
USE OF ICT BASED RESOURCES AND SERVICES IN ENGINEERING COLLEGE LIBRARIES IN HARYANA, INDIA: AN ANALYTICAL STUDY

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Abstract

The paper describes the current position of libraries in ICT environment in Haryana state. The study was performed via a questionnaire survey of the librarian and users confined only to engineering college libraries with ICT based resources and services. Various services provided by libraries with support of Information & Communication Technologies to their users have been observed and discussed with the library professionals and their users. It also evaluates the users' attitudes, awareness and satisfaction about the library services is being provided with support of ICT. The result of the study revealed that the ICT based resource used by the largest percent of users was the e resources.

Keywords: ICT, Engineering Colleges, Haryana, Automation

1. INTRODUCTION

We all know that use of information and communication technology in library and information centres has become very common and especially the development and access to digital information resources has raised a number of challenges for librarians. All this emphasis the need for new skill and competencies suitable for digital information environment.

Haryana is one of the promising state for strengthening the technical education. At the time of inception of Haryana as a separate state in 1966, there was only one Engineering College at Kurukshetra i.e. Regional Engineering College of now named as NIT, the first and foremost engineering college in Haryana. The engineering colleges of Haryana are in developing stage. It is a fact that the present engineering college libraries in Haryana urgently need of ICT to provide fast and reliable library and information services. Libraries are in isolated conditions and ICT application to facilitate information dissemination is in nascent stage. In the view of this the present study is an effort to know the status and prospects of ICT in engineering college libraries.

The scope of the present study is confined to Engineering College Libraries of Haryana with special emphasis on ICT facilities. In view of sound resources of Engineering colleges, it was presumed that engineering college libraries must actively be involved in using ICT in their operations and services. Hence this study has been proposed to cover 20 approved engineering college libraries in Haryana.

2. REVIEW OF LITERATURE

Dhanavandan (2011)¹ found that the role of engineering colleges in the technical manpower development is quite significant. They need rapid Information Communication Technology infrastructure and in this context, there is a need for adequate development of electronic resources. The lack of adequate finance is the main reason for not developing information communication technology infrastructure especially in the case of libraries, those that do not receive financial aid from UGC of India or others like AICTE. The problem can be solved only through the aid from the state government or AICTE. The establishment of information communication technology infrastructure facilities in the self financing college libraries in Tamil Nadu can improve the efficiency of information support, the information retrieval and quality of education as a whole. **Helaluddin (2010)**² described in his study the current position of libraries in ICT environment in Faridabad district of Haryana state. Various services provided by libraries with support of information & communication technologies to their users have been observed and discussed with the library professionals and their users. 54% users are satisfied with ICT based library services, 45% users are not satisfied due to single computer at issue counter. They demanded more terminals at lending counter. 55% users are not satisfied with the number of terminals in the library. They need more terminals with high speed connectivity. **Sharma et. al. (2009)**³ described that ICT in research libraries of Haryana all the libraries are well strengthen in ICT and are able to meet the requirements faced. NITK library expensed more on various resources rather than NDRI and NBAGR. The study showed that the trends of libraries have been diversified: these are giving more significance to various aspect of ICT such as internet, e-mail, online databases, online journals, e-books, e-thesis, online FAQ etc. In the ICT race coming time will not give a pause and it is an unavoidable tool in all kind of libraries to survive in the future. **Haneefa K (2007)**⁴ found that a good number of the users were not satisfied with the present application of ICT in their libraries and indicated that 'inadequate ICT infrastructure' as their reason for dissatisfaction. Large majority of the users agreed that there was a need for workshops/ orientation programs on the use of ICT based resources and services. **Ramana and Rao (2003)**⁵ reported in his study that Central University (CU) Libraries in India are currently at various stages of advancement in the use of information technology(IT). They present the results of a research study conducted in order to survey the use of IT in CU libraries. It covers computers and software packages used, computerized library operations. Development of databases, bibliographic standards used, computerized information services, level of participation in networks and computerized facilities offered to users etc.

3. OBJECTIVES OF THE STUDY

- To know the ICT services provided by the engineering college libraries.
- To study the existing status of Engineering College libraries in terms of ICT infrastructure.
- To identify the problems faced by library personnel in the utilization of ICT.
- To know the ICT awareness among librarians of Engineering College of Haryana.
- To know satisfaction amongst users regarding ICT services and facilities.

