

Digital Literacy of LIS Professionals in the Kerala University Library and State Central Library: A Comparative Analysis

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Abstract

In the library system, the application of Information Communication Technology (ICT) has changed the type of services delivered through academic and public libraries. Digital resources and services must be planned, implemented and supported to increase the image and visibility of libraries in the information paradigm. In the current situation, where by ICT are being continuously updated, and the traditional formats are being replaced by digital formats, regular training for the library professionals in changing technology is inevitable..The effective information services in the digital environment require digital skills of Library and Information Science (LIS) professionals. Hence it is imperative to study the digital literacy of LIS persons in the libraries. The present study is an attempt to compare the digital literacy of LIS professionals in the Kerala University Library (KUL) and the State Central Library (SCL). The main objectives of the study are to compare the ICT infrastructure and digital resources and services in KUL and SCL; to study the awareness of digital resources by the LIS professionals; to identify the ICT tools and web technologies used ; to find out the purpose and frequency of the use of ICT and web based tools; to compare the skills of LIS professionals in handling digital resources and web enabled services; to identify the problem faced by the professionals in managing digital resources; and to make suggestions for the better ICT enabled services. The data for the study was collected from all the LIS professionals in KUL and SCL with the help of a well structured questionnaire. Out of 108 questionnaires distributed 103 were duly filled up and returned. Five point Likert scale is used for measuring the digital literacy skills of LIS professionals. It was found that even though the number of documents in SCL is greater than KU, the electronic resources, services in KUL is better than SCL. The awareness level and digital skill of LIS professionals in KUL regarding hardware, software, web technologies, electronic resources and services is better than those in SCL. The major problems identified by the LIS professionals are lack of training, IT infrastructure, support from the management etc. It was suggested that the regular orientation programs,in-service training, provision of attending workshops, etc. would help to increase the digital literacy skills of working professionals in the libraries.

Keywords: Kerala University Library; State Central Library; Digital skills, E-Resources; Web technologies; Information Communication Technology

1. Introduction

Libraries play an important role in information dissemination. As information technology is becoming the counter stone of every organization it brings great changes in the organization structure, management and delivery practices. Information and communication technology (ICT) especially in the field of electronic communication and

computer science and technology influenced the traditional libraries. ICT has its effects in the economic, social, cultural political and even individual spheres of life. Libraries all over the world have been faced with the evolving technological advancement, globalization, and digitization of information. These have led to library automation, digital and virtual libraries, virtual conference, web-cast, pod-cast,

community and online learning, Web 2.0 and Library 2.0 etc.

The concept of digital literacy, as the term is now generally used, was introduced by Paul Gilster, in his book of the same name (Gilster, 1997). He explained it quite generally, as an ability to understand and to use information from a variety of digital sources and regarded it simply as literacy in the digital age. Literacy on information and communication technology enables library professionals to identify, evaluate, organize and disseminate information as and when it is required for solving problems and making decisions, thereby meeting the specific information needs of their organization. Scope of Information Literacy ranges from alphabetical literacy, social, functional, information and now digital information literacy. Information literacy makes the individual understand many of the economic, legal, and social issues encompassing the use of information and makes them aware of access and usefulness of information ethically and legally.

In the changing environment the role of the professional librarian as handler and manager of information, need flexible, adaptable individuals who can manage change effectively. It is the responsibility of the teaching departments of Library and Information Science to develop the right personnel with basic competence to manage the libraries and information centres of varied scope and nature, ranging from small rural library to a well-established digital library.

2. Relevance of the Study

The library and Information profession is rapidly changing with the advancement of technologies. As a result, libraries are facing new challenges; new expectations and a variety of information services. To achieve desirable services library professionals need to update their skills, techniques and knowledge with rapidly changing information technologies. In the library system, the application of ICT has changed the type of services delivered through academic and public libraries. In this digital era libraries require digital librarians. Digital services must be planned, implemented and supported. The effective information services in the digital environment require digital skills of LIS professionals. Hence

it is imperative to study the digital literacy of LIS personals in the libraries.

