

## **Ict Skills Among Librarians in Engineering Colleges In Salem And Namakkal Districts: A Study**

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**ABSTRACT :** *Library and information professionals today need to acquire knowledge and skills in information and communication technology (ICT) as the services of more and more libraries are now centering on information technology, especially in educational institutions. Application of ICT in academic environment in India has increased gradually in the recent decades, more particularly in Tamil Nadu. The aim of the study is to assess weather the developments in information communication technologies have any influence on the library professionals' professional development, and the need for further education and training in the profession and evaluate their skills in handling developments in ICT. This paper examines the ICT skills among librarians in engineering Colleges in Salem and Namakkal Districts. The analyses of the data represent the extent and the level of ICT skills possessed by the librarians of these institutions.*

**KEYWORDS:** *Information and Communication Technology (ICT), Internet, Multimedia, Search Engines, Web-Resources, Automation, OPAC.*

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### **I. INTRODUCTION**

The current development in science and technology has led to a new staggering condition about information created in the world. In the present ICT era, it becomes necessary for the librarians to use the computers and other devices in the day-to-day work. In this context, the librarians shall possess, in addition to the academic and professional qualifications, certain ICT skills, such as handiness in operating systems, use of application software packages, knowledge of databases and programming, acquaintance in webpage design, library automation software, technical skills, and managerial skills. This survey has been aimed to estimate the level of knowledge on ICT skills by the respondent librarians. This paper analyses various ICT skills possessed by librarians like programming languages, application software packages, Database management system (DBMS), library management software and web design and also finds out the constraints encountered by librarians in acquiring ICT skills.

**Literature Review:** Review of the literature shows a few studies on skills of the library professionals published in India and other countries. **Adeyoyin (2005)** surveys the levels of ICT literacy among library staff in Nigerian libraries. The questionnaire method was used for this study. The data, collected on a self-assessment basis, covered 18 Nigerian university libraries. It shows that Nigerian university libraries, which form the basis of knowledge for the country, do not have professional librarians whose skill-set is adequate to meet the ICT applications which are indispensable for the acquisition, organization, provision and dissemination of knowledge. Library management, for its part, should acknowledge the wide-ranging benefits of both ICT and raise levels of ICT literacy for university libraries and their mother institutions.

**Ramesh Babu, Vinayagamorthy and Gopalakrishnan (2007)** report a survey of the ICT skills among librarians in engineering educational institutions in Tamil Nadu. The main objective was to identify the types of ICT skills possessed by the librarians, assess the level/extent of different types of ICT skills, the means of acquiring ICT skills, and identify the constraints in acquiring ICT skills by the librarians. The knowledge in ICT relates to operating systems, packages and programming languages, library automation software, web awareness, knowledge of online facilities/services, and also technical skills and managerial skills. The results show that the librarians of these institutions are acquiring considerable basic skills in ICT. However, they need to concentrate more on network-based services and digital library services.

**Mohamed Haneefa and Shukoor (2010)** report the Information and Communication Technology (ICT) literacy among the library professionals of Calicut University. The study includes only the library professionals in the central library and departmental libraries of Calicut University. A structured questionnaire was used to collect data. The study reveals that the Professional Assistants are more ICT proficient in ICT skills than the Junior Librarians and Assistant Librarians. The use of ICT-based resources and services, library automation software, and general purpose application software is high among the junior professionals than the senior library staff. 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 Internet tasks, and need training or orientation in library automation, digital library and institutional repository software.

## **OBJECTIVES OF THE STUDY**

The objectives of this study are to:

- Analyse the knowledge of ICT of Librarians in engineering institutions in Salem and Namakkal District of Tamil Nadu.
- Classify the librarians by age, sex, qualification and experience depending on the types of institutions they serve.
- Find out Librarians skills in operating systems, use of application software packages, programming languages, technical skills, managerial skills and other ICT related activities.
- To study the problems faced by Librarians in the effective use of ICT applications.
- To recommend methods for improving the knowledge/skills of Librarians.