4. RESEARCH METHODOLOGY

A survey method based on structured questionnaires was used for the study. Two questionnaires i.e. one for the Librarian and other for the Users were designed and administrated to collect the data. However, informal interviews were conducted with the Librarians whenever the need was felt.

Table-1 Engineering Colleges included in the Study

S. No.	Name of Institutes/ Colleges	Abbreviated As
	Technological Institute of Textile & Sciences, Bhiwani	TITS
1.	Maharishi Markandeswar Engineering College, Mullana	MMEC
2.	Seth Jaiprakash Mukund Lal Institute of Engg. & Technology, Radaur	JMIT
3.	Shri Krishna Institute of Engineering & Technology, Kurukshetra	SKIET
4.	Nemi Chand College of Engineering, Israna	NCCE
5.	Haryana College of Technology & Management, Kaithal	HCTM
6.	Prabhu Dayal Memorial College of Engineering, Bhadurgarh	PDMCE
7.	Hindu College of Engineering, Sonipat	HCE
8.	Bhagwan Mahavir Institute of Engineering & Technology, Sonipat	BMIET
9.	Doon Valley Institute of Engineering & Technology, Karnal	DVIET
10.	Ambala College of Engineering & Applied Research, Mithapur	ACEAR
11.	Bhiwani Institute of Technology & Science, Sarsa Ghogra	BITS
12.	Bhagwan Parshu Ram College of Engineering, Bali Barahamana	BPRCE
13.	Shri Balwant Institute of Technology, Pallri , Sonipat	SBIT
14.	Panipat Institute of Engineering & Technology, Patti Kalyana	PIET

The questionnaires were circulated to 20 Engineering College Libraries of Haryana but only complete responses from 15 Libraries were received and 750 questionnaires were received back from the users. The quantitative data collected were converted into machine-readable form and total percentage was calculated.

5. Data Analysis

Table-2 Use of ICT based resources and services

S. No.	Name of Colleges	Websit e/ E-mail	TV	FAX	Scanner	Printer	Telephone	Xerox	Slide/ LCD Projector
1	TITS	Y	N	Y	Y	Y	N	Y	N
2	MMEC	Y	N	Y	Y	Y	Y	Y	N
3	JMIT	Y	Y	N	Y	Y	Y	Y	N
4	SKIET	Y	N	Y	N	Y	Y	Y	N
5	NCCE	Y	N	N	Y	Y	Y	Y	N
6	HCTM	Y	N	N	Y	Y	Y	Y	N
7	HCE	Y	N	N	Y	Y	Y	N	N
8	BMIET	Y	N	N	N	Y	Y	Y	N
9	PDMCE	Y	N	N	Y	Y	Y	Y	N

10	DVIET	Y	N	N	Y	Y	Y	Y	N
11	ACEAR	Y	Y	N	Y	Y	Y	Y	N
12	BITS	Y	N	Y	Y	Y	Y	Y	N
13	BPRCE	Y	N	N	Y	Y	Y	Y	N
14	SBIT	Y	N	Y	Y	Y	Y	Y	N
15	PIET	Y	N	N	Y	Y	Y	Y	N
	TOTAL	100%	13.3%	33.3%	86.6%	100%	93.3%	93.3%	0%

Y=Yes and N=No

The data gathered from questionnaire responses regarding the infrastructural facilities available in Engineering College libraries is presented in table-2. It shows that only 13.3% college libraries have the facilities of TV, 33.3% libraries have FAX, Xerox and telephone facilities have the 93.3% college libraries whereas all the libraries have their e-mail/website and printing facilities and 86.6% have availability of Scanner. It is analyze from the table-2 that out of 15 engineering college libraries none has Slide/ LCD Projector facility with it.

Sharma (2009)⁶ found in his study that all libraries surveyed have P.C. for Staff, P.C. for User, Scanner, Telephone, CD Drive, CD Server, Multimedia Kit, Server, Barcode Scanners, Printer, Photostat Machine. Only Photocopy facility is not available in NDRI library where as NBAGR Library does not have any barcode scanner. The NDRI library have largest number of hardware infrastructure i.e. 124 and lowest number of hardware is in NBAGR library i.e. 12.

