

Essential Skills and Expertise Needed for LIS Professionals to Participate Effectively in Knowledge Management Practices

Smitha C. Elayadom¹ and A. Thirunavukkarasu²

¹Ph.D. Research Scholar, Department of Library and Information Science, ²Librarian,

^{1&2}Alagappa University, Karaikudi, Tamil Nadu, India

E-Mail: c_smithaelayadom@yahoo.co.in

Abstract - The article highlights the skills and competencies needed by library professionals in effectively participating in knowledge management practices in University libraries, based on a study conducted in the University libraries in Kerala. Knowledge and knowledge products gained prominence in the world. Developments in Information and Communication Technologies (ICT) have its positive effect on the library environment. It revolutionized the library services. Universities impart knowledge and it creates knowledgeable citizens that are able to contribute to the economic development of the nation. University Libraries support the parent institution. New tools, for accessing, processing and disseminating information have emerged and as such, library which is an integral part of the society also began adopting the technologies in rendering efficient services to its stakeholders. As a result the librarians have to acquire new roles and new methods for serving the users. KM practices demand new skills to manage resources.

Keywords: Knowledge Management, University Libraries, Library Professionals, Skills and Competencies

I. INTRODUCTION

The 21st century is witnessing „Information Explosion“. Information and Communication Technologies have revolutionized the means and modes of communication in every field. Technology has brought information at our finger tips. „Knowledge,“the new era“s buzzword, has gained significance in leading the nation to progress.

Information and knowledge are considered as the most essential asset in any organization. ICT has given us new facilities for communication- the Internet, World Wide Web, Email, Web 2.0, Blogs, Wikis, FaceBook, YouTube, Social networking sites and the like. Availability of information access aided the education sector in imparting quality education to people. It also supports the research activities and adds to the creation of knowledge. Universities are the centre of excellence, which is capable of producing citizens with innovative ideas. University Libraries, being the heart of the institution, support the parent institution. Now in the age of globalization, man has conquered time and place with the help of modern technologies. Advancements in technologies brought new equipments to collect and manage new types of resources like databases, E-resources etc and the traditional works in the library is now being replaced by new technologies that provide better services. Library, which is considered as the

store-house of knowledge, also is forced to adopt new means and measures to acquire and disseminate knowledge resources to its stakeholders. The traditional libraries began collecting information in multiple formats to meet the demands of its users. Along with knowledge, Knowledge Management also gained supremacy. Librarians are now considered as knowledge workers and they have to acquire new skills and competencies to survive in the digital world.

The paper discusses the skills and competencies needed by librarians to participate effectively in KM practices.

II. KNOWLEDGE MANAGEMENT AND UNIVERSITY LIBRARIES

A. Data, Information and Knowledge

Data, information and knowledge are inter-related terms. Data when interpreted becomes information and processed information gives knowledge that is used in decision making.

Knowledge is the prime resource that helps mankind to progress. Knowledge is the insights, understandings, and practical know-how that people possess (Omotayo, 2015).

Knowledge can be categorized as „explicit“ and „tacit“ knowledge. Polanyi (1966, 1967); (Nonaka and Takeuchi, 1995).

Explicit knowledge is the type of knowledge that is expressed in formal systematic language (Koohang & Britz, 2008), shared (Debowski, 2006) in the form of data, specifications, manuals etc. Tacit knowledge is highly personal, subjective, difficult to formulize and communicate fully (Nonaka and Takeuchi, 1995); (Hislop, 2013).

It resides in the mind of the individual. It is gained through experience. It is hard to communicate or share such type of knowledge, because it is expressed through action based skills. This type of knowledge (Omotayo, 2015) is usually used by organizational members in performing duties. Realizing its significance business organizations have started to take measures to tackle and codify these types of knowledge, and make them circulate through the organization for future improvement. Libraries also need

such type of knowledge to save time and provide better services to the patrons. KM in general means unlocking and tackling of the knowledge of individuals so that it can be made available as an organizational resource independent of that particular individual.

