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INFORMATION COMMUNICATION TECHNOLOGY (ICT) BASED LIBRARY & INFORMATION SERVICES IN ENGINEERING COLLEGE WITH SPECIAL REFERENCE TO SHEKHAWATI AREA OF RAJASTHAN - AN EVALUATION

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ABSTRACT

This article reports study of the Information Communication Technology (ICT) based Library & Information Services in Engineering College with special reference to Shekhawati Area of Rajasthan - An Evaluation.

Data was collected by using a questionnaire and responses were gathered from 08 Engineering College Libraries in Shekhawati Area in Rajasthan. Results show that Engineering College Libraries are using Classification system, Cataloguing System Charging System and other, Form of Catalogue. Circulation System 08 (100%) college uses Automated Circulation Systems in Engineering College Library in Shekhawati Area in Rajasthan, out of 08 Colleges, 07 (87.5%) Engineering College Library CD-ROM Databases (E-Resources) are provided to users, Out of 08 colleges, 08 (100%) Engineering College Library is automated, out of 08 colleges, 06 (75%) Engineering College Library uses Libsys Library Software, out of 08 colleges, 06 (75%) Engineering College Library uses Barcode System, out of 08 colleges, 08 (100 %) Engineering College Library provides Internet Connectivity to users and Internet availability in Library and Computer Lab, out of 08 colleges, 05 (62.5 %) creats OPAC Facility in Engineering College Library, out of 08 colleges, 06 colleges are aware of the Establishment of Library Consortia and Library Networks in Engineering College Library, out of 08 colleges, 05 Engineering College Library are using DELNET Library Network.

KEYWORDS: *Classification System, Libsys Library Software, Library Consortia and Library Networks*

INTRODUCTION

The term "Information Technology" is used to envelop every one of these technologies which uses personal computers as well as apply variety of technologies controlled by those computers including application software, databases, CD-ROM's, networks, communication devices, electronic information products and several other compatible devices used in libraries. Information Technology (IT) is meant to cover the technologies of computers, communications and CD-ROM's. In other words the use of the technologies of bibliographic database development, on-line networks including e-mail, Internet and CD-ROM databases in libraries. It will then be possible to communicate information in a voluminous amount with the help of Information Technology (IT) over long distances in seconds.

Information Technology in a broad sense points out to the 'used to technologies' in the field of information access and documentation. As such IT encompasses the (i) computer technologies (ii) communication technology-satellite communication and global network (iii) photographic and reprographic techniques and (iv) printing and publishing technologies-which may include electronics and optical publishing electronic mails, CD-ROM's, WORM9Write Once, Read Multiple CD's, optical discs, imaging technology, etc. It facilitates the automatic collection, storage, processing retrieval and dissemination of information. Information Technology (IT) is an electronic technology used for collecting, storing, processing and communicating information. There are two main categories - those which process information (such as computer system) and those which disseminate information (such as telecommunication systems). IT has a wider connotation for librarians, which includes additional technologies like, repro-micrographic technology, technical communication technologies, and database creation and use.

Information Technology has a great prospect for supporting the activities of research networks. However, some fundamental problems must first be addressed to determine whether technical support is necessary at all. Therefore, a comprehensive and customized network information system is required. We argue that a specification method can help to structure the development of such an information system.

In the present situation, more engineering colleges are being established in India (Rajasthan) in general and Shekhawati Area in particular which attract thousands of students towards engineering education. At this point, it becomes significant to enhance the quality of these students and to ensure that they come out as quality technical manpower, best academic achiever and distinguished innovators.

Computers and new information technologies have greatly enabled information specialists in performing their main tasks, especially in locating and retrieving information. Due to innovations in technology, many new interdisciplinary fields including information technology (IT) has emerged. The technological revolution in the last four decades has made a tremendous impact on the way the information is processed, stored, retrieved, and disseminated.

The growth and development of Information Technology (IT) is one of the most significant achievements of the present century. Information Technology is the combination of computers, telecommunication, and reprography, microforms including CD-ROM, online networking and database technologies. IT is being considered as one of the key factors in shaping the present societies and formulating policies for the future.