3. Objectives of the Study

The specific objective of the study are:

- i. To compare the ICT infrastructure and digital resources in the Kerala University Library (KUL) and State Central Library (SCL).
- ii. To study the awareness of digital resources by the library and information professionals in the KUL and SCL
- iii. To identify the ICT tools and web technologies used by the library professionals for information storage, retrieval and dissemination.
- iv. To find out the purpose and frequency of the use of ICT and web based tools.
- v. To compare the skills of library and information professionals in handling digital resources and web enabled services
- vi. To identify the problem faced by the professionals in managing digital resources.
- vii. To make suggestions for the better performance of library professionals in ICT enabled services.

4. Data and Methodology

The data collected from the LIS professionals working in the Kerala University Library and State Central Library, Thiruvananthapuram by using a structured questionnaire. Questionnaires were given to a total population of 108 Library professionals in KUL and SCL for eliciting information related to the study. Out of 108 questionnaires distributed 103 were duly filled up and returned. Five point Likert scale is used for measuring the digital literacy skills of LIS professionals. The collected data are tabulated and analysed by various statistical tools.

5. Review of Literature

Mini Devi and Jubairiyath Beevi (2014) in a study found that the majority of the women library professionals are familiar with internet resources and the availability of latest digital information resources. They can use online

resources such as online databases, digital libraries, open access e- journals, e-book, electronic theses and dissertations, institutional repositories and web portals more efficiently in their works. Illias (2015) explored the awareness of social media and the use of online news groups among LIS professionals and revealed that the majority of the LIS professionals use it for their professional development and promotion of their libraries. The application of social media in libraries helps the LIS professionals to re-shape the traditional ideas of library services. Bansode and Viswe (2015) conducted a study to access the ICT literacy among library professionals and to ascertain the need for training and orientation. It was found that majority library professionals are digital literate and have basic digital skills to handle the library system and services. But most of the LIS professionals indicated the need of training and orientation in the use of digital library and institutional repository software, ICT based resources and services, library automation

software, ICT tools and communication and media technology. Prabhulla (2016) in a study revealed that the awareness of LIS professionals in ICT based applications, skills for managing electronic resources and other web based services are at a moderate level. The main problems identified by them are poor internet connectivity and lack of support from authority. Mohd Muzzammil (2017) explored that young professionals have more familiarity and efficiency in ICT related tasks and the Social Science departmental library professional are more ICT literate than others.

7. Data Analysis and Interpretation

The analysis and interoperation of data collected through questionnaires are given below:

7.1 Response rate

Out of 108 questionnaires distributed 103 LIS professionals responded and hence the response rate of 95.37%.

Table 1. Response rate

Institution	Questionnaire distributed	Questionnaire returned	Response rate%
SCL	45	41	91.1
KUL	63	62	98.4
Total	108	103	95.37

7.2 Demographic and Social Characteristics of the Respondents

The demographic and social characteristics of the respondents is given in Table 2

Table 2. Demographic and social characteristics of the respondents

Details	SCL	KUL	Total
Gender wise distribution			
Male	15 (36.6%)	24 (38.7%)	39 (37.9%)
Female	26 (63.4%)	38 (61.3%)	64 (62.1%)
Age wise distribution			
21-30	5 (12.2%)	8 (12.9%)	13(12.6%)
31-40	17 (41.5%)	22(35.5%)	39(37.9%)
41-50	17 (41.5%)	18(29.0%)	35(34.0%)
51-60	2 (4.8%)	14 (22.6%)	16(15.5%)
Professional Qualification of LIS professionals			
Ph.D	--	2 (6.2%)	2(1.9%)
MPhil	1(2.4%)	7(11.3%)	8(7.8%)
MLISc	3(7.3%)	16(25.8%)	19(18.4%)
BLISc	26(63.4%)	36(58.1%)	62(60.2%)