The study covers the attempts of the engineering educational institutions established up to July 2011 only. The survey covers only the librarians of the respective institutions and the semi professionals not covered (Assistant Librarian, Library Assistants and others).

## II. METHODOLOGY:

In order to collect the comprehensive and relevant data from the Librarians of the Thirty nine engineering colleges in Salem and Namakkal districts, a structured questionnaire was designed and interview method was also adopted as the tool for collection of data. The questionnaire was formulated keeping in view, the objective and various facers of the study and the questionnaires were personally distributed and collected with constant personal pursuance and the data obtained from the filled in questionnaires, later classified, analyzed, tabulated and logically interpreted.

### Data Analysis:

**Table-1**

**Background Information about the Librarians**

Name of the Library Staff	No. of	Per cent
<b>Gender</b>		
Male	31	79.48
Female	08	20.52
<b>Age Group</b>		
25-35 years	4	10.26
35-45 years	28	71.79
46-55 years	7	17.95
51 and above	-	
<b>Professional Qualifications</b>		
MLISc	15	38.46
M.Phil in LIS	21	53.85
Ph.D in LIS	3	7.69
<b>Experience</b>		
Upto 5	11	28.21
6 to 10	17	43.59
11 to 15	10	25.64
Above 16	1	2.56

**Age and gender-wise distribution of respondents :** Table 1 shows that most of the librarians fall in the age group between 36 to 45 years (71.79 %). Only 10.26 % of the librarians are below 35 years of age. The remaining (17.95 %) are above 46 years of age. Gender- wise analysis showed that the majority of the librarians are males (79.48 %) and (20.52 %) are females.

**Professional qualification and Experience of respondents :** Table 1 show that the professional qualifications of the respondents under survey. It is interesting to note that all librarians are qualified with a Master's degree in LIS (MLIS) and mostly (53.85 %) possess M.Phil degree and 3 with PhD degree in LIS. Nearly half of the sample librarians 17 have experience ranging 6-10 years. More than one third of the samples 11 fall below 5 years of experience. It is observed that the greater the number of librarians, smaller the duration of the service.

**Table-2**  
**Awareness of ICT based applications**

Technology	Extremely poor	Below Average	Average	Above Average	Excellent	Total
Operating system Windows	2 (5.13 %)	3 (7.69 %)	5 (12.82 %)	10 (20.64 %)	19 (48.17 %)	39 (100 %)
MS office Package	2 (5.13 %)	5 (12.82 %)	7 (17.95 %)	8 (20.51 %)	17 (43.58 %)	39 (100 %)
Operating System Linux	4 (10.25 %)	6 (15.38 %)	4 (10.25 %)	7 (17.95 %)	18 (46.15 %)	39 (100 %)
Web page Design	8 (20.51 %)	17 (43.58 %)	9 (23.07 %)	5 (12.82 %)	0 (0 %)	39 (100 %)
Create metadata / tag	10 (20.64 %)	15 (38.46 %)	7 (17.95 %)	5 (12.82 %)	2 (5.13 %)	39 (100 %)
Installation and Customization Software	7 (17.95 %)	16 (41.02 %)	11 (28.20 %)	4 (10.25 %)	1 (2.56 %)	39 (100 %)
RFID Technology	11 (28.20 %)	17 (43.58 %)	5 (12.82 %)	4 (10.25 %)	2 (5.13 %)	39 (100 %)
Barcode Technology	6 (15.38 %)	18 (46.15 %)	8 (20.51 %)	5 (12.82 %)	2 (5.13 %)	39 (100 %)
Database Management Systems	6 (15.38 %)	13 (33.33 %)	11 (28.20 %)	7 (17.95 %)	2 (5.13 %)	39 (100 %)
Photoshop	5 (12.82 %)	16 (41.02 %)	11 (28.20 %)	5 (12.82 %)	2 (5.13 %)	39 (100 %)

**Awareness of ICT based applications :**Table 2 presents the respondents' level of knowledge in ICT based application. It is found from the table the respondents relatively possess a higher level of awareness in using Windows (48.17 %), MS Office package (43.58 %) and Linux (46.15 %).