DELIMITATION OF STUDY (SCOPE)

The topic of the research study is "Information Communication Technology (ICT) Based Library & Information Services in Engineering College With Special Reference to Shekhawati Area of Rajasthan - An Evaluation" The area of the study is focused on approximately (08) Engineering Colleges of the Shekhawati area in Rajasthan. The geographical area of this study is confined only to Shekhawati Area Engineering colleges.

RESEARCH METHODOLOGY

Required data for the present study was collected from the Engineering College Library, of the different Engineering colleges of the Shekhawati region in Rajasthan. The study was mainly based on the Primary and Secondary data. The primary data was collected from the Engineering College Library users' through a well-designed questionnaire in the process of data collection. Engineering College libraries of academic institutions were interviewed personally and by providing with clarification of doubts in the questionnaire. The secondary data was collected from sources like textbooks,

reference books, national and international journals, magazines and College websites.

For the selection of Engineering College Libraries of the Shekhawati region in Rajasthan, the proposed study used random sampling technique.

A questionnaire was designed to collect the data and relevant information on various aspects of the "Information Communication Technology (ICT) Based Library & Information Services in Engineering College with Special Reference to Shekhawati Area of Rajasthan - An Evaluation". The questionnaire was sent to the Engineering Colleges and their users (faculty members, research scholars, and students) of Shekhawati Area in Rajasthan. The questionnaire was not initially responded within one month; they were given reminders to send their responses. Finally, duly filled questionnaire from 08 Engineering colleges were received back as per instruction. The questionnaire were scrutinized and manipulated for tabulation and statistical analysis, as applicable for the proposed study.

DATA ANALYSIS

The data collected through the questionnaire was analyzed with the help of the computer. The analyzed data were used for the conclusion of the present study.

FINDINGS

Technical Treatment of Collection

From Table 1 and Table 2, it is clear that some Engineering Colleges uses Classification, Cataloguing, Charging system and a form of Catalogue.

Table No.1: Technical Treatment of Collection

S. No.	Name of the Engineering College	Classification	Cataloguing	Charging System
1.	CSIR	UDC	AACR	Automated
2.	CET, Laxmangarh	DDC	AACR	Automated
3.	BIET	DDC	AACR, Mixed	Automated
4.	SEC, Sikar	DDC	AACR	Automated
5.	PITS, Sikar	DDC	AACR	Automated
6.	BKBIET, Pilani	DDC	AACR	Automated
7.	JJTU, Chudela	DDC	AACR	Automated
8.	BITS, Pilani	DDC	AACR	Automated

Table 2: Statistical Analysis of Technical Treatment

Statistical Analysis of Technical Treatment		
Name of Technical Work	**No. of Engineering College**	**%**
1. Classification		
CC	-	-
DDC	07	87.5%
UDC	01	12.1%
Others	-	-
No classification	-	-
2. Cataloguing	**No. of Engineering College**	**%**
CCC	-	-
AACR	08	100%
Others	-	-
No Cataloguing	-	-

Table 2: Contd.,

3. Circulation(Charging System)	No. of Engineering College	%
Browne	-	-
Newark	-	-
Register	-	-
Computerized	8	100%

Analysis of data from Table 1 and Table 2 shows that 08 Engineering Colleges Library uses Classification system CC, DDC, UDC, Other and 07 (87.5%) Engineering Colleges' Library use DDC classification, 01 (12.1%) Engineering College Library use UDC classification and Cataloguing System CCC, AACR, Mixed and others 08 (100%) Engineering Colleges' Library use only AACR and Circulation (Charging System) Browne, Newark, Register, Computerized and 08 (100%) Engineering Colleges Library use only Computerized System.

Circulation System

Table 3: Circulation Systems in Engineering College Library of Shekhawati Area in Rajasthan

S.No.	Name of the Engineering College	Responses
1.	CSIR	Automated
2.	CET, Laxmangarh	Automated
3.	BIET	Automated
4.	SEC, Sikar	Automated
5.	PITS, Sikar	Automated
6.	BKBIET, Pilani	Automated
7.	JJTU, Chudela	Automated
8.	BITS, Pilani	Automated

Analysis of data of Table 3, it is clear that out of 08 (100%) colleges, all use Automated Circulation Systems in Engineering College Library in Shekhawati Area in Rajasthan.