CLISc	4(9.8%)	1(1.6%)	5(4.9%)
Others	7(17.1%)	0(0%)	7(6.8%)
Experience of LIS professionals			
Below 5 years	9 (22.0%)	14(22.6%)	23(22.3%)
6-10 years	14(34.1%)	16(25.8%)	30(29.1%)
11-15 years	12(29.3%)	7(11.3%)	19(18.4%)
16-20 years	4(9.8%)	9(14.5%)	13(12.6%)
21-25 years	2(4.9%)	13(21.0%)	15(14.7%)
26-30 years	0 (0.0%)	3(4.8%)	3(2.9%)
Total	41(100.0%)	62(100%)	103(100%)

KUL has 24 males (38.7%) and 38 females (61.3%) LIS professionals while SCL has 15males (36.6%) and 26 females (63.4%). The overall sex ratio of the LIS professionals under study is 1641females per 1000 males which is much greater than the female dominant sex ratio (1084) of Kerala (Census report 2011). Majority of the professionals are in the age group 30-50 years (71.9%). Only 12.6% of the professionals are below the age of 30 years and 15.5 % are above 50 years. The average age of professionals in SCL and KUL are 39.4 and 41.6 respectively. In KUL two professionals (6.2%) have PhD and seven (11.3%) have M.Phil in Library and Information Science while only one professional in SCL has MPhil. In SCL 26 (63.4%) professionals possess only BLISc degree. The analysis shows that the professionals in KUL are more professionally qualified than those in SCL. Among the professionals 4.9 % have more than 21 years of experience. But in KUL 25.8% professionals have more than 21 years of experience. Only 22 % of the professionals in both the libraries have less than 5 years of experience

7.3 Awareness on various Digital resources/ Networking

Following sections describe the awareness of library professionals in various digital resources such as E-journal consortium, databases, LIS networks and ETD's.

7.3.1 E-journal consortium

The majority of the professionals (79.4%) in SCL are not aware of E-ShodhSindhu, an E-journal

consortium of INFLIBNET. Only four professionals are extremely aware of this consortium. In KUL most of the professionals (81.4%) are moderately aware of E-Journal consortiums, 18 are extremely aware of E-ShodhSindhu.

7.3.2 Web Discovery Tools

The data analysis shows that 65.9 % of SCL professionals do not have any idea about Web Discovery tools but only 4.9 % are extremely aware about EBSCO discovery services. In KUL 35.5% are moderately aware, 16.1% are extremely aware and 12.9 % are somewhat aware on EBSCO discovery services.

7.3.3 LIS networks

Library and Information Science networks have more popularity in KUL. In KUL 29% and in SCL only 14.5 % professionals are extremely aware of LIS networks like NFLIBNET, DELNET etc. The level of awareness of LIS professionals of KUL about LIS networks is better than those in SCL.

7.3.4 Electronic Theses and Dissertations (ETD's)

Table 3 shows that majority of the professionals in SCL have no awareness about various electronic theses and dissertations. Only 19.5% of LIS professionals in SCL are extremely aware of E-books. KUL library professionals have significant knowledge in Shodhganga, E-books and E-newspapers etc.

Table 3. Awareness of Electronic Theses and Dissertations (ETD's) and E-resources