B. Knowledge Management

The term Knowledge Management has been viewed with different perspectives. To the information system researchers, it is an object that can be recognized and controlled in computer-based information systems. To the Management people, it is a process based on individual and organizational competencies such as skills and know-how. In simple words KM means management of knowledge. It is the management of organizational knowledge for creating business value and generating a competitive advantage. It is a key factor for future successful enterprises. KM is what is being done in libraries also.

Davenport and Prusak (1998) says that in organizations, knowledge becomes embedded in organizational routines, processes, practices, norms and cultures. Hence the need for managing knowledge became a necessity. Mere processes and technology alone are not enough to drive an organization. People (staff) and the knowledge that reside in them are of great significance in the successful development of the organization. Therefore, attention must be paid, on the knowledge and its workforce along with the processes and technology. Having the relevant knowledge and the ability to leverage and manage knowledge is a strategic management tool. (Omotayo, 2015).

III. KM IN UNIVERISTY LIBRARIES

University provides quality education and the emerging intellectuals with innovative ideas helps in building up a knowledgeable society, which forms the major assets of a developing country. University Libraries support the curriculum by collecting, processing, disseminating and satisfying the information needs of the users. Several resources are available in the digital environment. Technological innovations brought E-resources along with the printed materials to the libraries. Traditional works and services in the library is replaced by technology based services, which is essential to survive in this digital era. KM (Petraş,1996) is getting the right information in front of the right people at the right time. The introduction of World Wide Web, Internet, Library management software, E-resources, networks and Consortia, social networking sites and the like, opened up an ocean of information sources before the consumers and to select the right information from the numerous sources and transforming it into useful knowledge has become a challenge for the providers. The valuable human and knowledge resources will be wasted if proper measures are not taken to manage them. The professional librarians are forced to acquire new skills and competencies to handle modern resources in an effective way.

IV. SKILLS AND COMPETENCIES NEEDED FOR LIBRARY PROFESSIONALS

Modern era poses challenges before the traditional libraries by way of new technologies to access and manage information resources. In this new economy, the focus must be on maintaining and enhancing the knowledge capital to gain competency to survive. (Singh&Pinki,2004). Meeting the client's specialized needs, proliferation of information sources, services, and the impact of ICT etc necessitated the library professionals to have multidimensional skills to manage them. The current trends in ICT demands daily updation of resources as well as skills to handle them, and accordingly it forces library professionals to acquire new skills and competencies to avoid being obsolete and outdated. In the knowledge society, the University libraries have major role to play to enhance and equip the information seekers to acquire maximum benefit.

The major skills needed to survive in the knowledge era (Tripathi, Patra & Pani, 2007) are: Communication skills to share tacit knowledge, general management skills, technical skills to manage resources, IT skills to acquire, process, store and disseminate information, and KM skills. Sharp Analytical mind, innovation capability, self-motivation, ability to understand user needs and the ability to organize the level of sharing of knowledge are also marked as essential skills needed by professionals to compete in the digital world. Attending various workshops and seminars also help professionals to develop skills to handle the newly emerging technologies.

V. REVIEW OF LITERATURE

The reports of the findings on the study on „Education for digital libraries“ (Spink & Cool, 1999) shows that at present, few schools offer courses in digital libraries. The study shows that those who joined the course are not sure about the knowledge that is required to produce information or what knowledge is required by the computer professionals to work as digital librarians or even the real definition of digital library and also future developments to come in the area. It concludes the students currently enrolled in Digital library Courses have mixed and only vague ideas of the nature and content of their courses.

Kumar's (2013) in his survey states that professionals with necessary ICT skills are needed for transforming traditional library to electronic library. The article states that the management must give encouragement to promote ICT skills of LIS professionals and also motivate them to attend workshops, seminars and training programmes etc. LIS curriculum must be revised accordingly.

Ludmila Mládková's (2011) study aims to identify the best practices, and to evaluate the potential of their corporate environment for knowledge workers. According to the author, knowledge workers are people who use their brain more than the muscles, when they work. The author finds

that an inconvenient type of organizational structure, poor knowledge sharing and improper functions of knowledge markets limit the productivity of knowledge workers. The knowledge workers need knowledge. Lack of necessary information or access to information is humiliating for the knowledge workers.