Library Services

Table 4: Statistical Analyses of Library Services

S. No.	Library Services	Frequency out of 08 Colleges	Percentage
1.	Lending Periodicals	05	62.5%
2.	Ready Reference Services	06	75%
3.	Accessibility to non- members	04	50%
4.	ILL	06	75%
5.	CAS	06	75%
6.	SDI	05	62.5%
7.	Photocopying Services	07	87.5%
8.	Book Exhibition/Fairs etc	06	75%
9.	Printing Services	05	62.5%
10.	Scanner	05	62.5%

Analysis of data of Table 4 shows that out of 08 Engineering Colleges, 05 (62.5%) Engineering College Library Lending Periodicals Services are provided to users, 06 (75 %) Engineering College Library Ready Reference Services are provided to users, 04 (50 %) Engineering College Library Accessibility to non-members Services are provided to users, 06 (75 %) Engineering College Library Inter Library Loan (ILL) Services are provided to users, 06 (75 %) Engineering College Library Current awareness services (CAS) Services Provide are provided to users, 05 (62.5%) Engineering College Library Selective Dissemination Services (SDI) is provided to users, 07 (87.5%) Engineering College Library Photocopying Services are provided to users, 06 (75 %) Engineering College Library Book Exhibition /Fairs Services are

provided to users, 05 (62.5%) Engineering College Library Printing Services are provided to users, 05 (62.5%) Engineering College Library Scanner Services are provided to users.

E-Resources

Table 5: E-Resources Provided by Engineering College Library of Shekhawati Area in Rajasthan

S. No.	E-Resources	CSIR	CET, Laxman-garh	BIET, Sikar	SEC, Sikar	PITS, Sikar	BKBIET, Pilani	JJTU, Chude la	BITS, Pilani
1.	CD-ROM Databases	-	✓	✓	✓	✓	✓	✓	✓
2.	Online Databases	✓	✓	✓	✓	✓	-	-	✓
3.	World Wide Web		✓	✓	✓	-	-	-	✓
4.	Consortia based services	✓	✓	-	-	-	-	-	✓
5.	E-Journals	✓	✓	✓	✓	-	✓	-	✓
6.	OPAC (Online Public Access Catalogue)	✓	✓	✓	✓	-	-	-	✓
7.	E-Books	-	✓	✓	✓	-	-	-	✓
8.	Audio-Video	-	✓	✓	✓	-	✓	✓	✓

Table 6: Statistical Analyses of E-Resources

S. No.	E-Resources	Frequency Out of 08 Colleges	Percentage
1.	CD-ROM Databases	07	87.5%
2.	Online Databases	06	75%
3.	World Wide Web	04	50%
4.	Consortia based services	03	37.5%
5.	E-Journals	06	75%
6.	OPAC (Online Public Access Catalogue)	05	62.5
7.	E-Books	04	50%
8.	Audio-Video	06	75%

Analysis of data of Table 5 and Table 6 shows that out of 08 Colleges, 07 (87.5%) Engineering College Library CD-ROM Databases are provided to Users, 06 (75 %) Engineering College Library Online Databases are provided to users, 04 (50%) Engineering College Library WWW is provided to users, 03(37.5%) Engineering College Library Consortia based services are provided to users, 06 (75 %) Engineering College Library E-Journals are provided to users, 05 (62.5%) Engineering College Library OPAC is provided to users, 04 (50%) Engineering College Library E-Books are provided to users, 06 (75 %) Engineering College Library Audio-Video E-Resources Services are provided to users.

Table 7: E-Resources Provided to users by Engineering College Library of Shekhawati Area in Rajasthan

S. No.	E-Resources	CSIR	CET, Laxman-garh	BIET, Sikar	SEC, Sikar	PITS, Sikar	BKBIET, Pilani	JJTU, Chudela	BITS, Pilani
1.	E-journals	✓	✓	✓	✓	✓	✓	✓	✓
2.	E-articles	-	✓	✓	✓	-	-	-	✓
3.	E-books	-	✓	✓	✓	-	-	-	✓
4.	E-database	✓	✓	-	✓	-	-	-	✓
5.	E-proceedings	-	✓	-	✓	-	-	-	✓
6.	Text archives	-	✓	-	✓	-	-	-	✓