**Table-3**  
**Awareness of Library automation software**

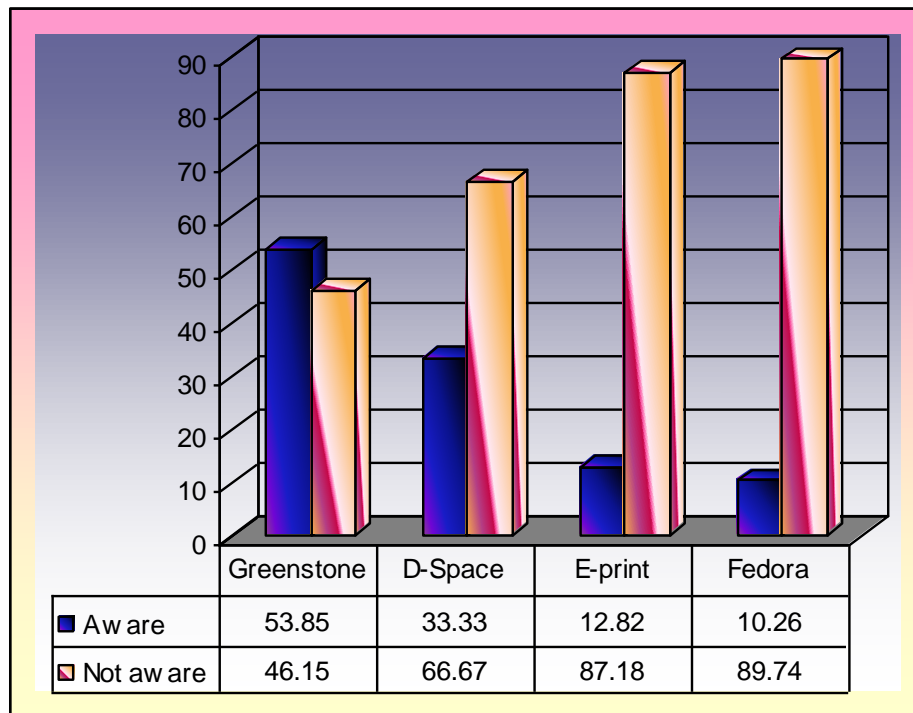
Library Software	Aware	%	Not aware	%	Total
CDS/ISIS	28	71.79	11	28.21	39
LIBSYS	25	64.10	14	35.90	39
AUTOLIB	23	58.97	16	41.03	39
LIBSOFT	21	53.85	18	46.15	39
KOHA	19	48.72	20	51.28	39
SOUL	9	23.08	30	76.92	39
NEWGENLIB	7	17.95	32	82.05	39
EVERGREEN	5	12.82	34	87.18	39
DOLPHIN	3	7.69	36	92.31	39
Alice for Windows	2	5.12	37	94.87	39
LIBMAS	1	2.56	38	97.43	39

**Awareness of Library automation software**

Table 3 shows the awareness of library automation software among the librarians' to familiar more with CDS /ISIS (71.79 %) followed by LIBSYS (64.10 %), AUTOLIB (58.97 %), LIBASOFT (53.85 %), KOHA (48.72 %), SOUL (23.08 %). The professionals expressed their skills as poor in the

software such as NEWGENLIB (17.95 %), EVERGREEN (12.82 %), DOLPHIN, (7.69 %), Alice for Windows (5.12 %) and LIBMAS (2.56 %).

**Awareness of Digital library software**



**Fig 1. Awareness of Digital library software**

The level of knowledge of digital library software among the librarians’ is illustrated in Fig 1. It is clear that most of the librarians’ have more skills in Greenstone software (53.85 %). The skills are below average level in the use of other digital library software such as D-space (33.33 %), E-prints (12.82 %) and Fedora (10.26 %).