Kayal, Bandopadhyay, & Banerjee (2015) in their study conducted to analyze the information management skills required by the minority libraries in Kolkata and Hooghly states that information being the essential ingredient in our life, providing right information to the right user in right time became the goal of Libraries. To achieve this goal it is necessary to manage these resources in a systematic manner and this process requires skills at various levels.

All the different skills blend together to bring organizational productivity and harmony. The article highlights the skills of information management and dissemination in various libraries in West Bengal.

Ugwu & Ezema (2010) found that KM cultural skills, leadership skills, strategic skills and restructuring skills are the main skills needed by librarians for the successful implementation of KM, as they create value for the organization’s knowledge-based assets and development policies in organization.

Kwasik (2002) states that traditional skills followed by communication skills are required by library professionals. She also indicated that the knowledge of meta data standards, Markup languages, experience in cataloguing electronic publications and web design which are normally related to knowledge are also desired for an information professional.

Nonthacumjane (2011) found that the skills most frequently presented were communication, leadership and interpersonal skills, independent, innovative, confident, judgment, energetic and enthusiasm.

VI METHODOLOGY

The article is part of the study conducted to analyze the „Application of KM techniques in University Libraries in Kerala“. It was found that in order to manage resources in the modern knowledge economy era, certain skills and competencies are needed by library professionals. The data for the present study had been collected from a Universe of five reputed Universities in Kerala – M G University, Kerala University, Calicut University, CUSAT and Kerala Agricultural University, using questionnaire and interview methods. The total population of the study include the selected library professionals, faculty, students and research scholars of five selected Universities in Kerala. The required data was collected from the libraries of five Universities using questionnaire and interview methods and analyzed using SPSS 20.0 for windows.

VII. DATA ANALYSIS AND INTERPRETATION

This paper highlights the skills and competencies of the library professionals in the five major Universities in Kerala. Thirty professionals from each of the five Universities participated in the survey.

A. Profile of the Participants

Table I represents the gender of the participants in the various institutions. The majority of the respondents belong to the female population. Table II represents the designation of the respondents. The inference shows that the respondents include the Assistant Librarians (5.1%); Professional Librarians (29.1%); Junior Librarians (16.9%) and Library Assistants (16.9%) form Deputy Librarians (2%). Table 3 reveals the qualifications – academic, professional and additional- of the librarians under survey. 42.6% of the librarians are having PG Degree. It is interesting to note that the majority of the librarians are qualified with a Master’s degree in LIS (MLIS) and nearly 18.9% of them are having M.Phil Degree and 5.4% of them are Ph.D holders.

TABLE I GENDER OF RESPONDENTS

Gender	Frequency	Percent
Male	56	37.3
Female	92	62.2

TABLE II DESIGNATION OF RESPONDENTS

Designation	Frequency	Percent
Deputy Librarian	3	2.0
Assistant Librarian	52	35.1
Junior Librarian	25	16.9
Professional Librarian	43	29.1
Library Assistant	25	16.9

The designation of respondents varies from Library Assistant to Deputy Librarian. The Universities provide Distance education facilities for those who want to continue their studies even while working in an institution.

TABLE III QUALIFICATIONS OF RESPONDENTS

	Qualifications	Frequency	Percent
Basic	BA/B.Sc/B.Com	85	57.4
	MA/M.Sc/M.Com	63	42.6
Professional	Ph.D	8	5.4
	M.Phil	28	18.9
	MLIS	94	63.5
	BLIS	18	12.2
Additional	NIL	75	50.7
	MCA	1	.7
	PGDCA	28	18.9
	PGDLAN	6	4.1
	DCA	29	19.6
	Others	9	6.1

Many are making best use of these facilities to get higher qualifications. It is part of skill development. The table III also indicate that 50.7% of the respondents have no additional qualifications apart from their professional qualifications. It is concluded from the above table that a part of the library professionals are still pursuing education. But the majority are not having any additional qualifications.

