacit knowledge and manage in specific way by which organizational development can be secure".*
"*Knowledge Management is a system to facilitate learning, innovation and sharing to achieve the strategic objectives of an organization".*
"*Knowledge Management is a new branch of management for achieving breakthrough business performance through the synergy of people, processes, and technology"*

The respondents were equally divided on the question whether knowledge management is just another fad like Total Quality Management (Table 2). However, most of the respondents agreed or strongly agreed on whether knowledge management is a new term for what library professionals were already doing, which corroborates the findings of Roknuzzaman et al. (2009) that library itself is a knowledge-based organization where collection and maintenance of recorded knowledge by librarians is a practice as old as civilization itself. Library professionals seemed aware of the

opportunities knowledge management provide to them as majority of them strongly agree that library professionals have important roles to play in knowledge management programs. Similarly, an overwhelming majority either agreed or strongly agreed that information management is just another aspect of knowledge management, which demonstrate the thinking of library professionals that information management involves management of explicit knowledge (textbooks, documents, databases, web pages, etc), while knowledge management is broader aspect involves the management of both explicit and tacit knowledge (Ajiferuke, 2003).

Table 2: Perceptions Of Knowledge Management Concepts

	1 Strongly disagree	**2 Disagree**	**3 Not sure**	**4 Agree**	**5 Strongly agree**
Knowledge management is just another fad like Total Quality Management	10 (13.51%)	22 (29.72%)	10 (13.51%)	25 (33.78%)	7 (9.45%)
Knowledge management is a new term for what library professionals were already doing	5 (6.75%)	15 (20.27%)	4 (5.40%)	40 (54.05%)	10 (13.51%)
Library professionals have important roles to play in knowledge management programs	0 (0.00%)	2 (2.70%)	3 (4.05%)	32 (43.24%)	37 (50.00%)
Information management is just another aspect of knowledge management	2 (2.70%)	5(6.75%)	9 (12.16%)	43 (58.10%)	15 (20.27%)

7.2. Applications Of Knowledge Management In Academic Libraries

It is equally important to establish a baseline regarding the application of knowledge management to academic library operations and services. About 95% of respondents agreed that knowledge management is applicable in academic libraries, whereas only 5% respondents disagreed with this statement.

Though no academic library in India has formally incorporated knowledge management, but there may be some isolated cases whereby staff having some practices of knowledge management. In search for their involvement, respondents were asked to indicate if they were aware of any knowledge management practice in their libraries. 67% of respondents answered "No". Those who answered "Yes" to this question were further asked to specify the knowledge management activities of their library. Though respondents reported evidence of such involvement, but most of them perceived basic information management activities as being knowledge management. Some of the comments have been summarized below in table 3.

Table 3: Comments Re Involvement Of Library Professionals In KM Programs

"*Our library provides training to the subordinate staff'.*
"*At many stage from acquisition to management of library but fully in systematized way by automation and digitization".*
"*In the technical section by maintaining authority file to reduce duplication of efforts for time saving".*
"*Through user requirement we provide them in form of print or electronic format. And also explain in oral communication. Generally our users are students/ teachers so we make users orientation programs and explain them how can they utilize maximum knowledge/ information source and which source of information is most suitable, reliable and authentic for them. And also we evaluates information source for them".*
"*Library automation, creating our library website for availability of resources on www*

We archive the knowledge created in our institution in our digital repository".

"*Creating a database of newspaper articles".*

"*Building articles database of periodicals subscribed in our library".*

7.3. Knowledge Management Tools For Academic Libraries

The respondents were asked to indicate the ways of applying knowledge management in academic libraries. The results have been shown in table 4.

The continuing education through professional training courses or workshops plays a significant role in the implementation of knowledge management in all contemporary organizations (Sanchez, 2001). Libraries are no exception, especially as in their case the pace and the volume of changes which they have to deal with is doubled by the complexity which satisfying the information needs and requests of users through up to date products and services (Octavia- Luciana Porumbeanu 2010). In support of training and education, 61 (82.43%) of the respondents either agreed or strongly agreed that knowledge management can be applied in academic libraries by providing training and education to employees.

A community of practice was defined by Stewart (1997) as a 'group of professionals within a corporation who are informally bound to one another through their exposure to a common class of problems and common pursuit of solutions. Members within the community of practice freely exchange knowledge which creates an even greater resource base of knowledge. Most of the respondents (90.54%) are agreed or strongly agreed that knowledge management can best be applied to academic libraries through the support of community of practices.

Information Technology (IT) serves as a powerful enabler and provides effective and efficient tools for all facets of knowledge management including capturing, sharing, and applying knowledge (Gandhi, 2004). New technologies have dramatically transformed the library world too. It can also support knowledge sharing by facilitating people to locate as well as communicate each other (Roknuzzaman et al., 2009). Regarding the role of IT in knowledge management, an overwhelming majority of the respondents (90.54%) considered it as one of the key drivers for knowledge management in academic libraries.

