



ICT skills among Women Library Professionals in SSUS and CUSAT: an Analytical Study

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ABSTRACT: *ICT is becoming important in everyday activities in all sectors. These skills can also help them to progress in their job and in their careers. The basic aim of present study is to highlight the Information and Communication Technology (ICT) skill among women library professionals in SSUS and CUSAT. The total numbers of women library professionals in these institutions were 35, of whom 31 respondents had completed and returned the questionnaires, this represents 88.57% of the response rate. It is therefore recommending that the librarians all over the world need to update this skills and upgrade their service to meet the rising demand of this age.*

Keywords: Information and communication Technology Skill, Women Library Professionals, Library Automation, SSUS, CUSAT

1. Introduction

In this era of Information development the role of library professionals has changed it has made the job easy for those who are well informed about ICT skills. Women professionals irrespective of their differences or limitations have to equip themselves with the growing need of information literacy skill, communication skills, management skills, planning skills, organizational skills. Rapid advances in IT in the past two decades have brought revolutionary changes in the concept, organization, functioning and management of library and information system throughout the world. The impact of these changes is pervasive and effecting all the aspects of library operations, information resources and services, staff skill requirements and users expectations. The accelerating pace of technological developments have tremendously increased the ability to access, store, process, communicate and deliver information services in libraries. The application of computer and networking technologies has improved the efficiency of library services.

The University of Cochin was established in 1971 to develop higher education in applied science, technology, industry and commerce and was renamed as Cochin University of Science and Technology¹ (CUSAT) in 1986. The University has three major Campus located at Thrikkakara, Ernakulam and Pulinkunnu, Alappuzha. The Central Library was established in 1977 and its library system include the central library at main campus and department libraries and College of Engineering library at Pulinkunnu Campus. The library has a collection of more than 80,000 books including bound volumes of journals and patents. It

is also connected with UGC Infonet consortium of INFLIBNET. The library was automated in using Adlib software. As a part of promoting open software, the central library is converting all its records into Koha open software. All teaching department have libraries and one or more professional staff depending on the book collection. University library has 22 women professional qualified staff.

Sree Sankaracharya University of Sanskrit² (SSUS) named after the famous sage and philosopher Sree Sankaracharya was established in 1993 in Kalady. Besides conducting academic courses, it also works towards the publication and preservation of manuscripts and books in Sanskrit and other languages. The university is presently functioning through nine regional centres, namely Kalady (main campus), Thiruvananthapuram, Thrissur, Panmana, Thuravoor, Ettumanoor, Tirur, Koyilandy and Payyannur. The university conducts a wide range of courses in Sanskrit Core, Music, Dance, and in Indian culture and languages. The University has a Central Library in the main campus at Kalady. And is organized into eight units viz. Circulation, Reference, Text Book, Maintenance, Acquisition, Technical, Reprographic and Binding Section. University library has 18 professionally qualified staff, only women are selected in this study. The library has a well-balanced collection of ancient and modern books mainly in Sanskrit, Social Science and Humanities. With a unique collection of around 77,000 Books and 600 rare Manuscripts, apart from Journals, Periodicals, Newspapers, Thesis & Dissertations, the Central Library caters to the University community at all levels. Three study centers and campus library has a library

professional each. The operations of the library were automated by Alice software for Windows, now it is on the process of converting to KOHA Open Source Library System. The software is installed at the University data center and is accessible through all the nodes in the Library through the network. It is also linked with the UGC/Infonet E-Journal consortium and NLIST Programme.