E-Resources and ETD's	SCL						KUL					
	NA	SA	SWA	MA	EA	Total	NA	SA	SWA	MA	EA	Total
Shodhganga	26 63.4 %	6 14.6 %	4 9.8%	2 4.9%	3 7.3%	41 100%	8 12.9 %	6 9.7%	10 16.1 %	16 25.8 %	22 35.5%	62 100 %
Dyuthi	27 65.9 %	4 9.8%	6 14.6 %	2 4.9%	2 4.9%	41 100%	16 25.8 %	11 17.7 %	11 17.7 %	15 24.2 %	9 14.5%	62 100 %
MGU Theses	21 51.2 %	5 12.2 %	5 12.2 %	6 14.6 %	4 9.8%	41 100%	16 25.8 %	8 12.9 %	12 19.4 %	15 24.2 %	11 17.7%	62 100 %
Vidyanidhi	29 70.7 %	7 17.1 %	3 7.3%	1 2.4%	1 2.4%	41 100%	14 22.6 %	13 21.0 %	12 19.4 %	13 21.0 %	10 16.1%	62 100 %
E-Newspapers	13 31.7 %	6 14.6 %	7 17.1 %	8 19.5 %	7 17.1 %	41 100%	8 12.9 %	9 14.5 %	7 11.3 %	22 35.5 %	16 25.85	62 100 %
E-Books	10 24.4 %	6 14.6 %	8 19.5 %	9 22.0 %	8 19.5 %	41 100%	9 14.5 %	7 11.3 %	7 11.3 %	25 40.3 %	14 22.6%	62 100 %
E-Zines	32 78.0 %	1 2.4%	5 12.2 %	1 2.4%	2 4.9%	41 100%	22 35.5 %	16 25.8 %	11 17.7 %	9 14.5 %	4 6.5%	62 100 %

(NA-Not at all Aware; SA- Slightly Aware;SWA-Some What Aware; MA-Moderately Aware; EA-ExtremelyAware)
 The average score obtained about the awareness of various ETD's and common e-resources in a five point scale given in Table 4 shows that the professionals in SCL are more aware about E-books (Mean 2.98, SD 1.47) and E-newspapers (Mean2.76, SD 1.47). They are moderately aware of MGU thesis (Mean 2.2, SD 1.45) and least awareness in Shodhganga, Dyuthi, and Vidyanidhi In KUL the mean score for all the ETDS is greater than 2.5 indicates the professionals are well aware about these. Compared to other electronic resources e-Zines has a least mean score of 2.31 indicates the professionals have less aware of E-Zines. The awareness level of professionals on these repositories is significantly different in both the libraries.

Table 4. Score Table about the awareness of ETD's and Common E-Resources

E-Resources and ETD's	SCL		KUL	
	Mean	SD	Mean	SD
Shodhganga	1.78	1.26	3.61	1.40
Dyuthi	1.73	1.18	2.84	1.42
MGU Theses	2.20	1.45	2.95	1.50
Vidyanidhi	1.49	0.93	2.87	1.37
E-Newspapers	2.76	1.51	3.47	1.30
E-Books	2.98	1.47	3.45	1.41
E-Zines	1.54	1.12	2.31	1.34
Average	2.07	1.27	3.07	1.39

7.3.5 Level of awareness of computer applications

As per Table 5, the professionals of SCL are well aware about operating systems like

Windows (mean 3.98, SD0.96) and Linux (Mean 2.95 and SD 1.32) and they have very less awareness about web page design, creating metadata, system administration and design and

programming languages. In KUL the LIS professionals (41.9%) are extremely aware about the operating system windows (mean 4.06, SD 1.11) and management of e-resources (Mean 3.16, SD 1.24). Most of the professionals are moderately aware about other computer applications like metadata creation, web page design and installation of software with a mean

score slightly less than 2.5. It is also found that in KUL and SCL the mean score about the awareness of library professionals on various computer applications is significantly different except in SCL on system administration and management (SD=0.89) and Windows operating system (SD= 0.96).

Table 5. Score table of awareness level of computer applications

Application/ Services	SCL		KUL	
	Mean	SD	Mean	SD
Operating System Windows	3.98	0.96	4.06	1.11
Operating System Linux	2.95	1.32	3.10	1.24
Manage electronic resources	2.39	1.43	3.16	1.23
Web page design	1.73	1.14	2.29	1.06
Create metadata/tag	1.73	1.18	2.35	1.27
Computer hardware	2.22	1.42	2.37	1.19
Installation and customization	1.76	1.11	2.50	1.10
System Administration and maintenance	1.37	0.89	2.13	1.15
Programming Languages	1.59	1.02	2.03	1.02
Development of Institutional repository	1.63	1.02	2.29	1.22

7.3.6 Familiarity in the use of ICT tools and Web technologies

The professionals in SCL they are moderately familiar in using CD/DVD writing, Laser printing, digital cameras, Image scanner, Barcode scanner, and wifi. Most of them are extremely familiar with RFID technology and e-book reader. In the case of KUL, the LIS professionals

are extremely familiar with the technologies such as CD/DVD writing, laser printing, image scanning, and barcode scanning. Some of them are moderately familiar in using the technologies like computer networking, digital cameras, and memory stick.

