The implications of knowledge management for the library and information professions

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The implications of knowledge management for the library and information professions

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Abstract

Knowledge management (KM) is now widely recognised as a key factor in organisational success and as such is of relevance to libraries. KM is relevant to and has considerable relevance with library and information professions. However the wider ramifications of the relationship between knowledge management and LIS as yet remain unclear. This will in all likelihood be a dynamic and multi-faceted relationship. This paper introduces key aspects of this relationship and in particular potential synergies and conflicts as reflected in the literature. The paper also introduces a research project at RMIT University that aims to investigate in detail these synergies and their context.

Keywords
knowledge management, libraries, information professionals, librarians, library and information science/services (LIS)

Introduction

Within the last three decades, the library and information sectors have experienced massive discontinuous changes. Technological advances have changed the face of librarianship and have posed serious questions for libraries and the LIS professions. The forces shaping the profession of librarianship and the design of libraries are not solely technological. There are massive cultural, social, psychological and philosophical forces at work (Brophy, 2001). Today's library users have higher expectations.

Knowledge management emerging from similar changes has influenced the library and information professions with both opportunities and challenges. There are numerous definitions of KM. According to Gartner Group, knowledge management is 'A discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing of an enterprise's information assets'(Gartner Group 1997, p.n.p.). This definition reveals overlaps between LIS and KM. Furthermore, in recent years, KM has become visible on the radar screens of libraries (Gandhi, 2004). A body of literature has emerged that explicitly addresses knowledge management from the perspective of library and information professionals (Marouf, 2004). KM now has formal status as the 47th section of the activities of the International Federation of Library Associations and Institutions (IFLA) to support the implementation of Knowledge Management culture in the libraries and information environment. A growing number of LIS schools now offer Master's degrees in knowledge management (eg Dominican, Emporia, Oklahoma, Loughborough, London Metropolitan University, etc) or feature the subject as a component of either Master's or undergraduate degrees (eg RMIT and other Australian universities).

Although it was from the late 90's that KM became popular in the literature, the mission of knowledge management has older roots in the LIS literature. Larry Prusak and Tom Davenport – the most cited knowledge management authors – in their paper in 1993 (T. H. Davenport & Prusak, 1993) call the LIS professionals to get out of the warehouse custodians concept or even as providers of centralised expertise and integrate their activities and goals

with the whole business of their organisations. In that paper, although they haven't used the knowledge management term, their focus on people as the most valuable information asset and the emphasis on the usage of information rather than controlling them, direct LIS professionals to the KM domain.

Reviewing the literature reveals that the LIS community has welcomed the challenges and opportunities knowledge management presents (Broadbent, 1998); (Church, 2004); (Corrall, 1998); (Michael E. D. Koenig, Srikantaiah, & Science., 2000); (Abell & Oxbrow, 2001); (Ajiferuke, 2003); (Loughridge, 1999); (McGown, 2000); (Shanhong, 2000); (Koina, 2003); (Pantry & Griffiths, 2003); (Rowley, 2003); (Sinotte, 2004); (Ferguson, 2004); (Henczel, 2004); (M.E.D Koenig, 2005). Apart from a minority of commentators who consider knowledge management as simply another management fad and in fact, nothing more than information management (Wilson, 2002) there is a key assumption within the literature that since information and content management form an important element of knowledge management, LIS professionals with their excellent information management skills, are likely to be significant players in knowledge management programs.