2. Review of literature

Review of related literature helps the researcher to overview the most relevant studies to the subject. Several studies have investigated ICT skills and its value for librarians. **Sudhambika S R³**(2011) observed the IT skills and competencies for women library professionals in electronic library. Women library professionals started migrating to become knowledge professionals so they definitely require maintaining standards of excellence to develop professional knowledge and skills and a need to produce the vision to translate core values of today and tomorrow's information world. This study point out the method to improve the efficiency of library operations, respondents mention that corporate knowledge in advanced technology is an essential factor to improve the efficiency of library operations. The study conducted by **Mina Tavassoli-Farahi, Masoumeh Tajafari and Iman Tahamatan⁴**(2014) on evaluation of medical Librarian's levels of ICT skills in Iran. This study highlighted that medical librarians ICT skills seemed to be in a low/moderate level in a developing country like Iran. They should employ medical LIS professionals with adequate ICT knowledge. LIS programs should incorporate more educational technology programs, as it has been identified as an area of expected growth opportunity for libraries. **Mohammed K. Haneefa and C.K Abdul Shukoor⁵**(2010) identifies the ICT literacy among library professionals of Calicut University. A structured questionnaire was used to collect data. Analysis of the study is that the use of ICT based resources and services, library automated software and general purpose application software is high among professional Assistants than the Junior Librarians and Assistant Librarians. The use of digital library and institutional repository software is very low among the library professionals. Majority of the professionals had confidence in routine ICT and internal tasks, and need training or orientation in library automation, digital library and institutional repository software. **Seena S T and K G Sudhier Pillai⁶**(2014) assessed the level of ICT skill among library professionals in Kerala university Library system. The study based on a questionnaire survey of library professionals employed in the central and department libraries of the University of Kerala. The analysis revealed that the library professionals in Kerala University library have relatively average level skill in various ICT related tasks in libraries. Lybsys Software was

more used in libraries and a good number of professionals indicated that main constraints faced by professionals in the application of ICT in libraries are inadequate training in ICT application. All the professionals expressed a positive attitude towards the application of ICT in libraries. **Thanuskodi S⁷**(2011) conducted a study on ICT Literacy among Library professionals in Engineering college libraries of Tamil Nadu: an analytical study. This paper is primarily concerned with self-efficacy in context of information literacy. The focus is primarily on the concept of self efficacy, followed by attainment of self efficacy belief. The study found that the respondents indicated that 95.12% of professionals have knowledge in computer fundamentals. 81.07% in Internet, 42.68% in multimedia and only very few professionals 29.26% have knowledge in computer programming. **Sunil Kumar Satpathy and Rabindra K Maharana⁸**(2011) examines the ICT skills of LIS professionals in Engineering Institutions of Orissa, India: a case study. The present study covers the library and Information Science (LIS) Professionals of 76 Engineering Institute of Orissa which are approved by All India Council of Technical Education (AICTE), New Delhi by the year 2009. The structured questionnaire was designed and distributed to 152 LIS professionals, out of this 152, only 113 respondents responded with filled in questionnaire (74.3%). The study revealed that all LIS Professionals are computer literate and have sound knowledge of available ICT tools in Libraries. The analysis also revealed that most of the professionals possess knowledge of digital library and Institutional repositories. The main constraints faced by professionals in acquiring ICT skill is tight working schedule of libraries, poor infrastructural facilities and lack cooperation from authorities.

3. Objective of the study

1. To study the ICT literacy among the women library professionals of SSUS and CUSAT.
2. Identify the types of ICT skills possessed by the librarians under study.
3. To find out the current use of ICT based resources and services by the library professionals of SSUS and CUSAT.
4. To assess the constraints in acquiring ICT skills by the women librarians.
5. To recommend methods for improving the knowledge/skills of women library professionals.

4. Need for the study

The emerging trends of information and communication technology and its application explore the opportunity to make more efficient the functions and services of Library and Information Centers. Electronic Information becoming a challenging issues for information professionals because most of the libraries are now moving

towards automation or the partial/ complete digitization without giving due consideration to the post technology deployment, services and other management issues.

5. Methodology

A structured questionnaire was designed to assess the ICT skills among women library professionals. A total number of 35 questionnaires were distributed and 31 questionnaires have been responded positively, the response rate is 88.57%. The researcher has selected two major universities in Kerala. Viz. Sree Sankaracharya University of Sanskrit and Cochin University of Science and Technology.

6. Data Analysis

6.1 Professional Qualification Wise

The library professionals were asked to indicate the professional qualifications (Table1) The data reveals that 4 (12.9%) PhD holders in library science, 10 (32.26%) M Phil, 16 (51.61%) M L I Sc and 1 (3.23%) B L I Sc.

Table 1 Professional Qualification Wise distribution of respondents

Professional Qualification	Percentage
PhD	4 (12.9%)
M Phil	10 (32.26%)
M L I Sc	16 (51.61%)
B L I Sc	1 (3.23%)

6.2 Designation wise distribution

The user’s designations of some organizations vary, among the respondents 8 (25.81%) of Assistant Librarians, 2 (6.45%) Junior Librarians, 2 (6.45%) Reference assistant, 6 (19.35%) Technical Assistant and 13 (41.94%) professional Assistants responded to the questionnaire.