Table 6. Score Table of Familiarity in the use of ICT tools and Web technologies

ICT tools and web technologies	SCL		KUL	
	Mean	SD	Mean	SD
CD/DVD writing	3.54	1.47	3.87	1.29
Laser Printer	3.39	1.43	3.42	1.55
Computer Networking	3.05	1.53	3.40	1.35
Digital camera	2.95	1.40	3.31	1.47
Memory Stick(USB)	2.90	1.55	3.15	1.51
Webcam	2.59	1.56	3.11	1.45
LCD /Multimedia	2.76	1.53	3.19	1.35
RFID Technology	3.95	1.28	3.10	1.41
Image scanner	3.68	1.19	3.35	1.46
Barcode Scanner	3.88	1.23	3.77	1.26
E-book Reader	3.07	1.44	3.15	1.45

Wifi	3.44	1.43	3.58	1.35
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From Table 6 it is seen that the mean score of CD/DVD writing (3.54), laser printer(3.39), computer networking(3.05), RFID technology(3.95),image scanner(3.68), Barcode scanner(3.88), E-book reader(3.07) and wifi (3.44) in SCL shows that the professionals have a high degree of familiarity in ICT tools and web technologies. In KUL the professionals are also have high degree of familiarity in all the ICT tools and web technologies. The awareness level of LIS professionals in KUL is higher than the professionals in SCL except in RFID, image scanner and Barcode scanner.

Openbiblio, Evergreen. Mandarin. In KUL 53.2% are extremely aware of Libsys and 32.3% are moderately aware of Koha.

From Table 7 it is clear that the professionals of SCL have high degree of awareness only in Koha(3.41) and Libsys(4.49). The mean score of Libsoft (2.49) and e-granthalaya (2.44) is slightly less than 2.5 indicate that the professionals have moderate awareness about these softwares. In the case of KUL, the professionals have low level of awareness in NEWGENLIB (2.05), Openbiblio (1.84), Evergreen (1.94) and Mandarin (1.79). It is also found that the awareness level of library professionals in KUL on library software is significantly different. But in SCL there is no significant difference in the level of awareness onNewgenlib (0.95), Openbiblio (0.86), Evergreen (0.80), and Mandarin (0.81).

7.3.7 Awareness of Library Software packages

Though SCL is using the Libsys software, a few professionals are extremely aware about other softwares such as Winisis, Libsoft, Koha, and e-Granthalaya. But 56.1% does not know about

Table 7. Score table of Awareness of Library Software packages

Library Software	SCL		KUL	
	Mean	SD	Mean	SD
Winisis	2.05	1.26	2.74	1.25
Libsoft	2.49	1.25	3.23	1.34
Soul	2.07	1.19	3.10	1.21
Newgenlib	1.73	0.95	2.05	1.25
Koha	3.41	1.34	3.40	1.22
E-Granthalaya	2.44	1.48	2.76	1.40
Openbiblio	1.63	0.86	1.84	1.10
Evergreen	1.61	0.80	1.94	1.11
Mandarin	1.44	0.81	1.79	1.04
Libsys	4.49	1.12	4.23	1.01

7.3.8 Awareness of Digital Library Software

In the case of digital library software the professionals of SCL are not aware of Fedora and E-prints. Only 9.8% is somewhat aware of

Greenstone and 29.3% are slightly aware of DSpace. In KUL 14.5% are extremely aware of DSpace and 8.1% are extremely aware of Greenstone. Here also majority are not aware of fedora and E-prints.