As people and culture are the keys for knowledge-sharing activities in an organization. Generally knowledge management programs fail if there is no knowledge-sharing culture in place (White, 2004). Knowledge resides with people has no value until it is utilized and shared among other employees of an organization (Davenport et al., 1998). Considering the role of culture, majority of respondents (87.83%) again agreed or strongly agreed that knowledge management can be applied by developing a culture of sharing knowledge and expertise among employees.

Table 4: Knowledge Management Tools For Academic Libraries

	1 Strongly disagree	2 Disagree	3 Not sure	4 Agree	5 Strongly agree
Providing professional education and training to facilitate employees' understanding of knowledge management and benefit that can be had from its adoption	2 (2.70%)	6 (8.10%)	5 (6.75%)	41 (55.40%)	20 (27.02%)
Supporting communities of practice for creating and sharing knowledge	2 (2.70%)	2 (2.70%)	3 (4.05%)	36 (48.64%)	31 (41.89%)
Utilizing intranet, web portals, professional and social networks; Creating knowledge	0 (0.00%)	3 (4.05%)	4 (5.40%)	51 (68.91%)	16 (21.62%)

database (such as best practice database or lesson learned) or knowledge repositories					
Developing a culture of sharing knowledge and expertise among library staff	2 (2.70%)	1 (1.35%)	6 (8.10%)	21 (28.37%)	44 (65.67%)

7.4. Library Professionals' Perceived Challenges For Implementing Knowledge Management

Library professionals perceived several challenges to incorporate knowledge management into academic library practices, which are illustrated in table 5. Capturing and managing tacit knowledge in organizations such as libraries is a big challenge for library professionals as perceived by 49% of respondents.

Although library and information professionals have been acknowledging for years that knowledge management is a burgeoning field of great interest to them, but they do not know what exactly is meant by knowledge management. According to Roknuzzaman & Umemoto (2009) "knowledge management is misinterpreted as information management or content management activities of a library". Knowledge management is difficult to incorporate into academic library environment due to misunderstanding of knowledge management concept by library professionals as indicated by 78% of respondents.

71% of respondents consider that knowledge management is not widely adopted in academic libraries due to the lack of knowledge capturing and knowledge sharing culture. According to Blair (2002) a prerequisite for effective knowledge management is organizational culture that support and facilitates the creation and sharing of knowledge. The results of the study validates the findings of a study by Roknuzzaman & Umemoto (2009) who identified that the existing library environment and mechanism do not support and appreciate staff to share and utilize expertise' tacit or internal knowledge.

Top level support and provision of rewards/incentives also have a key role in the success of knowledge management as perceived by 65% and 53% of library professionals respectively. Benbya (2008) suggested that the impact of top management and leadership support is greater for knowledge management as it is an emerging discipline and employees may need the added incentive of a total commitment from their organizations' top management and leadership. Top management support also influences other factors critical to the success of knowledge management, such as organizational culture, as the top management is crucial in fostering trust and promoting a knowledge-sharing culture.

Change management and financial constraints including lack of IT infrastructure are other important factors that contribute to the success of knowledge management as indicated by 45% and 59% of respondents respectively.

Table 5: Library Professionals Perceived Challenges Of Implementing Knowledge Management

Challenges	**%**
Hard to capture tacit knowledge and manage it in the organisation such as academic library	49%
Misunderstanding of knowledge management concept	78%
Lack of knowledge capturing and knowledge sharing culture	71%
Lack of rewards/ incentives	65%

Lack of top management commitment to incorporate knowledge management practices in the library.	53%
Reluctance of the library professionals to accept the change	45%
Lack financial and IT infrastructure	59%

8. Conclusion

From the study results it is obvious that knowledge management is well known to the academic library professionals but degrees of their understanding of the concepts are varied. Their perceptions of knowledge management concepts are narrow and focused primarily on management of explicit knowledge which they have been doing for a long time. Like business or profit making organizations, knowledge management is also applicable to academic libraries but in practice it is not formally adopted in Indian academic libraries. Although some of the library professionals are informally involved in knowledge management practices but their roles perceived as basic information management activities. Library professionals believe that professional education and training programs, community of practices, information technology and knowledge sharing are the important tools of knowledge management for academic libraries. Lack of knowledge sharing culture, top management commitment, incentives and rewards, financial resources and IT infrastructure are the major constraints for the implementation of knowledge management in academic libraries.

9. References

Abell, A. (2000), Skills for knowledge environments, Information Management Journal, 34(3), 10-12.

Abell, A., & Oxbrow, N. (2001), Competing with knowledge: the information professionals in the knowledge management age, Library Association Publishing, London.