Table 8: Statistical Analyses of E-Resources

S. No.	E-Resources	Frequency out of 08 College	Percentage
1.	E-journals	08	100%
2.	E-articles	04	50%
3.	E-books	04	50%
4.	E-database	04	50%
5.	E-proceedings	03	37.5%
6.	Text archives	03	37.5%

Analysis of data of Table 7 and Table 8 shows that out of 08 College, 08 (100 %) Engineering College Library E-Journals are provided to users, 04 (50%) Engineering College Library E-articles are providing to users, 04 (50%) Engineering College Library E-Books are provided to users, 04 (50%) Engineering College Library E-Database is provided to users, 03 (37.5 %) Engineering College Library E-Proceedings are provided to users, 03 (37.5 %) Engineering College Library Text archives are provided to users.

Library Automation & Networking (Status of Library Automation in Engineering Libraries)

Table 9: Library Automation Status

S. No.	Name of the Engineering College	Automated
1.	CSIR	Yes
2.	CET, Laxmangarh	Yes
3.	BIET, Sikar	Yes
4.	SEC, Sikar	Yes
5.	PITS, Sikar	Yes
6.	BKBIET, Pilani	Yes
7.	JJTU, Chudela	Yes
8.	BITS, Pilani	Yes

The analysis of data of Table No. 9 indicates that out of 08 colleges, 08 (100%) Engineering College Library is automated.

Library Software

Table 10: Library Software used in Engineering Library of Shekhawati Area in Rajasthan

S. No.	Name of the Engineering College	Library Application Software
1.	CSIR	LIBSYS
2.	CET, LAXMANGARH	LIBSYS
3.	BIET	LIBSYS
4.	SEC, SIKAR	LIBSYS
5.	PITS, SIKAR	LIBSYS
6.	BKBIET, PILANI	E-GRANTHALAYA
7.	JJTU, CHUDELA	SOUL
8.	BITS, PILANI	LIBSYS

Table 11: Statistical Analysis of Library Software used In Engineering Library of Shekhawati Area in Rajasthan

S. No.	Library Software	Frequency out of 08 Colleges	Percentage
1.	LIBSYS	06	75%
2.	e-GRANTHALAYA	01	12.5%
3.	Soul	01	12.5%

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The analysis of data in Table No. 10 and Table 11 indicates that out of 08 colleges, 06 (75%) Engineering College Library uses Libsys Library Software, 01 (12.5%) Engineering College Library uses E-Granthalaya Library Software and 01 (12.5%) Engineering College Library uses Soul Library Software.

Information Technology

Table 12: Technology used in Engineering College Library of Shekhawati Area in Rajasthan

S. No.	Name of the Engineering College	Responses
1.	CSIR	Bar-Code
2.	CET, Laxmangarh	RFID Technology
3.	BIET	Bar-Code
4.	SEC, Sikar	Bar-Code
5.	PITS, Sikar	Bar-Code
6.	BKBIET, Pilani	Bar-Code
7.	JJTU, Chudela	Bar-Code
8.	BITS, Pilani	RFID Technology

The analysis of data in Table No. 12 indicates that out of 08 colleges, 06 (75%) Engineering College Library uses Barcode System and 02 (25%) Engineering Colleges Library uses in RFID System.

Internet

Table 13: Internet Connectivity for users in Engineering College (Institution) of Shekhawati Area in Rajasthan

S. No.	Name of the Engineering College	Responses
1.	CSIR	Yes
2.	CET, Laxmangarh	Yes
3.	BIET	Yes
4.	SEC, Sikar	Yes
5.	PITS, Sikar	Yes
6.	BKBIET, Pilani	Yes
7.	JJTU, Chudela	Yes
8.	BITS, Pilani	Yes

The analysis of data in Table No. 13 indicates that out of 08 colleges, 08 (100 %) Engineering College Library provides Internet Connectivity to users and Internet availability in Library and Computer Lab. In addition, Internet Connection is provided to Library Dedicated /Leased line and ISDN.