Role of LIS professionals in knowledge management

Knowledge management has been seen 'as a vehicle for enhancing the professional image and role of the information professional' (Southon & Todd, 2001, p.n.p.). The multidisciplinary nature of knowledge management has resulted in input from people in different fields. However, there have been competing 'ownership claims' for primacy in the field as well as competition between disciplines (human resources managers, economists, IT and LIS professionals) for high level positions of knowledge management. The differences between knowledge management and information management is another element within the literature. Most authors believe that knowledge management is wider than information management, due to its emphasis on such human aspects as knowledge creation and sharing (E. Davenport, 2004). Further survey evidence suggests that knowledge management is beginning to take over from information management in terms of publication output and citations (Gu, 2004). Thus, LIS professionals should expand their roles, knowledge and skills in order to take advantage of the new opportunities arising from knowledge management. However, it seems that LIS professionals have been slow to go further and save opportunities arising from KM. There is a general criticism of LIS professionals that they are not ambitious and have no high expectations. Hence, they fail to seize opportunities that are available to engage in KM. Abell and Oxbrow blame information professionals for the lack of expectations: 'how many information professionals are ready to look for opportunities to extend their experience and influence? How many expect that they could and should succeed at senior management level?' (Abell and Oxbrow, 2001, p.166). Ferguson claims that despite the similarities between knowledge management and information management, not all LIS professionals have the ambition necessary to gain access to more senior knowledge management roles (Ferguson, 2004). Some commentators believe that this problem stems from their personal behaviour and criticise LIS professionals, and some point to inappropriate types of education.

Abell and Oxbrow (2001) state that from the employers' point of view one of the specific obstacles is the lack of understanding of the interplay between information and organisational objectives among LIS professionals (Abell & Oxbrow, 2001, p.167). This problem has been mentioned in some other papers as a barrier for the LIS involvement in KM practice. LIS professionals need to be focused for achieving specific organisational objectives while

providing greater value to customers and clients (Marouf, 2004). Also, lack of business knowledge, poor team and leadership skills and lack of management skills are other obstacles which LIS professionals must overcome. To successfully engage in knowledge management, LIS professionals must have a holistic view and go beyond the narrow scope of their profession. This will entail an expansion in their roles and responsibilities, including the acquisition of new skills and the ability not only adapt to change, but also prepare for it and shape it. Also, since KM is not owned by any single group, profession or industry, librarians need to understand the multiple perspectives of other players (Broadbent, 1998)

Knowledge management represents an opportunity in that it creates new roles and responsibilities for libraries and LIS professionals, but it can also be seen as a threat. This is because if LIS professionals refuse to gain new skills and involve themselves effectively in knowledge management practice they will risk becoming irrelevant to their organisations, and will probably lose out in competition for employment to people from other industries.

Despite the wealth of literature in the area of knowledge management and the library and information professions, the literature is less voluminous on the higher level contributions that LIS professionals might make to knowledge management. Also, it is still unclear from the literature how in specific ways, the LIS professions might prepare for, engage in and exploit the opportunities presented by knowledge management. It seems that LIS professions have made slow progress in identifying what KM means to them and more precisely its implications for their expertise, education, training and cultural traits if they are to become serious players in knowledge management. It is certainly not clear from the literature how claims that library and information professionals might be better knowledge managers than people from other fields could be justified. (Ferguson, 2004).

The results of an empirical study from Canada shows that many information professionals involved in KM programs are playing key roles, such as the design of the information architecture, the development of taxonomies, or content management for the organisation's Intranet. Others are playing more familiar roles, such as providing information for the Intranet, gathering information for competitive intelligence or providing research services as requested by the knowledge management team (Ajiferuke, 2003). Elsewhere, research suggests that senior legal librarians (SLLs) are increasing in importance at their firms, as the new knowledge management technologies they govern become more crucial to delivering top-quality legal services (Valera, 2004). Comparing these results with the results of a similar research by Broady-Preston (2000) in the UK, reveals the growth of LIS professionals' involvement in the KM domain.

Southon and Todd (2001) conducted a survey investigating the perceptions of knowledge management held by experienced LIS professionals in the library and information sector in Australia. The results suggest a lack of understanding of knowledge management among LIS professionals and a considerable variation in levels of awareness of the term knowledge management. There was also no general consensus as to the relationship between knowledge management and information management, and of the response to knowledge management among LIS professionals. However, the results of current research by the author shows the growth of awareness of KM among the LIS community.

Although the LIS literature has plenty of general material on the role of LIS in knowledge management, there is relatively little coverage of the practical implementation of knowledge management in the LIS environment.