Ramana (2003)⁷ found in his study that all the 14 (100%) libraries surveyed have telephone, 12 (86%) libraries have the facility of Xerox and e-mail, 7 (50%) libraries have the facility of fax, internet and 6 (43%) libraries have scanners.

(Dhanavandan, 2011)⁸ found in his study that out of the total 47 engineering colleges, 44.61 percent of them have only one LCD projector, 42 college have a maximum of 2 LCD projectors and the rest 30 colleges (23.07 percent) have more than 2 LCD projectors in their library network.

Table-3 ICT services provided by the Libraries

Sr. No.	Name of Colleges	CD-ROM Database search	Reservation	OPAC/ Web OPAC	Searching Consortium	Web Browsing
1.	TITS	Y	Y	Y	Y	Y
2.	MMEC	Y	Y	Y	Y	Y
3.	JMIT	N	N	Y	Y	N
4.	SKIET	N	Y	Y	N	N
5.	NCCE	Y	Y	Y	Y	Y
6.	HCTM	N	Y	N	Y	Y
7.	HCE	N	Y	Y	N	N
8.	BMIET	Y	Y	Y	Y	Y
9.	PDMCE	Y	Y	N	N	N
10.	DVIET	Y	Y	Y	Y	Y
11.	ACEAR	Y	N	Y	Y	N
12.	BITS	N	Y	Y	Y	N

13.	BPRCE	Y	Y	Y	Y	Y
14.	SBIT	Y	Y	Y	Y	Y
15.	PIET	Y	Y	Y	Y	Y
	TOTAL	66.6%	86.6%	86.6%	80%	60%

Y=Yes N=No

User is the kingpin of the library. So the main purpose of computerization is to provide better facilities and services to users. Table-3 indicates how user seeks help from the staff by using the library services. It shows that more than 86% of the college librarian respond that user seek help in using reservation of documents whereas 80% college librarian said that users comes to them demanding help in searching consortia. 66.6% of the librarians respond that users seeking help in CD-ROM searching. 86.6% libraries users seek help in using OPAC/ Web OPAC. As web browsing is a very common phenomenon so more than fifty percent of users demand for the same.

Table-4 Factors led to automate the library

Sr. No.	Name of Colleges	Factors led to automate the library					
		Librarian Initiative	Heavy work Load	Need to improve the quality of services	User's pressure	To minimize repetitive task	Special grant provided
1.	TITS	√	×	√	×	√	√
2.	MMEC	√	√	√	×	√	×
3.	JMIT	√	√	√	×	√	√
4.	SKIET	√	√	√	√	√	×
5.	NCCE	√	√	√	×	√	×
6.	HCTM	√	√	√	×	×	×
7.	HCE	√	×	√	×	×	×
8.	BMIET	√	×	√	×	√	×
9.	PDMCE	√	√	√	√	×	×
10.	DVIET	√	√	√	√	√	×
11.	ACEAR	√	√	√	√	×	√
12.	BITS	√	×	×	×	×	×
13.	BPRCE	√	×	√	×	√	×
14.	SBIT	√	×	√	√	×	√
15.	PIET	√	√	√	×	×	√
	TOTAL	100%	60%	93.3%	33.3%	53.3%	33.3%

Table-4 shows that all the librarians have taken initiatives to automate their respective libraries. 60% of the libraries have to adopt automation due to heavy workload. Almost 93% of the libraries implemented automation with the aim of quality improvement. Only 33.3% of the engineering college libraries have to implemented computerization due to the pressure of their concerned users and due to special grant provided. 53.3% of the librarians think that automation reduces the repetition of the work.

Sharma (2009)⁹ found in his study that all the librarians expressed that to improvement quality and their individual initiatives lead them for automation.

