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A Study on Information Communication Technology among Engineering College Libraries in Coimbatore, Tamil Nadu

C.S. Chandra Mohan Kumar[1] and J.Dominic[2]
[1]Department of Library Science, Karpagam University, Coimbatore - 641021, Tamil Nadu, India
[2]Central Library, Karunya University, Coimbatore - 641 114, Tamil Nadu, India
E-mail: chandramohanshanthi@gmail.com
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Abstract

The purpose of this paper is to examine the use of Information Communication Technology (ICT) in 32 Engineering College Libraries in Coimbatore, Tamil Nadu by investigating the ICT infrastructure, current status of library automation, barriers to implementation of library automation and also librarians' attitudes towards the use of ICT and the availability of computers in libraries. Data-gathering tools used included questionnaire, observation and informal interview with selected college librarians. It is observed that 31.2% of libraries use only one computer for OPAC and 31.2% of libraries have less than 5 computers for internet access. 37.5% of libraries have 5-10 computer to access e-resources, 31.2% libraries have membership in INFONET.

Keywords*: Digital Library, ICT Applications, Library Collection*

1. INTRODUCTION

An information and communication technology in recent years has resulted in significant changes in the way the world operates and communicates. This is an impact on educational needs in terms of the content and the delivery of educational services. The libraries and information centers have been using ICT based resources to satisfy the diverse information needs of the user [1]. ICT is not a single technology only it is the complete system of technologies. It is comprises with two strong technologies, one is information technology which usually deals with the hardware and software elements that allow us to access, store, organize, and manipulate the information by electronic means [2]. The second is communication technology, which deals with the equipment, infrastructure and software through which information can be received, accessed and disseminates, for example phones, faxes, modems, networks, etc. The applications of ICT in the field of library and information science has entirely change the image of library profession and the conventional libraries have shifted to information centers, electronic libraries, hybrid libraries, virtual libraries and digital libraries, etc [3].

Information technology is about achieving the age old objectives and applications of information and communication in new and more efficient ways which facilitate the process of identification, collection, storing processing and disseminating of information. The library and information science professionals are utilizing ICT to keep pace with the problem of information explosion. The benefit of instant access to digital information is the most distinguishing attribute of the information age [4]. Most obviously technology affects the material resources of our personal information infrastructure by presenting new objects such as CD's online databases and other e-forms. The physical charges that electronic technology brings are highly dependent on material wealth and dependent on individual ability.

2. SIGNIFICANCE OF THE STUDY

Coimbatore is the leading District in Tamil Nadu in the development of the education scenario; IT & BT engineers of the state have world wide demand for their quality and intelligence. These Engineers are produced from quality educational institutions which have an important place in Coimbatore city.

Quality of engineering colleges especially in Coimbatore region is considered as the backward area of the state even through it has a rich amount of natural resources. The main aim of the study is to understand the possible areas where the users are satisfied with the library during their study in colleges. The part of overall improvement in the engineering college library services is relevant and essential to know about status or position of infrastructure in the engineering college libraries under study. This study provides current status of ICT infrastructure in engineering college libraries in Coimbatore district in Tamil Nadu.

3. OBJECTIVES OF THE STUDY

1. To assess the current state of the art of the Information and Communication Technology ICT infrastructure in engineering colleges of Coimbatore city;
2. Data on library resources collection in library;
3. To find out the institutional repository in the library;
4. Digital library functions, issues/challenges in establishing digital repositories;
5. Acquiring data knowledge on digital library and awareness of training programmers of digital library for research scholars.

4. METHODOLOGY

The nature of the present study was the survey of Engineering College libraries which are scattered throughout Coimbatore District. A questioner has been given to the Librarian of Engineering Colleges under the study in order to examine the option of research study.

Table 1 Library Resources Collection

No. of Books	No. of Respondents		%	
Below- 5,000	-		-	
5,000-10,000	7		21.8	
10,000-15,000	15		46.8	
15,000-20,000	7		21.8	
20,000-25,000	1		3.1	
[illegible]	2		6.2	
Total	32		100	
No. of Journals	**No. of Respondents**		**%**	
Below-50	3		9.3	
50-100	12		37.5	
100-150	10		31.2	
150-200	5		15.6	
200-250	2		6.2	
Above 250	-		-	
Total	32		100	
Details	**Availability**	**%**	**Non Availability**	**%**
Theses & Dissertations	30	93.7	2	6.2
Back Volumes	2	6.2	30	93.7
Reports	10	31.2	22	68.7
Question Bank	28	87.5	4	12.5
Audio Visual Resources	25	78.1	7	21.8
Micro Documents	29	90.6	3	9.3
E- Books	10	31.2	22	68.7
E- journals	20	62.5	12	37.5
Others	-	-	-	-

This study attempts to find the availability of resources and ICT applications implemented in libraries etc. The collected data's were tabulated and analyzed and the interpretations were given for each table.