Table2 Designation wise distribution of respondents

Designation	Percentage
Assistant Librarians	8 (25.81%)
Junior Librarians	2 (6.45%)
Reference Assistants	2 (6.45%)
Technical assistants	6 (19.35%)
Professional assistants	13 (41.94%)

6.3 Experience wise distribution

Working experience of 25 (80.65%) respondents were in 6-15 years experience, 1 (3.23%) below five years, 3 (9.68%) 16-25 years and 2 (6.45%) respondents were in above 25 years experience.

Table 3 Experience wise distribution of respondents

Experience	Percentage
Below 5 years	1 (3.23%)
6-15 years	25 (80.65%)
16-25 Years	3 (9.68%)
Above 25 Years	2 (6.45%)

6.4 Computer Knowledge obtained courses

The data reveals that 17 (54.84%) professionals obtained computer knowledge from short term courses, 5 (16.13%) professionals possessed DCA courses, 5 (16.13%) have informal computer education , 4 (12.9%) possessed by PGDLAN Course.(Table 4)

Table 4 Computer courses undertaken

Types of Computer Courses	Percentage
Short Term Courses	17 (54.84%)
DCA Course	5 (16.13%)
Informal	5 (16.13%)
PDDLAN Course	4 (12.9%)

6.5 Awareness/skill for use of Technologies

Data were collected the present study to know about the skill/awareness for the use of technologies, which is tabulated in Table 5. The analysis of the data shows that average skills are for computer networking, Average skills for CD/DVD writing (41.94%), above average skills are shown for the knowledge of mobile phone (54.84%), above average respondents were in digital camera (48.39%). Respondents also have average level of skill in Barcode Scanner (45.16%), Image Scanners (38.71%) and have above average level of skill in Internet (38.71%).

Table 5 Awareness/Skill for use of Technologies

Sl No	Items	Extremely Poor	Below Average	Average	Above Average	Excellent
1	Computer Networking	2 (6.45%)	4(12.90%)	19(61.3%)	6(19.35%)	
2	CD/DVD Writing	1(3.23%)	3(9.68%)	13(41.94%)	10(32.26%)	4(12.90%)
3	Memory Stick(Flash, Drive, USB)	1(3.23%)	4(12.90%)	13(41.94%)	9(29.03%)	4(12.90%)
4	Mobile Phone			12(38.71%)	17(54.84%)	2(6.45%)
5	Digital Camera	2(6.45%)	2(6.45%)	10(32.26%)	15(48.39%)	2(6.45%)
6	Webcam	3(9.68%)	6(19.35%)	12(38.71%)	7(22.58%)	3((.68%)

Sl No	Items	Extremely Poor	Below Average	Average	Above Average	Excellent
7	MP4 Player	2(6.45%)	5(16.13%)	15(48.39%)	6(19.35%)	3(9.68%)
8	Laser Printer	1(3.23%)	2(6.45%)	13(41.94%)	11(35.49%)	4(12.90%)
9	LCD/Multimedia Projector	4(12.90%)	9(29.03%)	10(32.64%)	6(19.35%)	2(6.45%)
10	RFID Technology	8(25.81%)	11(35.49%)	8(25.81%)	4(12.90%)	
11	Barcode Scanner	1(3.23%)	1(3.23%)	14(45.16%)	9(29.03%)	6(19.35%)
12	Image Scanner	4(12.90%)	3(9.68%)	12(38.71%)	9(29.02%)	3(9.68%)
13	Internet			11(35.49%)	12(38.71%)	8(25.81%)

6.6 Library Computerization

Table 6 reports that most of respondents i.e. 20 (64.52%) opined that library was partially computerized, 6 respondents (19.35%) followed by fully computerized and 5 respondents (16.13%) opined that planning to computerized library.

Table 6 Computerization

Computerization	Percentage
Partially Computerized	20 (64.52%)
Fully Computerized	6 (19.35%)
Planning to Computerized	5 (16.13%)

6.7 Awareness/Skill for the use of ICT based application

The result of the study have been summarized in table 7 The data shows that the above average respondents 13(41.94%) have skill in Windows, 16 (51.61%) respondents rated the level of skill in Linux as average. 13 (41.94%) respondents have average level of skill in MS Office, 10 (32.64%) respondents have knowledge in UNIX, 13 (41.94%) have MS Dos, 12 (38.71%) have awareness in Webpage design, 12 (38.71%) have awareness in installation and customization of software, 13 (41.94%) have skill in database management system, 15 (48.39%) have in Barcode Technology, 14 (45.16%) have average skill in Scanner.