Knowledge management in libraries

The ultimate purpose of KM is to increase the effectiveness and sustainability of organisations. Although the origin of KM was in the business field, its practice has spread to the non-profit sector. Teng & Hawamdeh saw different benefits of KM for not for profit organisations such as improving communication among staff and between top management and also to promote a sharing culture (Teng & Hawamdeh, 2002). According to Wen, LIS survival in the face of competition from emerging groups, budget shortfall, and higher user expectations are driving forces for adoption of KM in LIS (Wen, 2005).

Shanhong suggests that KM injects new blood into the library culture which results in a sharing and learning culture (Shanhong, 2000). According to Mphidi & Snyman (2004), converting personal knowledge into corporate knowledge for sharing purposes is the ultimate application of knowledge management (Mphidi & Snyman, 2004). Furthermore, White (2004) argues that in the 21st century, KM is increasingly becoming a crucial tool in helping to provide a dynamic and effective service to library users. Other potential benefits from the application of knowledge management in libraries would include the promotion of relationships in and between libraries, between libraries and users, and the strengthening of knowledge Internet working, and increasing the pace of knowledge flows (Shanhong, 2000). Corporate (special) libraries have been involved in knowledge management from its beginning and have provided the leadership for corporate efforts in KM. Corporate librarians, such as Trish Foy, Laurence Prusak, and Paul Vassallo, for example, have assumed leadership roles (Townley, 2001) . Ryske and Sebastian report that KM has shifted the Technology InfoCenter from cost centre to value-added centre, from offering a service to meeting the needs of customers and from information provider to knowledge partner.(Ryske & Sebastian, 2000). Marouf (2004) investigated the role and contribution of library and information centres towards KM initiatives in some USA corporations. The results suggest that there was widespread application in the development of knowledge repositories and databases of best practices and lessons learned. Also, use of Intranets, portals and sharing technologies were pervasive. However, quite a number of KM initiatives identified went little beyond traditional information management activities (Marouf, 2004).

In recent years, academic libraries have also taken KM seriously. Librarians in some academic libraries are the leaders of KM projects.[1] An overall assessment of the progress of KM projects in libraries would indicate that knowledge capture and sharing is the largest area of activity, which is hardly surprising given their core competencies in such fields. Most of following case studies are from academic libraries which have sometimes been called the 'heart of the university' because of the centrality of knowledge to the university's goals. So, they should be the heart of knowledge management for the same reason. White's case study (2004) on KM elements within Oxford University Library Services (OULS) focuses on perceptions of library staff on KM and their willingness on knowledge sharing. Both Jantz (2001) and Stover (2004) report 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 (NB) Campus Libraries of Rutgers University to capture and reuse the tacit and informal knowledge of reference librarians. Similarly, Branin (2003) describes a

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[1] For example Helen Hayes in Edinburgh University and Ainslie Dewe in Auckland University

knowledge bank at Ohio State University as a knowledge management system. This knowledge bank is a digital institution repository to capture all the intellectual assets of the university in a range of formats, including those that are unpublished, unstructured and unique.

There is a gap in both the KM literature and library practice as to how KM works in helping to capitalise on the intellectual assets of library workers.(White, 2004). Jantz claims that in many library settings, there is no systematic approach to organising the knowledge of the enterprise.(Jantz, 2001). He also argues that significant process and cultural issues must be solved before capturing the benefits of knowledge management. According to Gandhi (2004), most KM applications for reference services revolve around creating knowledge repositories, improving access, and enhancing the knowledge environment. Very few of these projects focus on managing knowledge as an asset that can add value or produce a return on investment (Gandhi, 2004). Most KM initiatives in libraries have not followed a systematic and logical approach/process to identify, organise, or share internal knowledge or best practices to improve the operational effectiveness of the library (Jantz, 2001).