TABLE IV UPDATION OF PROFESSIONAL KNOWLEDGE

How do you update your professional knowledge	Frequency	Percent
Attending Seminars and workshops	105	70.9
Attending Conferences	60	40.5
Through In-house training programmes	93	62.8
Through self-learning	71	48.0
Regularly reading relevant professional literature	49	33.1
Going for higher studies	35	23.6
Attending refresher courses	60	40.5
By discussing with experts	109	73.6

It is clear from the above table (Table IV) that the University Librarians are adopting ways and means to update their professional knowledge. They attend workshops and seminars, and undergo in-house training programs to update their professional knowledge.

TABLE V ATTENDING PROFESSIONAL DEVELOPMENT PROGRAMMES

Reasons for attending professional development programmes	Frequency	Percent
To acquire new skills	122	82.4
To update knowledge	114	77.0
To get trained in the latest technologies	99	66.9
To improve library services	93	62.8
To improve relations with fellow professionals	83	56.1

It is evident from the above table that majority of the respondents attend professional development programs to acquire new skills and thereby update their professional knowledge.

TABLE VI USE OF TECHNOLOGIES TO SHARE INFORMATION

Do you use the following technologies to share information /knowledge	Frequency	Percent
Blogging	70	47.3
Email	140	94.6
Discussion Groups	65	43.9
Social networking tools	106	71.6

The above table (Table VI) indicates that 94.6% of the respondents use Email to share information; 71.6% of them are using social networking sites to share information;

47.3% of them use Blogging; and 43.9% of them are using discussion groups to share information. It is clear from the above table that majority of the respondents are using email for sharing information.

TABLE VII LEVEL OF SHARING OF PROFESSIONAL KNOWLEDGE

Rate the level of sharing of professional knowledge in your library	Frequency	Percent
Good	68	45.9
Average	36	24.3
Poor	14	9.5
Satisfactory	3	2.0
No sharing	25	16.9

The above table shows that 45.9% of the respondents are good at sharing professional knowledge in the library which is necessary for KM.

TABLE VIII WAYS TO IMPROVE KNOWLEDGE MANAGEMENT SKILLS

What do you think, is the way to improve knowledge management skill in your Department	Frequency	Percent
Training	139	93.9
Documentation	62	41.9
Mentoring	83	56.1

The above table indicates that majority (93.9%) of the respondents agree that training is the way to improve knowledge management skill in their library; 56.1% of them consider mentoring as the way to improve knowledge management skill; and 41.9% of them agree that documentation is the way to improve KM skill in their department.

B. To Determine the Skills Needed By Librarians to Participate Effectively In KM Practices

Structural Equation Modeling (SEM) is used to determine the Skills and competencies needed by librarians to participate effectively in KM practices and the result is exhibited in the following tables. The following hypotheses are tested using SEM.

H₁: IT Literacy skill (SC1) is an essential „Skill and competency“ needed by librarians to participate effectively in KM practices.

H₂: Sharp Analytical mind (SC2) is an essential „Skill and competency“ needed by librarians to participate effectively in KM practices.

H₃: Innovation capability (SC3) is an essential „Skill and competency“ needed by librarians to participate effectively in KM practices.

H₄: Communication skills (SC4) is an essential „Skill and competency“ needed by librarians to participate effectively in KM practices.

H₅: Self-motivation (SC5) is an essential „Skill and competency“ needed by librarians to participate effectively in KM practices.

H₆: Ability to understand user needs (SC6) is an essential Skill and competency needed by librarians to participate effectively in KM practices.

H₇: Ability to organize the level of sharing of knowledge (SC7) is an essential „Skill and competency“ needed by librarians to participate effectively in KM practices.

