Managing And Sharing Knowledge In Academic Libraries

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ABSTRACT:

This paper aims to understand the knowledge strategies followed by libraries of the central universities and Indian Institutes of Management (IIM) in India. For the purpose of identifying the most used KM strategies in academic libraries, 14 indicator variables were identified from the review of literature and retained for analysis. A total of 45 employees across 20 libraries (15 central university libraries and 5 libraries of IIM) were surveyed to understand the knowledge strategies followed. Using SPSS, descriptive statistics were applied. The type of strategies used in academic libraries is both codification and personalization with slight domination of codification over personalization. However, some elements of both codification and personalization strategies were not followed by the libraries surveyed. The study bears implications not only for the formulation and implementation of knowledge strategies in academic libraries, but also for the body of enquiry into managing and sharing knowledge in academic organizations. The research contributes to a relatively less researched area in knowledge management and suggests directions for future work in this area.

Keywords: *Knowledge management, Knowledge management strategies, Academic libraries*

Introduction

Knowledge management originated in the early 1990's in the business sector to help organizations survive in an ever faster-moving and competitive environment. Now knowledge management has already been successfully implemented in government, information technology, and health care information sectors. Recently, academic libraries have acknowledged that because they have been traditionally responsible for the organization of knowledge, they must not only engage in organization, but must also actively spearhead initiatives for the management of that knowledge (Stern, 2003). Academic libraries have now significantly developed and are applying some knowledge management (KM) principles in the provision of library services (Gandhi, 2004; Pantry and Griffiths, 2003; Rowley, 1999; Singh, 2007). The reason for doing so is to try and meet new needs and demands that result from a new information environment.

Knowledge is distinguished either as explicit or tacit. Explicit knowledge is formal and systematic, expressed in words and numbers, documented and can be stored in databases as electronic records (Nonaka, 1991; Aurum et al., 2008). Tacit knowledge is the subjective and experience based knowledge that cannot be expressed in words or

numbers and, therefore, cannot be easily transmitted (Nonaka & Takeuchi (1995). In organizations, knowledge embedded in the processes and documentation as explicit and in the heads of the workers as tacit. The success of knowledge management initiatives in every organization depends on the management of both explicit and tacit knowledge (Gandhi, 2004), because the effective management of knowledge would reduce duplication, improve productivity and save a lot of cost. On the contrary, poor management of knowledge could lead to information overload and confusion as well as wasted manpower (Clarke, 2004). Knowledge management is "a process of creating, storing, sharing and re-using organizational knowledge (know-how) to enable an organization to achieve its goals and objectives" (White, 2004).

Knowledge management is a relatively new discipline in the library environment which requires additional competencies by library and information professionals. However, many knowledge management initiatives can be built upon the already existing expertise among library and information professionals. For example, knowledge of classification schemes and controlled vocabularies can be very useful for building taxonomies and ontologies, an area that is becoming extremely important for organizing knowledge resources on intranets, web sites, and portals. Knowledge and experience of cataloguing provides an excellent foundation for metadata creation. Likewise, librarians' experience in resource selection and collection development provides an adequate foundation for their active involvement in content creation and management, a much needed expertise for sharing knowledge through enterprise wide portals. Librarians have been dealing with building and searching online database for a long time. This experience can be very helpful in building knowledge bases and repositories, a crucial area of knowledge management for managing organizational memory.

Effective KM requires the use of sophisticated technology and collaboration tools. Examples include Intranet, Internet including social networking mechanisms (Web 2.0), data warehousing and data mining techniques, portals, subject gateways, web mapping and e-learning tools, brainstorming applications, working groups and communities of practice. Intranet, multimedia repositories, content management systems and search engines are important tools of knowledge capture, storage and retrieval. The use of Internet including Web 2.0 (Foo and Ng, 2008; Oberhelman, 2007) tools such as wikis and blogs promote information flow and that is essential in KM practice. Intranet, Web portals, videoconferencing, groupware, blogs and wikis are ideally designed for the KM applications and many libraries have already begun employing them for internal knowledge sharing (Ajiferuke, 2003; Anderson, 2007; Farkas, 2007; Foo and Ng, 2008; Mphidi and Snyman, 2004; Singh, 2007).