5. DATA ANALYSIS AND DISCUSSION

The Table 1 depicts that out of 32 engineering colleges, 15 (46.8%) of colleges has a collection of 10000 to 15000 volumes of books in their library and only one colleges has a collection of more than 25000 volumes. 30 (93.7) colleges have theses and dissertations in their collection. 29 colleges (90.6%) have micro documents. 25 colleges (78.1%) have audio visual resources, 10 colleges (31.2%) have e-books collection and 20 colleges (62.5%) have e-journals.

The Table 2 describes the ICT applications in libraries. 11 colleges have 10-15 computers in their libraries. 10 colleges (31.5%) access internet through BSNL & AIRTEL. 25 (78.1%) colleges are connected with LAN and 7 (21.8%) colleges were conned with intranet facilities.

Table 2 ICT Applications in Libraries

Particulars	Numbers of Respondents	%
No. of Computers with Latest Configuration		
Less then 05	2	6.2
05-10	6	18.7
10-15	6	18.7
15-20	11	34.3
20-25	5	15.6
Above25	2	6.2
Total	32	100
Type of Internet		
B S N L	10	31.5
RAILTEL	10	31.5
RELIANCE	6	19.2
TATA	3	9.3
AIRTEL	3	9.3
Total	32	100
LAN/Intranet		
LAN	25	78.1
INTRANET	7	21.8
Total	32	100

Table 3 Availability of Computers

No. of Computers Available for OPAC		
No. of Computers	**No. of Colleges**	**%**
1	10	31.2
1-2	9	28.1
2-3	4	12.5
3-4	3	9.3
4-5	4	12.5
5 and above	2	6.2
Total	32	100
No. of Computer Available for Internet access		
No. of Computers	**No. of Colleges**	**%**
Less then 5	10	31.2
5-10	10	31.2
10-15	4	12.5
Above 15	8	25
Total	32	100
No. of computer Available for Access of E- resources		
No. of Computers	**No. of Colleges**	**%**
Less then 5	4	12.5
5-10	12	37.5
10-15	8	25
Above 15	8	25
Total	32	100
Is the Library is a Member of Consortia		
Name of the Consortia	**No. of Colleges**	**%**
INFONET	10	31.2
INDEST	9	28.1
CSIR	4	12.5
ICAR	3	9.3
OTHER	6	18.7
Total	32	100

The Table 3 describes the number of computers available in libraries. 10 colleges have only one (31.2%) computer and 9 (28.1%) colleges have 1-2 computers for OPAC purpose. 10 colleges (31.2%0 have allotted less than 5 and 5-10 computers for internet access purpose. 12 colleges (37.5%0 have allotted 5-10 computers for accessing of e-resources. 10 colleges have connected with INFONET, 9 colleges with INDEST, 4 colleges with CSIR, 3 colleges with ICAR and 6 colleges with other consortia networks.

Table 4 Institutional Repositories in the Library

Sl. No.	Resources	Print Form	%	Electronic Form	%
1	Institutional Journal	20	62.5	12	37.5
2	Research Articles of the Faculties/Students	19	59.3	13	40.6
3	Standards Published by the Departments/Faculty/Students	16	50.0	16	50.0
4	Pictures/Portraits/Rare Materials/Photographs	17	53.1	15	46.8
5	Books Published by the Institute/Faculty	22	68.7	10	31.2
6	Research Reports and Projects of the Students	23	71.8	9	28.1
7	Annual Reports	21	65.6	11	34.3
8	Budget Reports	16	50.0	16	50.0
9	Syllabus	16	50.0	16	50.0
10	Question Bank	16	50.0	16	50.0
11	Lecture Notes	14	43.7	18	56.2
12	Audio Clippings	-	-	32	100
13	Video Clippings	-	-	32	100
14	Power Point Presentations	-	-	32	100
15	Any Other	-	-	-	-

Table 4 shows that 20 colleges (62.5%) have print form of journals and 12 colleges have electronic journals. 19 colleges (59.3%) have print form of research article of the faculties and 13 colelges (40.6%) are maintaining electronic form of research articles. It is interesting to know that none of the college has hard copy of audio, video, power point presentations. All the colleges have these resources in electronic forms only.

Table 5 Digital Library

Sl. No.	Details	No. of Respondents	%
Software Used in the Digital library			
1	Dspace	4	1.20
2	E- Prints	6	18.7
3	Greenstone	13	40.6
4	Others	9	28.1
Access of Digital repository			
1	Stand Alone Systems	4	12.5
2	Network of Computer within the Library	7	21.8
3	Campus-wide Network	6	18.7
4	Internet	15	46.8

Table 5 shows that 13 colleges (40.6%) use Greenstone for their digital library. 6 colleges used E-prints, 4 colleges use Dspace and 9 colleges use other digital library software in their repository. 15 (46.8%)colleges have internet facility, 7 (21.8%) colleges have network of computer within the library, 6 colleges (18.7%) have campus-wide network, and 4 colleges (12.5%) have stand alone systems.

The Table 6 describes about the bibliographical and metadata used. The format used for description of records are AACR II by 19 (59.3%) colleges and the indexing/ searching facilities are done by all the options mentioned in the table by the 32 (100%) colleges in the study. The PDF format in archive is made by 26 (81.2%) colleges, Excel format by 25 (78%) colleges, Word format by 24 (75%)colleges, and Power point format by 20 (62.5%)colleges.