Table 8. Score Table of Awareness of Digital Library Software

Digital Library Software	SCL		KUL	
	Mean	SD	Mean	SD
Fedora	1.23	0.42	1.85	1.07
E-prints	1.54	0.87	2.03	1.13
DSpace	1.76	1.04	2.89	1.84

Greenstone	1.78	1.06	2.39	1.32
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From Table 8 it is clear that the degree of awareness of SCL professionals is very poor. In the case of KUL the mean score of DSpace (2.89) reveals that they have high degree of awareness. It is also found that in KUL and SCL the awareness level of library professionals on various digital library software is significantly different.

7.4 Use of software and web based services

A small percent of LIS professionals are never used web based tools. In the case of SCL most of the professionals are often using word processing software, spread sheet software, e-mail. 25(61.0%) professionals have never used Social Bookmarking/ Aggregating software. In KUL 18% professionals are always using word processing software, 45% are using E mail/instant messaging/chat.

Table 9. Score table of use of web tools and services

Web tools/services	SCL		KUL	
	Mean	SD	Mean	SD
Word processing software	3.54	1.10	3.40	1.36
Spread sheet software	3.22	1.31	3.03	1.41
Blogging (Twitter,Weblogs)	2.05	1.18	2.76	1.31
Audio/video sharing/ webcasting (Flickr, Skype, You tube)	2.24	1.26	3.00	1.28
Email/instant Messaging/Chat	3.05	1.40	4.02	1.14
Discussion groups(Google/Yahoo) groups)	2.07	1.42	2.82	1.41
Listservs (LISFORUM, NMLIS)	1.73	1.05	2.19	1.19
RSS feeds	1.88	1.14	2.44	1.28
Wikis (Wikipaedia, LIS wiki)	2.34	1.22	2.95	1.34
Social Bookmarking/ Aggregating (Delicious, Friend feed)	1.78	1.24	2.34	1.16
Social Networking facebook, twitter)	2.85	1.35	3.47	1.38
Content Management systems (Drupal, Joomla)	1.49	0.98	2.03	1.10
Reference Management tools (Mendeley, Zotero)	1.29	0.84	1.92	1.01

In Table 9 the mean score of software like word processing (3.54), spread sheet (3.22), the internet services like Email and chatting (3.05) and Social Networking (2.85) shows that the LIS professionals in SCL have a high degree of usage of web tools and services. Rest of the services is moderately used by the professionals. The professionals in KUL have a high degree of usage in word processing, spread sheet, blogging, audio/video sharing (3.00), email and messaging (4.02) and content management systems. In KUL usage of content management software is poor. It is also found

that the usage of web tools and services by the professionals in KUL and SCL are significantly different.

7.5 Purpose of using various Web Services

Table 10 depicts the purpose of using various web services. In both the libraries, the professionals are using the e mail service for both personal and professional. They are using social networking sites only for their personal

purpose. In SCL e-learning and web page creation software and audio- video sharing websites are using for their personal purpose.

Table 10. Purpose of using various Web Services

Web Technologies	SCL						KUL					
	Professional	Study	Personal	Prof. & Personal	Others	Total	Professional	Study	Personal	Prof. & Personal	Others	Total
E-mail	1 2.4%	5 12.2%	14 34.1%	20 48.8%	1 2.4%	41 100%	4 6.5%	0 0.0%	9 14.5%	46 74.2%	3 4.8%	62 100%
Social Networking Sites	1 2.4%	3 7.3%	26 63.4%	11 26.8%	0 0.0%	41 100%	0 0.0%	3 4.8%	24 38.7%	28 45.2%	7 11.3%	62 100%
E-learning and web page creation software	3 7.3%	11 26.8%	16 39.0%	8 19.5%	3 7.3%	41 100%	6 9.7%	13 21.0%	10 16.1%	23 37.1%	10 16.1%	62 100%
Audio-Video Sharing Websites	1 2.4%	3 7.3%	27 65.9%	6 14.6%	4 9.8%	41 100%	3 4.8%	6 9.7%	20 32.3%	23 37.1%	10 16.1%	62 100%

7.6 Opinion regarding the application of ICT in library

Most of the professionals in SCL agree with the opinion that ICT provides quick access to current data and it has increased job satisfaction. 28(68.3%) disagree that ICT disturbs routine work of the library. In KUL most of the professionals (50.0%) strongly agree that ICT provides quick access and they also agree that it increased job satisfaction. Most professionals have positive attitude towards ICT applications.