Table 7 Awareness/ skill for the use of ICT based application

Sl No	Technology	Extremely Poor	Below Average	Average	Above Average	Excellent
1	Windows			12(32.71%)	13(41.94%)	6(19.35%)
2	LINUX	1(3.23%)	5(16.13%)	16(51.61%)	7(22.58%)	2(6.45%)
3	MS Office			13(41.94%)	12(38.71%)	6(19.35%)
4	UNIX	6(19.35%)	10(32.26%)	9(29.03%)	4(12.9%)	2(6.45%)
5	MS Dos	4(12.9%)	3(9.68%)	13(41.94%)	10(32.64%)	1(3.23%)
6	Web page design	9(29.03%)	8(25.81%)	12(38.71%)	2(6.45%)	
7	Installation and customization of software	7 (22.58%)	8(25.81%)	12(38.71%)	4(12.9%)	
8	Database Management System	6(19.35%)	7(22.58%)	13(41.94%)	3(9.68%)	2(6.45%)
9	Barcode Technology	1(3.23%)	2(6.45%)	15(48.39%)	11(35.49%)	2(6.45%)
10	Scanners	2(6.45%)	5(16.13%)	14(45.16%)	9(29.03%)	1(3.23%)

6.8 Skills on Usage of Library Automation Software

The analysis of the data reveals that majority of the library professionals have use of the automation software KOHA, followed by LIBSYS, ALICE, SOUL, CDS/ISIS.

Table 8 Skills on usage of automation software

Sl No.	Library Automation Software	Good	Poor	Don't use	Don't Know
1	LIBSYS	13(41.94%)	2(6.45%)	8(25.81%)	8(25.81%)
2	SOUL	7(22.58%)	4(12.9%)	8(25.81%)	12(38.71%)
3	WINSIS	3(9.68%)	8(25.81%)	8(25.81%)	12(38.71%)
4	KOHA	25(80.65%)	6(19.35%)		
5	ADLIB	10(32.64%)	3(9.68%)	5(16.13%)	13(41.94%)
6	ALICE	13(41.94%)		9(29.03%)	9(29.03%)
7	CDS/ISIS	12(38.71%)	6(19.35%)	6(19.35%)	7(22.58%)

6.9 Knowledge of Digital library/institutional repository Software

Most of the respondents have good knowledge of digital library software D-Space, a significant number 15 (48.39%) have don't use in E Print, 10(32.64%) have not know the digital library software Greenstone.

Table 9 Knowledge of Digital Library/Institutional repository Software

Sl No	Digital Library Software	Good	Poor	Don't use	Don't Know
1	D -Space	16(51.61%)	6(19.35%0	5(16.13%)	4(12.9%)
2	Greenstone	4(12.9%)	5(16.13%)	13(41.94%0	10(32.64%)
3	E-Print		9(29.03%)	15(48.39%)	7(22.58%)
4	Fedora		6(19.35%)	14(45.16%)	11(35.49%)

6.10 Types of Library Automation software use in Library

SSUS library and CUSAT library operations are automated by Alice for windows and ADLIB respectively. As a part of promoting open source software, they were converting all its record into KOHA open software.

6.11 ICT Skill for Managing Electronic Resources

The rate of ICT skill for managing electronic resources by library professionals in depicted in table 11. The table shows that 31 (100%) respondents have skill for using OPAC, 22 (70.97%) have knowledge of Bibliographic database, 23 (74.2%) have knowledge of Full Text database and E Books, 26 (83.87%) awareness in E Journals. Most of them have skill in Emails 31(100%). The data shows that 29 (93.55%) respondents have awareness in library networks, and Library website. 20 (64.52%) of them have skill in digital libraries.