Conceptual Framework

Following literature, knowledge strategy was characterized in terms of ''codification'' and ''personalization''. Several research studies have discussed and investigated the use of codification and personalization strategies (Hansen et al., 1999; Jasimuddin et al., 2005; Haesli and Boxall, 2005; Soliman and Spooner, 2000; Maier and Remus, 2003; Schulz and Jobe, 2001). The codification strategy concerns with extracting explicit knowledge from the person who developed it, storing it in databases, and

promoting its subsequent reuse by anyone who needs it (Kumar & Ganesh, 2010). The success of codification strategy depends on the use of information technologies, such as intranets, data warehousing, knowledge repositories, decision support tools, and groupware (Ruggles, 1997), to enhance the quality and speed of knowledge creation and distribution in the organizations.

Researchers believe that a great deal of organizational knowledge is tacit in nature and that mere information technologies are not suitable for transmitting this type of knowledge (Davenport & Prusak, 1998). Rather than focusing on information technologies, primary concern of personalization strategy is on tacit knowledge and its transfer among people. This happens by facilitating direct interactions between people, by connecting people with each other (Hansen et al., 1999). This strategy requires investment in building networks of people, where knowledge is shared not only face-to-face, but also over the telephone, by e-mail and via videoconferencing. Corporate yellow pages that provide information about which expertise resides in whom, communities of practice (Wenger, 1998), storytelling (Haesli and Boxall, 2005) and setting up shared physical and virtual spaces that inspire constructive interactions (Nonaka and Konno, 1998), are some other practices related to this strategy.

Research Objectives

The primary objective of this study was to investigate the 'current state'' of adoption of KM strategies in Indian academic libraries. More specifically, following questions are identified and addressed in this paper:

- What are the tools and techniques academic library use for managing and sharing knowledge?

- What is the 'current state of adoption of knowledge management strategies in Indian academic libraries?

Method

Descriptive survey method was used to collect data. A questionnaire was designed and distributed to the 62 employees of 32 academic libraries (28 central university libraries and 7 libraries of Indian Institutes of management. The primary respondents were librarians, deputy librarians and assistant librarians. For the purpose of identifying most used KM strategies in academic libraries, 14 indicator variables (seven each for codification and personalization) were identified from the review of literature and retained for analysis. The variables were evaluated using a five point scale where 1 was for "Don't Exist or Don't in Use" and 5 for "Very Great Extent". The respondents were asked to indicate the extent to which these indicator variables are being used in their libraries. For the understanding of respondents, definition of each indicator variable was provided at end of the questionnaire. A total of 45 completed questionnaires were received from 15 central university libraries and 5 libraries of Indian Institutes of management. Descriptive statistics were applied for data analysis.

Results And Discussion

Analyses of data revealed mean score values for the 14 indicator variables ranging from 4.60 to 1.63 as shown in Table 1. Their mean score provides an indication of their usage and popularity in academic libraries. The Table can be analyzed using two perspectives: by the absolute mean score compared to all items and by considering the KM strategy that each item represents independently.

Table 1: Use of Knowledge Management Strategies

Technologies, Tools and Processes	C/P*	Mean	Std. Deviation
Internet (e-mail, Web 2.0, etc.)	P1	4.60	.754
Intranet	C1	4.50	.688
Search engines/Information Retrieval System	C2	4.40	.940
Phone calls/Teleconferencing	P2	4.35	.933
Document Management/Content Management System	C3	3.75	1.333
Web-based Training/e-Learning	C4	3.45	1.099
Multimedia Repositories	C6	3.15	1.424
Mentoring/Tutoring	P4	3.00	1.076
Working Groups/Communities of practice	P3	2.85	1.309
Benchmarking/Best practices	C5	2.80	1.281
Videoconferencing	P5	2.65	1.268
Data Mining/Knowledge Discovery Tools	C7	2.35	1.631
Expertise Locator/Directory of Expertise	P6	2.30	1.174
Story Telling	P7	1.63	.496

**C: codification-P: personalization*

A closer inspection of the results showed that a total of eight items had high mean scores, i.e. 3.0 or above (midpoint). They were Internet (including e-mail and Web 2.0), Intranet, Search engines/Information Retrieval System, Phone Calls/Teleconferencing, Document Management/Content Management System, Web-based Training/e-Learning, Multimedia Repositories and Mentoring/Tutoring. These technologies and tools were familiar to most of the librarians and easy to use. The frequent use of these technologies and tools by employees also increases the flow of knowledge within the organization, therefore having a greater impact than all the others.