**Table -4**

**Skills for managing ICT based library services**

Technology	Extremely poor	Below Average	Average	Above Average	Excellent	Total
Electronic document delivery system	1 (2.56 %)	4 (10.25 %)	20 (51.28 %)	12 (30.76 %)	2 (5.12 %)	39 (100 %)
Online indexing and abstracting services	2 (5.12 %)	13 (33.33 %)	18 (46.15 %)	4 (10.25 %)	2 (5.12 %)	39 (100 %)
Digital reference services	6 (15.38 %)	10 (25.64 %)	17 (43.58 %)	4 (10.25 %)	2 (5.12 %)	39 (100 %)
Inter library loan through networking	6 (15.38 %)	15 (38.46 %)	13 (33.33 %)	3 (7.69 %)	2 (5.12 %)	39 (100 %)
Online bibliographic service	7 (17.94 %)	12 (30.76 %)	15 (38.46 %)	2 (5.12 %)	3 (7.69 %)	39 (100 %)
Development of institutional repository	4 (10.25 %)	13 (33.33 %)	18 (46.15 %)	2 (5.12 %)	2 (5.12 %)	39 (100 %)
Current awareness services	5 (12.82 %)	7 (17.94 %)	19 (48.71 %)	5 (12.82 %)	3 (7.69 %)	39 (100 %)
SDI services	4 (10.25 %)	10 (25.64 %)	16 (41.02 %)	6 (15.38 %)	3 (7.69 %)	39 (100 %)
Circulation of new additions list	3 (7.69 %)	11 (28.20 %)	17 (43.58 %)	5 (12.82 %)	3 (7.69 %)	39 (100 %)

**Skills for managing ICT based library services**

Table 4 gives the result of analysis of Librarians' skills for managing various ICT related library services. A consistent percentage (30.76%) of professionals has above average skills only for Electronic documents delivery systems. Below average skills are shown for inter library loan through networking (38.46%), online indexing and abstracting services and development of institutional repository (33.33%). Respondents also have a significant average level of skills in Electronic document delivery system (51.28%), current awareness services (48.71%), online indexing and abstracting services and development of institutional repository (46.15%) etc.

**Table -5**  
**Skills for managing electronic resources**

Technology	Extremely poor	Below Average	Average	Above Average	Excellent	Total
Use of OPAC / Web OPAC	1 (2.56 %)	2 (5.12 %)	5 (12.82 %)	19 (48.71 %)	12 (30.76 %)	39 (100 %)
Library website	2 (5.12 %)	3 (7.69 %)	13 (33.36 %)	15 (38.46 %)	6 (17.94 %)	39 (100 %)
E-books	2 (5.12 %)	4 (10.25 %)	18 (46.15 %)	9 (23.07 %)	6 (15.38 %)	39 (100 %)
Online journals	2 (5.12 %)	3 (7.69 %)	17 (43.58 %)	12 (30.76 %)	5 (12.82 %)	39 (100 %)
Online databases	4 (10.25 %)	6 (15.38 %)	16 (41.02 %)	7 (17.94 %)	6 (15.38 %)	39 (100 %)
Digital archives / Subject gateways	3 (7.69 %)	9 (23.07 %)	16 (41.02 %)	7 (17.94 %)	4 (10.25 %)	39 (100 %)
Open Access Journals	5 (12.82 %)	5 (12.82 %)	14 (35.89 %)	9 (23.07 %)	6 (15.38 %)	39 (100 %)
Library Networks	5 (12.82 %)	7 (17.94 %)	15 (38.46 %)	8 (20.51 %)	4 (10.25 %)	39 (100 %)

#### Skill for managing electronic resources

Table 5 presents the respondent's skill of managing e-resources. From the table it is evident that the respondents possess a higher level of skills in the use of e-resources. The analysis of data shows that the librarians' are above average in the use of OPAC / WEB OPAC (48.71 %) followed by library websites (38.46 %) and online journals (30.76 %). The librarians have average skill in use of almost all the e-resources.