Ajiferuke, I. (2003), Role of information professionals in knowledge management programs: empirical evidence from Canada, Informing Science Journal, 6, 247-57.

Alavi, M., & Leidner, E. D. (1999), Knowledge Management Systems: Issues, Challenges and Benefits, Association for Information Systems, 1(1), 1-37.

Aurum, A., Daneshgar, F., & Ward, J. (2008), Investigating Knowledge Management practices in software development organizations – An Australian experience, Information and Software Technology, Vol. 50, 510-533.

Benbya, H. (2008). Knowledge management system implementation: lessons from the Silicon Valey. Oxford: Chandos publishing.

Blacker, F. (1995), Knowledge, knowledge work and organizations: an overview and interpretation, Organizations Studies, Vol. 15(6), 1021-1046.

Blair, D. C. (2002), Knowledge management: hype, hope, or help?, Journal of the American Society for Information Science and Technology, 50(12), 1019-1028.

Branin, J. J. (2003), Knowledge Management in academic libraries: building the knowledge bank at the Ohio State University; Accessed April 2011: http://kb.osu.edu/dspace/bitstream/1811/187/1/KBJAL.pdf.

Butler, Y. (2000), Knowledge management, if you knew what you knew. Australian Library Journal, 49(1), 31-43.

Clarke, R. (2004), KM in the main library of the university of west Indies, Trinidad. Information Development, 20(1), 30-35.

Daneshgar, F., & Parirokh, M. (2007), A knowledge schema for organizational learning in academic libraries. Knowledge Management Research and Practice, 5, 22-33.

Davenport, T. H., & Prusak, L. (1993), Blow up the corporate library. International Journal of Information Management, 16(6), 405-412.

Davenport, T. H., De Long, D. W., & Beers, M. C. (1998), Successful knowledge management. Sloan Management Review, 39(2), 43-57

Dretske, F. (1981), Knowledge and the flow of information, MIT Press, Cambridge, MA.

Drucker, P. (1999). Management challenges for the 21st century, Harper Business, New York.

Fleming, N. (1996), Copying with a revolution: will the Internet change learning, Lincoln University, Canterbury, New Zealand.

Gandhi, S. (2004), Knowledge management and reference services. The Journal of Academic Librarianship, 30(5), 368-381.

Goswami, C. (2008), Knowledge management in India: a case study of an Indian bank, The Journal of Nepalese Business Studies, 5(1).

Hayes, H. (2004), The role of libraries in the knowledge economy. Serials, 17(3), 231-8.

Jain, P. (2007), An empirical study of knowledge management in academic libraries in East and Southern Africa. Library Review, 56(5), 377-392.

Jantz, R. (2001), Knowledge management in academic libraries: special tools and processes to support information professionals. Reference Services Review, 29(1), 33-39.

Johannsen, C. G. (2000), Total Quality Management in a knowledge management perspective. Journal of Documentation, 56(1), 42–44.

Kidwell, J.J., Linde, K.M.V., & Johnson, S.L. (2000), Applying corporate knowledge management practices in higher education, Educause Quarterly, (4), 28-33.

Koenig, M. E. D. (1997). Intellectual capital and how to leverage it: The Bottom Line. *Managing Library Finances*, 10 (3), 112-118.

Koenig, M. E. D. (2001), Knowledge management, user education, and librarianship. In: 67th IFLA Council and General Conference; Accessed April 2011: http://archive.ifla.org/IV/ifla67/papers/085-99e.pdf.

Lave, I. (1988), Cognition in practice, Cambridge University Press, Cambridge, MA.

Malhan, I.V., & Gulati, A. (2003), Knowledge management problems of developing countries, with special reference to India, Information Development, 19(3), 209-13.

Massa, T., & Testa, S. (2009), A knowledge management approach to organizational competitive advantage: evidence from the food sector, European Management Journals, 27, 129-141.

McCambell, A. S. (1999), Knowledge Management: the new challenges for the 21st century, Journal of Knowledge Management, Vol. 3(3), 172-179.

McInerney, C. (2002), Knowledge management and the dynamic nature of knowledge, Journal of the American Society for Information Science and Technology, 53 (12), 1009.1018.

Mohanty, S. K., & Chand, M. (2004), 5iKM3-Knowledge management maturity model, knowledge management practices, Tata Consultancy Services, Mumbai, India.

Morris, A. (2001), Knowledge management: opportunities for LIS graduates. In: 67th IFLA Council and General Conference, Boston, MA.

Mphidi, H., & Snyman, R. (2004).,The utilization of an intranet as a knowledge management tool in academic libraries, The Electronic Library, 22(5), 393-400.

Nelsom, E. (2008), Knowledge Management for Libraries", Library Administration & Management, 22(3), 135-137.

Newman, B. (1991), An open discussion of knowledge management; Accessed April 2011: http://www.kmforum.Org/whatis.htm.