Intranet score at the top of the tools usage for a codification strategy. It is not surprising since Intranets are often the first technology that many organizations deploy in order to facilitate intra-organizational collaboration and knowledge exchange. According to Knight (1996, p. 1) “libraries might use Intranet to create portals and make information and knowledge resources for use and exchange by staff and library users to improve communication and information flow”. In a study on the use of

Intranet as a KM tools in academic libraries of South Africa, Mphidi & Snyman (2004) concluded that though there was a strong awareness of the importance of knowledge management and the value of the intranet as a knowledge management tool among librarians in South Africa. Intranet is followed by search engines/information retrieval systems, document/content management systems and Web-based training/e-learning which are being used by libraries for providing information services by delivering information resources to their users. The easy retrieval and storage of documents and content remain core functionalities of the codification approach that increases velocity of codified knowledge flow. These technologies within the codification strategy can be categorized as enabling the sharing of knowledge from one to many or many to many, and were utilized by the majority of academic libraries as indicated by the respondents.

With respect to the personalization strategy, Internet, including email and Web 2.0, were found to be the most utilized tools of sharing tacit knowledge between employees as well as users in academic libraries under study. Internet particularly Web 2.0 dramatically change the ways people locate, interact and share knowledge. With the advent of Web 2.0, the relationship between the library and users has dramatically changed. The capabilities of Web 2.0 enable users to engage the library in two-way communication and knowledge exchanges. Instead of users physically coming to the library, the library delivers services to users via the university library Web site. Users can also participate in activities that were once the sole purview of the library, such as cataloging via folksonomy, or providing comments on books via blogging (Casey & Savastinuk, 2006). Previous studies have extensively explored how individual capabilities of Web 2.0, such as blogs or RSS feeds or social networking, have been utilized in the library. Kim & Abbas (2010), from a study on the adoption of Web 2.0 functionalities in two academic libraries of USA, concluded that "the most widely used Web 2.0 functionalities are RSS feeds and blogs". Phone calls and teleconferencing were found the second most used technologies for sharing of tacit knowledge between people within or outside academic libraries. The reason for the extensive use of phone calls and teleconferencing can be explained by the fact that this technology has been available for decades and librarians are familiar with them. Their use is often the employees' first and instinctive reaction when looking of help or advice. Mentoring and tutoring take the third position of personalization strategy. One way to pass or share the tacit knowledge that experienced and older employees acquired through their carrier is to mentor and/or tutor new or younger colleagues. This is not a new practice as it remained one of the most popular and the efficient way to transfer tacit knowledge of experienced employees to newly join employees in academic libraries.

During the past years, a strong emphasis on communities of practice and their benefits has emerged in the KM literature, but in academic libraries, it is not widely used as indicated by the respondents. The technologies and tools such as Benchmarking/Best practices, Videoconferencing, Data Mining/Knowledge Discovery Tools, Expertise Locator/Directory of Expertise and Story Telling are also recognized as the important components of knowledge management systems in KM literature and being used in some corporate and business sector organizations such as WIPRO Technologies and Tata Consultancy Services in India. But they are utilized in academic libraries to a minimum extent as indicated by the respondents. The reason of less frequent use of

these technologies may be due to the requirement of huge investment, which is beyond the reach of academic libraries.

A question that has drawn interest in the literature is – how much a given organization balance the two strategies for maximum advantage? Some researchers strongly favored a biased approach, whereas other suggested using both strategies simultaneously given equal importance. Hansen et al. (1999) proposed a 20-80 split between these strategies i.e. an organization must adopt either 80 per cent codification and 20 per cent personalization or vice-versa, for effectively managing its knowledge. Jasimuddin et al. (2005) argued that neither personalization nor codification in predominance suffices; they need to be integrated such that the benefits of both tacit and explicit knowledge can be gained. In order to identify the dominant KM strategy in academic libraries, collective mean scores of the indicator variables of both codification and personalization strategies were calculated and compared. The analysis reveals (table 2) that both strategies are utilized in a balanced manner. However, codification strategy is slightly dominated over personalization with a minor difference in their mean scores, i.e. 0.33.