7.7 Problems faced by the library professionals

From the survey it is identified that there were many problems faced by the professionals in using ICT. Table 11 shows that 75.6% of professionals in SCL and 88.7% in KUL opined that there is inadequate training in ICT application, Majority (68.8%) of the LIS professionals in KUL reported that there are lack of support from authorities for implementing innovative technologies in the library and 62.9% has the opinion that there is lack of co-ordination among the staff also.

Table 11. Problems faced by the library professionals

Problems	No of respondents			
	SCL	%	KUL	%
Inadequate Training in ICT applications	31	75.6	55	88.7
Lack of interest on the part of users	17	41.4	29	46.7
Fear of ICT applications	17	41.4	23	37.1
Lack of co-ordination among library staff	13	31.7	39	62.9
Lack of support from authorities for implementing ICT application in the library	12	29.2	42	68.8

7.18 Suggestions for developing digital literacy skills of library professionals

Majority (85.3%) of the professionals in SCL suggested that in house training programs are necessary for staff development, 56.1% has

opined that attending professional association meetings would increase the digital literacy. The professionals of KUL suggested that regular attendance of relevant conference or workshop, attending professional association meetings and

in house training programmes should increase the digital literacy skills.

8. Major Findings of the Study

- i. State Central Library has a collection of 4, 58,996 books and 41,642 bound volumes of journals. KUL has 3,39,404 books, 45,000 bound volumes of periodicals, 25,000 bond volumes of news papers, 6500 PhD theses, more than 70,000 documents as special collections including UN& World Bank publications, Govt. Publications etc.. It has a large collection of online/electronic journals, e-books and e-databases. Being an academic library, KUL has patents, standards and technical reports. KUL has membership in E-ShodhSindhu consortium and DELNET but SCL has no such provision.
- ii. State Central Library has more number of computer server machines, client workstations, laptop computers, dot matrix printers, laser printers than university library. There are 8 barcode scanners in SCL but KUL has only five. All the books for circulation of the SCL are RFID tagged. Also, RFID enabled drop box, kiosk and .security gate are installed in SCL but KUL has just started the RFID tagging process.
- iii. The library management softwares such as Libsys and Koha are using both in KUL and SCL for their house keeping operations. SCL has been using NITHYAdigital library software for digital library and MySQL for database management. While KUL has LIDAS digital library platform and D-Space Digital library software for managing the digital content of rare and old documents. For the safeguarding all the programmes and databases Seqrite is the antivirus software using in KUL while Kaspersky is using in SCL.
- iv. In SCL only four professionals are extremely aware of e-journal consortiums. In the case of databases there were 26.8% LIS professionals have a moderate level of awareness. Majority of the professionals are not aware of electronic databases, networks and electronic theses and dissertations. Only 19.5% of LIS professionals in SCL are extremely aware of E-books. KUL library professionals have significant knowledge in Shodhganga, electronic databases, LIS networks, E-books. E-newspapers etc.
- v. The level of awareness of LIS professionals about various hardware components in KUL is greater than that of those in SCL. The level of awareness of LIS professionals in KUL about computer application is greater than in SCL. From the survey it is clear that about 58.5% professionals of SCL have a moderate level of awareness in windows operating system. Most of the professionals in both the libraries are unaware about web page creation, trouble shooting of computer hardware, installation of software, system administration and customisation of software.
- vi. In SCL Word processing software (24.2%) and Email/Instant messaging or Chat (33.8%) are always used by professionals. Blogging (twitter and weblogs) were never used by 29.1%, 33.9% did not use discussion groups, Listservs is never used by 44.6% and 39.8% never used RSS feeds. The lowest level of use of web based service is content management (53.3%) and Reference management tools (60.1%). The LIS professionals in KUL are frequently using social networking and innovative technologies.
- vii. Library management software, LIBSYS is extremely known to 58.2% of the library staff of KUL. In SCL 75.6% has awareness about LIBSOFT, most of them are unaware of SOUL, Newgenlib, e-Granthalaya, Openbiblio, Evergreen. In KUL only 1.6% is not aware of LIBSYS.
- viii. Knowledge about Digital library software is low among library professionals in KUL. In SCL only 46.3% are aware about D-space and Greenstone. In KUL 72.5% are aware of D-space and 64.5% is aware of Greenstone. Awareness level of Fedora