Shanhong's paper (2000) is one of the few papers which discuss applying KM principles to a library environment. Shanhong considers human resource management as the core of knowledge management in libraries, and focuses on the training and lifelong education of library staff 'to raise their scientific knowledge level and ability of acquiring and innovating knowledge' (Shanhong, 2000, p.n.p.). Townley (2001) claims that 'if library personnel are not committed to achieve library goals, or if they are not well trained in the use of organisational knowledge, it is likely that efforts to manage knowledge will fail' (Townley 2001, p.48). Motivating library staff to share their knowledge is perceived to be another challenge in KM implementation in the library. Human resource managers should find ways to increase librarians' willingness for knowledge sharing. Wen (2005) states that 'unlike the private or business sector, academic libraries typically do not have extra financial resources to reward staff who have contributed their knowledge' (Wen 2005, p.n.p). Wen suggests knowledge sharing/management should be configured into the staff annual performance review or the librarian's portfolio for tenure or promotion (Wen 2005)

The relationship of KM to reference work has been discussed in several papers. Two full papers (Gandhi, 2004) and (Stover, 2004) have been allocated to this issue. The importance of KM for reference services lies in capturing the tacit knowledge of reference librarians. According to Perez (1999) knowledge management has long been the business of reference librarians. Gandhi (2004) describes this from the early efforts of reference librarians in capturing tacit knowledge through old information tools like card-files of frequently asked questions.

Dillon compares the information provided by library catalogues with that available from Amazon and claims that libraries are left behind commercial offerings in such terms as: personalisation, richness of experience, quality of content and interaction (Dillon, 2002). Accordingly it has been argued, the library catalogue system must be modified to store details about specific topics or concepts (Parker, Nitse, & Flowers, 2005).

Making the best use of resources is essential in knowledge management. Therefore, digitising libraries' resources and moving toward digital and hybrid libraries is one of the most important steps toward knowledge management implementation in libraries which facilitate the use of resources. 'Great efforts should be made to transform all existing large non-

electronic information resources into electronic information and integrate them into electronic libraries.'(Shahong, 2000, p.n.p.). Providing remote access to Internet-based knowledge resources is another important step. Also, providing twenty-four hours a day and seven days a week reference services through the web, is another potentially important step toward knowledge management implementation in libraries. Already names such as Chat librarian, virtual reference librarian, and online librarian are emerging for these kinds of services. As Dillon (2002) states: 'the best example of a KM application in the library world, and one that is timely and appropriate, is the emerging virtual reference librarian' (Dillon, 2002, p.n.p).

According to the literature, therefore, KM initiatives in libraries have a long way to go and have tremendous potential for improvement (Gandhi, 2004). It is clear that several steps must be undertaken for libraries to apply knowledge management.

Despite widespread agreements on the benefits of applying knowledge management in libraries, few studies have explained how to improve library operations through knowledge management. As has been mentioned above there is a wide variation in the types of knowledge management projects within libraries, and in various library sectors, including variations in definitions (Ajiferuke, 2003). There is no detailed protocol of standards and rules to follow and the reasons behind such variation should be explored (Cox, Patrick, & Abdullah, 2003). Clearly there is a need for more research in these areas.

A Research Agenda

The sheer range of concepts involved, the scale of LIS activities and the potential relationships not just within LIS but also between LIS and other sectors, suggests that there is a very large research agenda on which to work. The topic selected here ' The implications of knowledge management for the library and information professions' is still wide in scope but is sufficiently discrete to allow for in-depth treatment. To be viable, however, the research objectives and subsequent research questions need to be carefully identified and crafted.

Research objectives

As a piece of interpretive research, the main purpose of this study is acquiring the multiple perspectives of knowledge management within the LIS sector and to assess their implications for the future. The more specific objectives of this research are:
- to explore the perceptions of knowledge management among LIS professionals
- to identify the key skills needed for LIS professionals to successfully engage in knowledge management
- to address any existing and potential gaps between current and future needs for the LIS education
- to identify major potential contributions of KM to the practice of LIS professionals
- to understand the drivers for implementing KM in libraries
- to identify the position of LIS professionals in knowledge management
- to identify the methods of implementing KM in libraries.