Table 2: KM Strategies: Codification Vs. Personalization

KM Strategies	**Mean**
Codification	3.48
Personalization	3.05
Difference in Mean	**0.33**

Conclusion

From the study's limited sampling, it appears that the type of strategies used in academic libraries is both codification and personalization with slight domination of codification over personalization. However, some elements of both codification and personalization strategies were not being used by the libraries. Data Mining, Knowledge Discovery Tools, Benchmarking, Best practices, Working Groups, Communities of practice, Videoconferencing, Directory of Expertise and Story Telling were recognized as the important tools and practices of knowledge management, but they are not in much use in academic libraries surveyed. Internet, Intranet, Telephone/Teleconferencing, Search Engines and Document Management/Content Management Systems are most frequently use tools and practices in academic libraries. Thus, libraries are using only those tools and practices which are easily accessible and librarians are aware with their use.

Future research should encompass a larger sampling and examine more concrete issues of implementing knowledge management strategies in academic libraries such as what factors affect the use of both codification and personalization strategies and develop new model of KM strategies for academic libraries.

References

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

Anderson, P. (2007). All that glisters in not gold: Web 2.0 and the librarian. *Journal of Librarianship & Information Science*, 39(4), 195-198.

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

Casey, M., & Savastinuk, L. (2006). Library 2.0: Service for the Next Generation Library. *Library Journal* 131, 40–42.

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

Davenport, T.H. & Prusak, L. (1998) *Working Knowledge: How Organizations Manage what They Know*. Boston, MA: Harvard Business School Press.

Farkas, M. (2007).Who moved my e-mail? *American Libraries*, 38(10), 30.

Foo, S. & Ng, J. (2008). Library 2.0, libraries and library school. Paper presented at the Library Association of Singapore Conference, 9 May, 2008, Singapore. Available: http://www.las.org.sg/pa_sfjn.pdf (accessed 19/11/2011).

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

Haesli, A. & Boxall, P. (2005). When knowledge management meets HR strategy: an exploration of personalization-retention and codification-recruitment configurations. *International Journal of Human Resource Management*, 16(11), 1955-75.

Hansen, M.T., Nohria, N. & Tierney, T. (1999). What's your strategy for managing knowledge? *Harvard Business Review*, 77(2), 106-16.

Jasimuddin, S.M., Klein, J.H. & Connell, C. (2005). The paradox of using tacit and explicit knowledge: strategies to face dilemmas. *Management Decision*, 43(1), 102-12.

Kim, Yong-Mi, & Abbas, J. (2010). Adoption of Library 2.0 Functionalities by Academic Libraries and Users: A Knowledge Management Perspective. *The Journal of Academic Librarianship*, 36(3), 211–218.

Knight, J. (1996). Intranets. *Ariadne,* 6 (November).Available: http://www.araidne.ac.uk/issue6/intranets (accessed 05/05/2012).

Kumar, J.A., & Ganesh, L.S. (2011). Balancing knowledge strategy: codification and personalization during product development. *Journal of Knowledge Management Practice*, 15(1), 118-135.

Maier, R. & Remus, U. (2003). Implementing process-oriented knowledge management strategies. *Journal of Knowledge Management*, 7(4), 62-74.

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.

Nonaka & Konno (1998). The concept of "Ba" building a foundation for knowledge creation. *California Management Review*, 40(3), 40-54.

Nonaka (1991). The knowledge creating company. *Harvard Business Review*, 6(8), 96-104.

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

Oberhelman, D. (2007). Coming to terms with Web 2.0. *Reference Reviews*, 21(7), 5-6.

Pantry, S. & Griffiths, P. (2003). Librarians or knowledge managers? What's in a name, or is there a real difference? *Business Information Review*, 20(2): 102-9.

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

Ruggles, R.L. (1997). *Knowledge Management Tools, Resources for Knowledge-Based Economy*. Boston, MA: Butterworth-Heinemann.

Schulz, M. & Jobe, L.A. (2001). Codification and tacitness as knowledge management strategies: an empirical exploration. *Journal of High Technology Management Research*, 12, 139-65.

Singh, S.P. (2007). What are we managing – knowledge or information? VINE: *The Journal of Information & Knowledge Management Systems*, 37(2): 169-179.

Soliman, F. & Spooner, K. (2000). Strategies for implementing knowledge management: role of human resources management. *Journal of Knowledge Management*, 4(4), 337-45.

Stern, D. (2003). New knowledge management systems: The implications for data discovery, collection development, and the changing role of the librarian. *Journal of the American Society for Information Science, 54*(12), 1138-1140.

Wenger, E. (1998). *Communities of Practice: Learning, Meaning and Identity*. Cambridge: Cambridge University Press.

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.

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