and E-prints is very poor in both the libraries.

- ix. In both libraries, E-mail service is used for personal and professional purpose by most of the professionals. The social networking sites are used only for personal purpose. In KUL most of the professionals use E-learning and Web page creation software and audio –video sharing websites for personal and professional purpose.
- x. Most of the professionals in SCL agree that ICT provides quick access to
- xi. The main problems faced by the professionals in using ICT are inadequate training, lack of support from authorities and 62.9% of the LIS professionals in KUL have opined that there is lack of co-ordination among the staff.

9. Suggestions

After careful observation of the present investigation/study, the following suggestions were made:

- i. In house training programs are necessary for staff development. Attending professional association meetings, relevant conference or workshop would increase the digital literacy of LIS professionals.
- ii. Library professionals should be encouraged and deputed by the authority to attend seminars, workshops, conferences, training programmes on library management software, IT tools, Search techniques.
- iii. The library authorities need to provide necessary scope and motivation to upgrade the ICT literacy skills of library professionals.
- iv. Sufficient funds should be made available by the authorities for developments of ICT infrastructure, digital resource development, application of ICT enabled services.

10. Conclusion

ICT provides libraries an opportunity to give value added information services and access to

current data and it has increased job satisfaction but 43.9% of the professionals are neither agree or disagree with the statement that ICT has reduce their workload and 68.3% disagree that ICT disturbs routine work of the library. In KUL most of the professionals strongly agree that ICT provides quick access and increases their job satisfaction. In both the libraries most professionals have a positive attitude towards ICT applications.

- v. The library and information science curriculum must be restructured in such a way that more importance shall be given to digital resources and practical oriented lessons to increase the digital skills of library professionals. The curriculum shall be revised by including IT enabled Library and information services, literature search, organizational and personnel management of libraries, public relations, soft skills, marketing of library services etc.
- vi. Professional development activities ought to be encouraged from the junior most level to develop the competencies of all professionals in providing various technology based services.
- vii. Seminars, workshops and training programmes should be conducted by the libraries at regular intervals,
- viii. Certain performance indicators should be considered for the promotion of library staff.
- ix. Insist the libraries to be a member of various national and international networks and consortia.
- x. Initiate steps to provide innovative services to the user community.
- xi. Reorienting the existing information products and services of the libraries.
- xii. Market the information products and services by establishing a marketing division at each library.

a wide variety of digital based information resources to their clients. In the current situation, where by ICT are being continuously updated,

and the traditional formats are being replaced by digital formats, regular training for the library professionals in changing technology is inevitable. The study reveals that the professionals of KUL and SCL have positive attitude towards the ICT applications. It is clear that ICT technologies which are taken for study are not yet been fully introduced in SCL. Therefore the professionals are not in a position to use these technologies at their work. Being an academic library the professionals of KUL are highly qualified and have sufficient technical qualification for rendering IT enabled services. Their awareness in various digital resources such as e-journal consortium, databases, LIS networks and ETD's etc are also high. The main problem in ICT utilization was the lack of training in ICT applications as pointed out by the majority of library professionals. The importance of staff training and participation in institutional training workshops etc. were stressed to update the knowledge and to develop skills of library professionals. The study concluded that the professionals need training to use and disseminate the digital resources effectively.

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