**Table-6.****Problems faced in the effective utilization of ICT applications**

Problems	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Inadequate training in ICT applications	7 (17.95)	28 (71.79)	3 (7.69)	0 (0 %)	1 (2.56)	39 (100 %)
Lack of infrastructure	5 (12.82)	29 (74.36)	3 (7.69)	0 (0 %)	2 (5.13)	39 (100 %)
No support from administration in training library professionals	4 (10.26)	22 (56.41)	9 (23.08)	1 (2.56)	3 (7.69)	39 (100 %)
Lack of support from authorities for implementing ICT applications in library	2 (5.13)	23 (58.97)	10 (25.64)	2 (5.13)	2 (5.13)	39 (100 %)
Lack of co-ordination among library staff	3 (7.69)	20 (51.28)	12 (30.77)	2 (5.13)	2 (5.13)	39 (100 %)
No initiative from professional associations to conduct specialized training programmes	2 (5.13)	13 (33.33)	19 (48.72)	4 (10.26)	1 (2.56)	39 (100 %)
Lack of scope for Library professionals due to ICT applications	2 (5.13)	19 (48.72)	11 (28.21)	5 (12.82)	2 (5.13)	39 (100 %)
Lack of interest on the part of users	3 (7.69)	13 (33.33)	18 (46.15)	4 (10.26)	1 (2.56)	39 (100 %)
Fear of ICT applications	2 (5.13)	11 (28.21)	21 (53.85)	4 (10.26)	1 (2.56)	39 (100 %)

Table 4 shows that librarians' have to the problems faced in the effective utilization of ICT applications in libraries. Majority of the librarians agreed that lack of infrastructure (74.36 %), Inadequate training in ICT applications (71.79 %), lack of support from authorities for implementing ICT applications in library (58.97 %) and lack of support from administration in training library professionals (56.41 %). Some other issues are indicated by lesser number of professionals include lack of co-ordination among library staff (51.28 %) and lack of scope for Library professionals due to ICT applications (48.72 %).

**Table-5****Suggestions for updating knowledge/skills**

Sl.No	Suggestions	Frequency	%
1	In-house training programmes for staff development	34	87.18
2	Searching internet for relevant professional information	28	71.79
3	Regularly reading relevant professional literature	27	69.23
4	Regular attendance of relevant conferences/workshops	26	66.67
5	Discussion of professional matters with colleagues	24	61.54
6	Learning from web resources	22	56.41
7	Attending professional association meetings	17	43.59
8	Undertaking individual research work/publication	16	41.03
9	Reading general books/literary works	14	35.90

**Suggestions for updating knowledge/skills**

The above table indicated Librarians' suggestions for updating their knowledge and skills shows that majority (87.18 %) have given almost priority to In-house training and workshops, and next preference to searching Internet for relevant professional information (71.79 %). While third preference is given to regularly reading relevant professional literature (69.23 %) and regular attendance of relevant conferences/workshops (66.67 %) is the next preferred option.

### **III. CONCLUSION:**

Technology obsessed knowledge economy, academic librarians and his group has a very important role to play as they have to satisfy the vital multidimensional information needs of their users. There is a need to equip them with core competencies and emerging skills required for the service delivery in electronic information environment. These skills are not only limited to having knowledge of ICT application but also related to understand how these can be utilized with a proper blending of traditional library skill for providing information with a single click to fulfill the fourth law of Ranganathan, i.e. "Save the time of the user". However today, the changing perception of users and the technological advancements have forced the academic libraries to introduce new services based on user interest.

In this current situation, whereby ICT are being continuously updated, and the traditional formats, regular training for the librarians in changing technology is inevitable. In-house training programmes are more effective in libraries. From the present survey it is clear that most of the ICT technologies which are taken for this study are not yet been introduced in the library system. Therefore the library professionals are not in a position to use these technologies in their work. This will create a low level of technologies skill development among the professionals working in this library system. Concerning the implementation of the technologies, lack of support form the authority is the major issue in university library. This study concludes that the librarians need proper ICT infrastructure and training to using the digital resources effectively.

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