Table 11 ICT skill for managing electronic resources

Sl No	Electronic Resources	Good	Poor	Don't use	Don't Know
1	OPAC	31(100%)			
2	Bibliographic Database	22(70.97%)	6(19.35%)	3(9.68%)	
3	Full Text Database	23(74.2%)	6(19.35%)	2(6.45%)	
4	E Books	23(74.2%)	4(12.9%)	4(12.9%)	
5	E Journals	26(83.87%)	3(9.68%)	2(6.45%)	
6	ETD	19(61.3%)	6(19.35%)	2(6.45%)	4(12.9%)
7	Email	31(100%)			
8	Search Engine	26(83.87%)	5(16.13%)		
9	Library Networks	29(93.55%)	2(6.45%)		
10	Library websites	29(93.55%)	2(6.45%)		
11	Digital libraries	20(64.52%)	9(29.03%)	1(3.23%)	1(3.23%)

6.12 Skills on Managing ICT based Library Services

The responses in Table 12 shows that 15(48.39%) of professionals have above average skills for ICT based information retrieval (accessing, searching and use of E journals). The respondents also have a average level of skill in electronic document delivery and Inter library loan through network 14(45.16%), online Indexing and abstracting services 12(38.71%), Digital Reference services 10 (32.64%), Development of Institutional repository 10(32.64%), SDI services12 (38.71%) and electronic new additional alert 9(29.03%).

Table 12 Skill on managing ICT based Library Services

Sl No	Information Services	Extremely Poor	Below Average	Average	Above Average	Excellent
1	Information Retrieval (accessing Searching, Use of E journals)	1(3.23%)	4(12.90%))	7(22.58%)	15(48.39%)	4(12.90%)

SI No	Information Services	Extremely Poor	Below Average	Average	Above Average	Excellent
2	Electronic Document delivery & ILL through network	4(12.90%)	7(22.58%)	14(45.16%)	4(12.90%)	2(6.45%)
3	Online Indexing and abstracting Services	4(12.90%)	7(22.58%)	12(38.71%)	6(19.35%)	2(6.45%)
4	Digital reference services	2(6.45%)	8(25.81%)	10(32.64%)	8(25.81%)	3(9.68%)
5	Development of institutional repository	3(9.68%)	9(29.03%)	10(32.64%)	9(29.03%)	
6	SDI Services	4(12.90%)	6(19.35%)	12(38.71%)	9(29.03%)	
7	Electronic new additions alert	4(14.90%)	7(22.58%)	9(29.03%)	8(25.81%)	3(9.68%)

6.13 Problems

Analysis of the data shows that inadequate training in ICT application is the major problem in the effective use of ICT cited by majority of the library professionals 23(74.2%) other main problem indicated by library professionals are lack of support from authorities for implementing ICT applications in library 10 (32.64%) and no support from administration in training library professionals 10 (32.64%) and lack of initiation from professionals association to conduct specialized training programmes. Only few professionals had cited lack of coordination among library staff 4 (12.9%).

Table 13 Problems faced by Library professionals in effective use of ICT applications

SI No	Problems	Please tick
1	Inadequate training in ICT application	23(74.2%)
2	Lack of Infrastructure	9(29.03%)
3	No support from administration in training library professionals	10(32.64%)
4	Lack of support from authorities for implementing ICT applications in library	10(32.64%)
5	Lack of co-ordination among library staff	4(12.9%)
6	No initiative from professional associations to conduct specialized training programmes	5(16.13%)

6.14 Suggestions

Majority of the library professionals suggested that In-house training programmes has helped to update their ICT skills, next preference to learning from web resources, another preferred activity was discussion of professional matters with colleagues, other suggestions for updating ICT skills of Library professionals to regularly reading relevant professional literature.

Table14 Suggestions for updating IT skills of Library Professionals

SI No	Suggestions	Please tick
1	Regular attendance of relevant conferences/workshops	14 (45.16%)
2	In-house training programmes for staff development	24 (77.42%)
3	Going for higher studies/Formal courses	7 (22.58%)
4	Undertaking individual research work/publication	5 (16.13%)
5	Discussion of professional matters with colleagues	13 (41.94%)
6	Attending professional association meetings	9 (29.02%)
7	Involvement in teaching	6 (19.35%)
8	Regularly reading relevant professional literature	14 (45.16%)
9	Learning from web resources	17 (54.84%)

7. Conclusion

The essentiality of ICT application for libraries is unquestionable. Effective utilization of ICT is very essential for librarians performing their operations most efficiently. There is a great need for ICT skills in library and information professionals to retain their relevance to the society in the networking age. Though gender does not determines the quality and quantity of work one could perform, still there are certain factors which at time causes a hurdles or curtails women to do

work at that ease required by the job. Findings of the study reveals that majority of the women professionals used ICT by libraries. Majority of the women library professionals have average level of skill on managing ICT based Library services. The study suggests that University library professionals need in-house training programmes to update their ICT skills. For successful implementation of Digital Library, it is essential that LIS professionals are well trained and possess requisite knowledge and skill in this respect.

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