Table-5A Problems faced by Library personnel

S. No.	Name of Colleges	Pre-Automation Problems				
		Lack of funds for rendering of ICT infrastructure	Non availability of ICT trained professional	Inadequate Management support	Unawareness of potential benefits of ICT	Resistance of Library Staff
1	TITS	×	×	×	×	√
2	MMEC	×	√	×	×	×
3	JMIT	×	×	×	×	×
4	SKIET	×	×	×	×	×
5	NCCE	×	√	×	×	×
6	HCTM	×	×	×	×	×
7	HCE	×	×	×	×	×
8	BMIET	√	×	√	×	×
9	PDMCE	×	√	√	×	×
10	DVIET	√	×	×	√	×
11	ACEAR	√	×	√	×	×
12	BITS	×	×	√	×	×
13	BPRCE	√	√	√	×	√
14	SBIT	√	×	√	×	×
15	PIET	×	√	×	√	×
	TOTAL	33.3%	33.3%	40%	13.3%	13.3%

There are a number of problems faced in implementation of ICT presented in table-5A. 33.3% of the librarians faced the pre automation problems due to Lack of funds for rendering of ICT infrastructure and non availability of ICT trained professionals. 40% of the libraries have not adequate Management support. 13.3% of the libraries do not aware of potential benefits of ICT and libraries face the problems due to resistance of Library Staff.

Table-5 B Problems faced by Library personnel

S. No.	Name of Colleges	Post-Automation Problems		
		Lack of funds do not allow to continue or improve the ICT activities	Lack of proper coordination and the library networking to avail full benefit of ICT	Lack of awareness among the users about ICT
1.	TITS	×	×	×
2.	MMEC	×	×	×
3.	JMIT	×	×	×
4.	SKIET	×	×	×
5.	NCCE	×	×	×
6.	HCTM	×	×	×
7.	HCE	×	×	×

8.	BMIET	√	√	×
9.	PDMCE	×	×	√
10.	DVIET	√	×	√
11.	ACEAR	×	×	×
12.	BITS	×	×	×
13.	BPRCE	√	√	√
14.	SBIT	×	×	√
15.	PIET	×	×	×
	TOTAL	20%	13.3%	26.6%

Table-5B shows that 20% of the librarians have faced post automation problems because of Lack of funds do not allow continuing or improving the ICT activities. 13.3% of the libraries have faced problems due to lack of proper coordination and the library networking to avail full benefit of ICT. 26.6% of the librarians faced problems due to lack of awareness among the users about ICT.

Table-6 Reason for users' dissatisfaction with the application of ICT

	Response	
	Yes	No
Inadequate ICT Infrastructure	112(14.9%)	638(85%)
Inadequate Internet access	136(18.1%)	614(81.8%)
E Resources needed	94(12.5%)	656(87.4%)
E books needed	261(34.8%)	489(65.2%)

Table-6 shows that majority of college libraries had ICT resources in their respective libraries but some of the users still demand for more ICT resources in respect of inadequate infrastructure, 14.9% users says that the existing ICT resources in the library need to be elaborated. 18.1% users demand for more accessibility to internet services in the library whereas 12.5% users demand for more e resources to compliment their academic requirements. Only some of the libraries possess e books in their collection, 34.8% users in the college libraries demand for more e books in the library.

Haneefa K (2007)¹⁰ found in his study that 47.7% users were not satisfied with the application of ICT in their libraries. 42.4% users respond their reason for dissatisfaction because of inadequate ICT infrastructure.

Helaluddin (2010)¹¹ found in his study that 30% users said that their library is not connected with Internet. 6% users required E-books, 2% users wanted electronic database and accessible of bigger digital library.

6. FINDINGS

- Lacks of modern ICT infrastructure in the libraries i.e. none of the engineering college libraries under study have the facility of LCD/ Slide Projector.
- Lacks of knowledge with respect to ICT for example open source software is not implemented up to the satisfaction mark.
- Insufficient budget for implementation of ICT and librarians faced a number of pre and

- post automation problems due to the budget.
- In majority of the colleges campus network and library networking has not been introduced which is actual need of the hour.
- Users demanded more ICT based services.

7. SUGGESTIONS

- Modern ICT infrastructure should be made available to all the college libraries.
- The manpower working at colleges needs proper orientation and knowledge up gradation from time to time to get familiar with latest developments in technology. Open source should be implemented.
- Colleges must allocate certain amount of budget every year towards the updating and maintenance of infrastructure facilities.
- Each college must have networking facility connecting all the departments.
- For the research point of view maximum e-resources should be made available for users.

9. REFERENCES

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