Nonaka, I. (1991), The knowledge creating company, Harvard Business Review, 69(6), 96-104.

Nonaka, I., & Takeuchi, H. (1995), The Knowledge creating company, Oxford University Press, New York, NY.

Octavia-Luciana Porumbeanu (2010), Implementing knowledge management in Romanian academic libraries: identifying the elements that characterize their organizational culture, The Journal of Academic Librarianship, 36(6), 549-552.

Polanyi, M. (1966), The Tacit Dimension, Routledge & Kegan Paul, London.

Raja, W., Ahmad, Z., & Sinha, A.K. (2009), Knowledge Management and Academic Libraries in IT Era: Problems and Positions, ICAL, 2009, poster paper.

Roknuzzaman, M., & Umemoto, K. (2009), How library professionals view knowledge management in libraries: a qualitative study, Library Management, 30(8/9), 643-656.

Roknuzzaman, M., Kanai, H., & Umemoto, K. (2009). Integration of knowledge management process into digital library system: a theoretical perspective, Library Review, 58(5), 372-86.

Rus, I., & Lindvall, M. (2002), Knowledge management in software engineering, IEEE Software 19 (3) (2002) 26–38.

Sanchez, R. (2001), Knowledge management and organizational competence. Oxford University Press, New York.

Sarrafzadeh, M. (2005), The implications of knowledge management for the library and information professions, actKM Online Journal of Knowledge Management, 2(1), 92-102; Accessed April 2011: www.actkm.org/actkm journal_vol2iss1.php.

Sarrafzadeh, M., Martin, B., & Hazeri, A. (2010), Knowledge management and its potential applicability for libraries, Library Management, 31(3), 198-212.

Schlögl, C. (2005), Information and knowledge management: dimensions and approaches. Information Research, 10(4); Accessed April 2011: http://InformationR.net/ir/10-4/paper235.html.

Shanhong, T. (2000), Knowledge management in libraries in the twenty-first century, paper presented at the 66th IFLA Council and General Conference, Jerusalem, August 13-18.

Singh, M. D., Shankar, R., Narain, R., & Kumar, A. (2006), Survey of knowledge management practices in Indian manufacturing industries, Journal of Knowledge Management, 10(6), 110-128.

Sinnote, M. (2004), Exploration of the field of knowledge management for the Library and information professional, Libri, 54 (3), 190-8.

Skyrme, D. J., & Amidon, D. M. (1998), New measures of success, Journal of Business Strategy, 19(1), 20-24.

Southon, G., & Todd, R. (2001), Library and information professionals and knowledge management: conceptions, challenges and conflicts, The Australian Library Journal, 50(3), 259-82.

Stewart, T. (1997), Intellectual capital: the new wealth of organizations, Currency, New York.

Stover, M. (2004), Making tacit knowledge explicit: the ready reference database as codified knowledge, Reference Services Review, 32(2), 164-73.

Subramanian, N. (2007), Knowledge and Information Management in. Libraries: A new challenge for the library and information professionals in the digital environment; Accessed April 2011: http://library.igcar.gov.in/readit2007/conpro/s1/S1_5.pdf.

Teng, S., & Al-Hawamdeh, S. (2002), Knowledge management in public libraries, Aslib Proceedings, 54(3), 188-97.

Thanuskodi, S. (2010), Knowledge management in academic libraries: an overview, In: 6th International Conference on Webometrics, Informetrics and Scientometrics & Eleventh COLLNET Meeting, October 19 – 22, 2010, University of Mysore.

Townley, C.T. (2001), Knowledge management and academic libraries, College and Research Libraries, 62(1), 44-55.

Ugwu, C. I., & Ezema, I. J. (2010), Competencies for successful knowledge management applications in Nigerian academic libraries, International Journal of Library and Information Science, 2(9), 184-189.

Wang, H. (2006), From ‘user’ to ‘customer’: TQM in academic libraries, Library Management, 27(9), 606-20.

Wen, S. (2005), Implementing knowledge management in academic libraries: a pragmatic approach, In: 3rd China-US Library Conference, Shanghai, March 22-25.

White, T. (2004), Knowledge management in an academic library: based on the case study KM within OULS. In: 70th IFLA General Conference and Council, August 22-27, Buenos Aires.

Yang, W., & Lynch, B. P. (2006), On knowledge management and the role of the library in the process of knowledge management, Chinese Librarianship: An International Electronic Journal, 21; Accessed April 2011: http://www.white-clouds.com/iclc/cliej/cl21YangLynch.htm.

Yi, Z. (2006), Knowledge management for library strategic planning: Perceptions of applications and benefits, Library Management, 29(3), 229-240.

Zack, M.H. (1999), Developing a Knowledge strategy, California Management Review, 41(3), 125-146.

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