TABLE IX MODEL FIT INDICES FOR CFA- SKILLS AND COMPETENCIES

	χ^2	DF	P	Normed χ^2	GFI	AGFI	NFI	TLI	CFI	RMR	RMSEA
Skills and competencies	12.154	8	.144	1.519	.978	.923	.992	.993	.997	.017	.059

TABLE X THE REGRESSION COEFFICIENTS -SKILLS AND COMPETENCIES

Path	Regression Coefficient	C.R.	P	Variance explained (%)	Rank
IT literacy Skills → Skills and competencies	0.864	14.158	<0.001	74.7	4
Sharp Analytical mind→ Skills and competencies	0.982	25.427	<0.001	96.4	2
Innovation capability →Skills and competencies	0.999	41.105	<0.001	99.8	1
Communication skills →Skills and competencies	0.863	14.116	<0.001	74.6	5
Self-motivation→Skills and competencies	0.961	21.188	<0.001	92.4	3
Ability to understand user needs → Skills and competencies	-0.119	-1.293	0.198	1.4	
Ability to organize the level of sharing of knowledge → Skills and competencies	-0.068	-0.737	0.463	0.5	

The results in the table show that „p-value“ is less than 0.05 in the case of IT literacy skills, Sharp analytical mind, Innovation capability, self-motivation and communication skills. Hence we accept the hypothesis H1 to H7. And we conclude that IT literacy skills, innovation capabilities, sharp analytical mind, self-motivation and communication skills are the essential skills and competencies needed by library professionals to participate effectively in KM practices.

effectively in KM practices followed by Sharp Analytical mind and Self-motivation. IT literacy skill and Communication skills came in the fourth and fifth position.

VIII. FINDINGS

The following are the significant findings of the study in this field

1. Part of the library professionals is still pursuing education.
2. Majority of the library professionals attend professional development programs to acquire new skills and thereby update their knowledge.
3. The respondents are interested in sharing information and the majority use Email services for information sharing. Modern ICT based tools like Blogging and discussion groups are less used.
4. Majority of the respondents believe that training is the best way to improve KM skills.
5. Innovation capability is the most essential „skill and competency“ needed by library professionals to participate in KM practices
6. The other skills being Sharp Analytical mind, Self-motivation, IT literacy skills and communication skills.

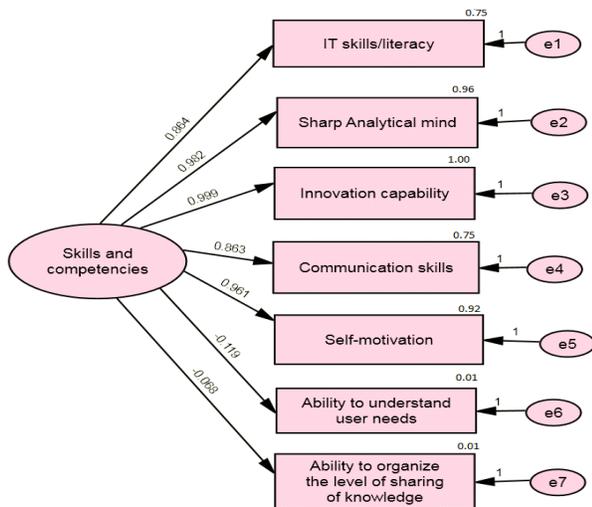


Fig 1 Regression Coefficients - Skills and competencies

From Table X based on the regression weight one can observe that the Innovation capability is the most essential „Skill and competency“ needed by librarians to participate

IX. SUGGESTIONS AND RECOMMENDATIONS

1. Libraries should think of re-engineering the existing library environment and take measures to develop knowledge and skills among the staff, in using ICT and Knowledge products for providing quality services to their users.

2. Encouragement may be given to professionals to develop the Knowledge sharing culture.
3. Encourage the library professionals to attend more training programs, workshops and seminars to update their knowledge.
4. Practical training in managing electronic resources and digital contents may be provided along with LIS education.

X. CONCLUSION

KM has emerged as a potent strategy for enhancing the competitive advantage for the organization and library and information science field also reflected the social change. In order to manage the ever increasing information resources in the knowledge economy, library professionals are forced to invent new strategies and for that they need to be equipped with certain skills and competencies, along with the traditional skills. Innovation capability skills, sharp analytical mind and self-motivation also emerged as the powerful skills in the knowledge economy. Acquiring these skills along with IT literacy skills helps in effective communication and managing of resources. Hence the new role of library professionals poses great challenges to be competent enough in the present day economy.

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