Table 6 Bibliographical and Metadata Used

Sl. No.	Details	No. of Respondents	%
Bibliographic/Metadata Format Used for Description of Records			
1	Dublin core	2	6.2
2	AACR II	19	59.3
3	MARC 21	2	6.2
4	CCF	-	-
5	ISO	4	12.5
6	OTHERS	5	15.6
	TOTAL	32	100
Indexing/Searching Facilities			
1	Title	32	100
2	Authors	32	100
3	Source	32	100
4	Publisher	32	100
5	Keywords	32	100
6	Subject	32	100
7	ISBN/ISSN	32	100
8	Department	32	100
9	Link to References	32	100
Archive Format			
1	Word	24	75.0
2	PF PDF	26	81.2
3	HTML	18	56.2
4	JPEG	10	31.2
5	Text	16	50.0
6	RFT	-	-
7	EXCEL	25	78.1
8	BMP	-	-
9	MP3/MP4	4	12.5
10	WAV File	-	-
11	Power point	20	62.5

Table 7 Issues/Challenges in Establishing Digital Repositories

Sl. No.	Details	No. of Respondents (n=32)	%
1	International Patent Right	7	21.8
2	Peer Review	5	15.6
3	Integrity of Data	5	15.6
4	Storage and Archive of Material	7	21.8
5	Risk of Plagiaries	5	15.6
6	Awareness and Willingness of Authors	9	28.1
7	ICT Know How	13	40.6
8	ICT Infrastructures	15	46.8
9	Budgetary Provision	8	25.0
10	Exclusive Manpower	12	37.5
11	Standardization of Meta Data Fields	7	21.8
12	Co- ordination with IT Professional	13	10.6

The Table 7 describes the issues and challenges in establishing digital repositories. 15 colleges (46.8%) have stated that ICT infrastructure is the challenge for stabling digital repositories. 13 colleges each stated co-ordination with IT professional and ICT know how respectively. 12 (37.5%) colleges opined that manpower is the challenge for establishing the digital library. 5 (15.6%) colleges have stated that peer review, integrity of data and risk of plagiaries are the main challenges for establishing the digital repositories.

Table 8 Librarian/Professional Staff Acquiring/Updating the Knowledge on Digital Library

Sl. No.	Details	No. of Respondents (n=32)	%
1	By participating workshops symposia	16	50.0
2	By attending training programmes	21	65.3
3	By organizing tutorials I.R	12	37.5
4	By participating seminars and conferences	21	65.6
5	By attending UGC reference/AICTE short term training courses	16	50.0
6	By discussing with experts/colleagues	21	65.6
7	By periodicals visits of websites	18	56.2

Table 8 discusses that 65.6% of the Library Professionals acquiring knowledge on digital library through discussing with experts, colleagues and 65.3% professionals acquiring knowledge through attending training programmes. 56.2% professionals updating their knowledge through periodical visits of websites and 50% of the professionals acquiring their knowledge by participating workshops and symposias.

The Table 8 shows that 10 libraries are conducting training programmes for their research scholars and faculty members only occasionally. 8 (25%) of colleges conducts training programme annually and 4 colleges organizing half-yearly. 3 colleges conducting training programme bi-monthly and 7 colleges conducting programmes monthly.

Table 8 Awareness/Training Programmers on Digital Library for Research Scholars and Faculties

Details	No. of Respondents	%
Monthly	7	21.8
Bi monthly	3	9.30
Half yearly	4	12.5
Annual	8	25.0
Occasionally	10	31.2
Total	32	100

6. FINDINGS AND SUGGESTIONS

The following are major findings of the present survey:

1. 46.7% of college libraries have more than 10,000 volumes of books and 12 colleges subscribes 50-100 journals.
2. 34.3 % of the college libraries have only 10-15 computers and 31.5% have BSNL and AIRTEL for their internet connection and 78.1% have LAN connection for internet access.
3. 31.2% of libraries use only one computer for OPAC and 31.2% have less than 5 computers for internet access. 37.5% have 5-10 computer to access e-resources, 31.2% have membership in INFONET.
4. 71.8% of libraries have research reports and projects of students in the print form, 50% have standards, budget reports, and syllabus and question bank in electronic forms.
5. 40.6% of libraries use greenstone, 21.8% use network of computers, 78.1% have digital scanner in their digital library.
6. 59.3% of respondents use AACR II format for bibliographical recodes and 75% use word and pdf format for archives.
7. 40.6% of library professionals have knowledge on ICT and 37.5% library professionals attend training programmes.

7. CONCLUSION

In modern society a well equipped, well stocked, well staffed and up-to-date library is thus the heart of the academic institution. Day to day emphasis is towards access rather than ownership. The trend is moving towards the transition from manual to electronic format.

Application of ICT in engineering colleges libraries has become inevitable in the present era of information explosion and wide spread use of technology of digital information resources. The new ICT has made a deep impact on all sectors and education sector in general and engineering of ICT in libraries helps in performing their operations and services most efficiently and effectively.

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