OPAC Facility

Table 14: Created OPAC in Engineering College Library of Shekhawati Area in Rajasthan

S. No.	Name of the Engineering College	Responses
1.	CSIR	Yes
2.	CET, Laxmangarh	Yes
3.	BIET	Yes
4.	SEC, Sikar	Yes
5.	PITS, Sikar	-
6.	BKBIET, Pilani	No
7.	JJTU, Chudela	No
8.	BITS, Pilani	Yes

The analysis of data in Table No. 14 indicates that out of 08 colleges, 05 (62.5 %) created OPAC Facility in Engineering College Library.

Library Consortia and Library Networks

**Table 15: Aware of Establishment of Library Consortia and Library Networks in
Engineering College Library of Shekhawati Area in Rajasthan**

S. No.	Name of the Engineering College	Responses
1.	CSIR	Yes
2.	CET, Laxmangarh	Yes
3.	BIET	Yes
4.	SEC, Sikar	Yes
5.	PITS, Sikar	No
6.	BKBIET, Pilani	No
7.	JJTU, Chudela	Yes
8.	BITS, Pilani	Yes

The analysis of data in Table No. 15 indicates that out of 08 colleges, 06 colleges are aware of the Establishment of Library Consortia and Library Networks in Engineering College Library.

Table 16: Library Network used in Engineering College Library of Shekhawati Area in Rajasthan

S. No.	Name of the Engineering College	Responses
1.	CSIR	----
2.	CET, Laxmangarh	DELNET
3.	BIET	DELNET
4.	SEC, Sikar	DELNET
5.	PITS, Sikar	----
6.	BKBIET, Pilani	----
7.	JJTU, Chudela	DELNET
8.	BITS, Pilani	DELNET

The analysis of data in Table No. 16 indicates that out of 08 colleges, 05 Engineering College Library are using DELNET Library Network.

SUGGESTIONS

The following suggestions are recommended based on the research study. They are;

- The library should be equipped with adequate computers for internet surfing and journals should be kept updated which can make equipped with innovative knowledge and research. This in turn will help in improving teaching schedules and styles.

- The libraries should be equipped with the collections, services and ICT infrastructure facilities for providing effective services to the users. Engineering College libraries of Rajasthan need to have dedicated budget to initiate the action on IT applications, library automation and updated IT infrastructures for which the libraries require generous funds under specific heads for the procurement of hardware an*d* its maintenance, software and collection development of electronic resources.

- The success of any new system or service must be based on the adequate knowledge, skills of staff members. Therefore, the librarians and library staff should be properly trained when a new service or technology is introduced in the libraries.

- It is suggested that the librarians should develop their attitudes to share the library resources among other libraries in a systematic way.

- The librarians working in Engineering colleges should have more commitment and interest in taking new initiatives for providing better library services and products.

- It is suggested that the libraries purchase more E-resources such as E-books and E-journals. The library staff should try accessing free E-resources available in the public domain for the benefit of users.

- It is suggested that the Engineering colleges Libraries of Rajasthan should have both hard copy and E-resources and become members of library networks and consortiums.

The researcher has found that the few Engineering college libraries have sound ICT infrastructure but several Engineering libraries are still facing a lack of advanced and sophisticated ICT infrastructure and electronic resources. Several Engineering College libraries are facing a lack of sufficient professional staff, and need to provide a continuous training program to them. Engineering Libraries have to facilitate a regular as well as an advanced user education program for their users related to ICT facilities, electronic resources, and ICT based services.

The use and application of ICT in the Engineering college libraries in performance plays an important role as an information center. The Engineering college libraries provide not only access to particular information resources and services but also to meet the academic and research information needs of the Engineering users by developing specific need-based collections; organizing information resources; providing access to technologically moderated access and orienting users to locate, obtain and evaluate information.

With the arrival of IT, the temperament of libraries has changed noticeably. Computers and electronic media importantly are used to process, store, retrieve and disseminate information. The internet, which includes websites, database and communication facilities provide distant access to a wide range of resources. Libraries have now fully changed into a digital information center.

Finally, the study indicated that the Engineering librarian has a particular and very important role to play in the rapidly shifting and regularly more important information in engineering fields. Librarian has to appear in two instructions; one is to provide users with guidance for statement of needs, problems, and priorities, and the second one is to impart learning of information and ICT problems, solutions and resources. The responsibility is challenging and opportunities need to be explored for its IT capacity, importance with open-mindedness. Therefore, if librarians are truly concerned with users, they must study users' needs, requirements and perform their tasks.

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