Research questions

In the pursuit of these research objectives, the following research questions will be asked:
1. What does knowledge management mean to the LIS professions?
2. What are the implications of knowledge management for the LIS education?
3. What are the skills needed for the LIS professionals to engage in knowledge management?
4. How and why libraries have implemented KM?

5. What are the changes in the roles and responsibilities of LIS professionals as a result of KM implementation in their organisation?
6. What contribution are libraries making to the whole KM project in their organisation?

The significance of this research

Although knowledge management is a highly topical issue in business and related fields, there remains much ambiguity as to its nature and its theoretical basis, particularly when it comes to the LIS professions. There is a proliferation of empirical studies on the technological and organisational dimensions to knowledge management. However few empirical studies have been conducted into the relationship between knowledge management and the LIS professions.

A major strength of this research is the fact that it is helping to break new ground in an area where relatively little research has been conducted. The results of this empirical study could help both to advance understanding of the relationships between knowledge management and the LIS profession, and provide significant input into the development of the theory of knowledge management.

Methodology

The methodology is a combination of quantitative and qualitative methods. It falls largely within an interpretivist paradigm in that it seeks not to identify or test variables but rather to draw meaning from social contexts, in this case from the perceptions of the LIS professionals faced with major changes consequent on the emergence of knowledge management. The methodology employed includes literature review and document analysis, followed by web-based surveys of LIS professionals and in-depth case studies, including successful cases of libraries involving knowledge management. This latter includes instances where either libraries have had to broaden the scope of their activities to include KM, or KM cases in which libraries played an important part involving librarians. The survey has already been conducted and the data are currently being analysed.

Pilot study

In February 2005, the questionnaire was pilot tested on a random sample of leading LIS scholars in Australia, New Zealand, the United Kingdom, Ireland, and the United States. Their feedback was incorporated into the final version of the questionnaire, which comprised five sections all incorporating both open-ended and closed questions. The sections sought responses on respective attitudes and opinions on knowledge management, skills for knowledge management, education for knowledge management, library involvement in knowledge management and finally demographic-type information to do with job position, qualifications, age, gender, and country of residence. The scales used in the questionnaire were non-metric scales including nominal (age, sex, country, job position, qualification) and ordinal scales (5 and 7 point Likert scales (including level of agreement and level of importance). A brief introduction providing details about the researcher, affiliation, supervisor, the title of project, the purpose of the research and the value of participation in the survey, was located on the top of the questionnaire.

Web-based survey

Drawing on feedback from the pilot study a Web-based survey of the perceptions of LIS professionals on knowledge management was conducted. The Web-based approach was chosen because of its effectiveness and efficiency compared with traditional methods. An Internet-based questionnaire can reach respondents from all over the world with no cost for

print and postage. Also, provided it is properly designed, a Web-based questionnaire can be user-friendly in terms of completion and submission. The anonymity offered by Web-based questionnaires can also be an additional inducement for people to participate.[2] Finally, having all responses in an electronic form, can help to reduce errors which might occur through the manual transfer and analysis of data. The survey was conducted between May and July 2005.

Conducting the survey

To gain an international dimension on the views of LIS professionals, the questionnaire was released through a range of national and international LIS listserves and discussion groups (including IFLA-L, KMDG-L, ALIA, SLA, MELA). A formal Email had first been sent to the list owners seeking their permission to release the link to the questionnaire through their list. This turned out to be a sensible decision as it elicited a positive response and the surveys themselves were returned with considerable additional comment and helpful suggestions through the open-ended questions.

Results

It is customary in reporting the results of surveys to begin by citing the response rate. However, the calculation of response rates in Web-based questionnaires can often be difficult owing to difficulty in determining the size of a sample. In some cases it is very difficult or even impossible for researchers to estimate the sample size if a survey is conducted on multiple related mailing lists or newsgroups and if there is overlapping membership between them. In some circumstances, this has led, not to the reporting of a response rate but rather, to reporting simply the number of responses (Zhang, 2000). In this project, with the exception of three mailing lists (IFLA-L, KMDG-L and AGLIN), none of the lists mentioned the number of their subscribers and there was also considerable overlapping among subscribers, which made it difficult to determine the size of the research population. In a more positive vein, but still problematic in terms of counting, was the fact that respondents also had the facility for forwarding the link to the questionnaire to other people who might have been interested in the topic.[3] Accordingly, no attempt at working out a response rate was possible in this case, where the alternative approach of reporting the total number of responses was adopted. In all, some 370 people responded. The following findings report on some of close-ended questions.

The majority of respondents (80.6%) were from Australia, New Zealand, USA, UK, South Africa and Canada respectively. The proportion of female respondents was 81%, which is not surprising due to domination of women in the LIS profession. The majority of respondents (80%) were between 36 and 55 years old.

Preliminary analysis showed very positive feedback toward knowledge management among the LIS community, suggesting that many respondents see new career options for LIS professionals in knowledge management, and that KM could encourage LIS professionals to gain new skills. The results also revealed a high level of agreement among LIS professionals toward KM implementation in libraries suggesting that knowledge management could help make libraries more relevant to their parent organisations and their users. They believed that KM could contribute to an improvement in the future prospects of libraries. Participants were asked to rank the importance of the competencies listed for the LIS professionals to participate in KM programs. According to these responses, communication skills, team

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[2] Requesting Email address was an optional question in the questionnaire to send the summary of survey result to participants. Interestingly the majority of respondents provide their Email address.
[3] For example Professor Joyce Kirk in RMIT told me she had received 3 Emails through different mailing lists inviting to participate in the research questionnaire.

working skills, creative thinking, decision making skills, information management skills, change management skills, ability to use information technologies, project management skills and leadership skills are highly important in this regard. Among them communication skills is the most important competency.

Analysing the responses regarding the LIS education revealed that there was an average agreement among LIS professionals that the current LIS education did not equip people with the competencies demanded by KM. The majority of respondents believed that education for LIS must change to accommodate developments in knowledge management, otherwise LIS graduated will lose out in the job market.

In relation to the approaches to KM curricula, 62% of LIS professionals vote for a curriculum that embodies core elements of LIS, management and information systems and believe that this kind of curricula would best meet the needs of LIS professionals.

Respondents were asked if they were aware of either KM implementation in a library or a KM project where a library had a role on it. Interestingly, about one-third of respondents replied 'yes' to this question and provide details of the successful implementation of knowledge management in a library or a knowledge management project in which a library was a participant. This information will be used to locate potential case studies for the second step of the research.

Conclusion

Knowledge management is a wide, interdisciplinary field and it goes beyond individual skills and qualifications to embrace the many aspects of management of a key resource. If LIS professionals are to play more prominent roles in knowledge management, they will in all likelihood have to promote their expertise more widely, and also aspire to different roles of a more strategic and policy-making nature. For many in the information professions this is likely to entail learning different kinds of skills and opening up to new ways of thinking. However, this is not a challenge faced by the LIS professions alone, and several traditional areas such as human resources management find themselves faced with the same challenge. Underlying such perspectives in a library context however, is recognition that the practice of knowledge management has much to offer to the management of libraries and for advancement of the LIS profession. The nature of this contribution is as yet unclear, but librarians would be unwise to dismiss knowledge management as being just another fad. It is much too well established within the private sector to be dismissed so lightly, and by a group that is much more vulnerable to change than many others. Fortunately, the results of the web-based survey suggest that not only do LIS professionals have a positive view of knowledge management, but also that they see it as providing opportunities and benefits for the LIS professions. There is a responsibility for the LIS schools to equip LIS graduates with the KM skills needed. Undoubtedly the current LIS program has already included some core elements of KM, but there is also a need to equip graduates with competencies in management and business. The full results of the survey will be presented at future conferences, in the meantime work is continuing on the selection of case study subjects.

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[4] The author has created a blog for the full list of publications regarding KM and LIS in: **http://www.kmlis.blogspot.com**

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