

Impact of ICT on Library and Information Science: Major Shifts and Practices in CUSAT Central Library

Santha Devi Antherjanam

N K Sheeja

Abstract

Information is knowledge, facts or data. For the purpose of enabling the users to assimilate information, it should be repacked. Knowledge becomes information when it is externalized i.e. put in to the process of communication. The effectiveness of communication technology depends how well it provides its clients with information rapidly, economically and authentically. A large number of ICT enabled services including OPAC; e-resources etc. are available in the university library. Studies have been done to find the impact of ICT on different sections of CUSAT library by observing the activities of different sections; discussions with colleagues and visitors; and analyzing the entries in the library records. The results of the studies are presented here in the form of a paper.

Keywords: ICT, CUSAT, Library Automation, Information Systems.

1. Introduction

Information is dynamic and unending resource that affects all disciplines and all walks of life. ICT has revolutionised the field of library and information services. ICT has developed to such a stage that it has given access to information at fingertips. UNESCO defines Information Technology as "The scientific, technological and engineering disciplines and the managerial techniques used in information handling and processing; their applications; computers and their interaction with men and machines and associated social, economic and cultural matters" (Pelto, 1982)¹. In short ICT on LIS means as the application of computers and communication technologies to the acquisition, organization, storage, retrieval and dissemination of information process. Convergence of computer and communication technologies and their subsequent application to library and information activities has changed the philosophy of information from unitary to universal access.

Over the past few decades developments in information technology have brought many changes to university library services and infrastructures in Kerala. The first wave of library computerization in Kerala took place in the 1990s. During the second wave of library computerization, which began in the 2000, the focus was on the deployment of computer networks providing access to electronic information.

2. Aim and Objectives

The aim of the study is to find out the impact of ICT on LIS and its major shifts and practices in university library of CUSAT.

3. Methodology

As the focus of this study is to examine the impact of Information Technology on the university library of CUSAT, Kerala, it is essential to study the existing status of the university library. The primary data is derived from personal experience, personal observation of the activities of different sections, examination of the visitors register, issue register, library brochures, library websites, referring annual reports of university, discussion with colleagues etc. To get idea about some impacts, questionnaires were distributed, responses were collected and then results were analyzed.

4. Components of ICT

ICT is a broad term that covers wide range of technologies. It is the convergence of computers, communication and microelectronic-based techniques. The technologies and devices like Radio, Telephone, Telegraph, Fax, TV, Telephone, Mobile phone, Internet, WWW, Email, LAN, ISDN, Videoconference and Satellite communication Techniques are major part of the ICT. With the help of LAN, CUSAT community easily shares the information. Telephone and another devices play important role in library services like SDI, Inter library loan, reference services, and online information retrieval. ISDN has increased the capacity for data transmission which facilitated introduction of new services such as E-mail, Fax etc. Cheaper data storage media has increased the storage capacity of libraries.

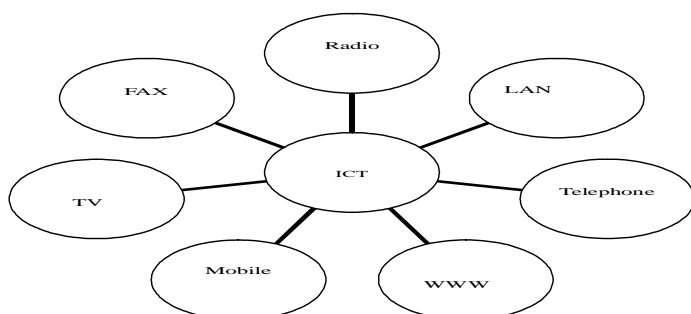


Fig.1 Components and Devices of ICT

5. Background Information

The University of Cochin was established in 1971 for the specific purpose of the development of higher education with particular emphasis on postgraduate studies and research in Applied Science, Technology, Industry and commerce. The University of Cochin was later reorganized as Cochin University of Science and Technology (CUSAT) in February 1986. Currently CUSAT has three campuses; main campus at Thrikkara, 8 km from Cochin City, School of Ocean Sciences and Technology at Cochin City and Pulinkunnu campus at Alappuzha District.

CUSAT Campus is presently connected through 8 mbps leased line connectivity. The Internet is

provided to all the departments and schools with a fiber optic backbone. Each department has its own LAN which is connected to the backbone using Gigabyte Switches. Each CUSAT staff and students is given the facility to use the CUSAT email system. The voice communication system is installed with 600 lines both in the main and lakeside campuses.

The CUSAT central library established in 1977 and acts as a Central agency for meeting the information requirements of the academic community of the Cochin University of Science and Technology. CUSAT library has restructured its services to face the threat and boon that results from the rapid proliferation of electronic information resources. Library LAN has become a part of Campus Wide Network, which has made it possible for the academic community of 30 departments to access information from their locations itself. Library has acquired ADLIB software package of Adlib Information Systems, The Netherlands. Adlib Information Systems is a leading supplier of software for archives, libraries and museums. ADLIB is user-friendly library management software that supports all in-house activities of the Library. The bibliographic records of books, journals, and theses in the Library can now be accessed globally through WEBOPAC.

6. CUSAT Library

Being the information centre of the technological University in the Kerala State, the Cochin University Library has built up a balanced and rich collection on all branches of Sciences and Technology. At the same time books of general interest having high intellectual standard in various subject fields are not neglected. At present the collection exceeds 95,000 inclusive of several valuable reference books, doctoral theses and back volumes of periodicals, patents, CD-ROM etc. The table 1 shows average number of users visiting the library.

Table 1 Average No. of Visitors per Day

Average No. of Visitors per Day		
Category	No.	Percent
Students	250	81%
Others	60	19%
Total	310	100%

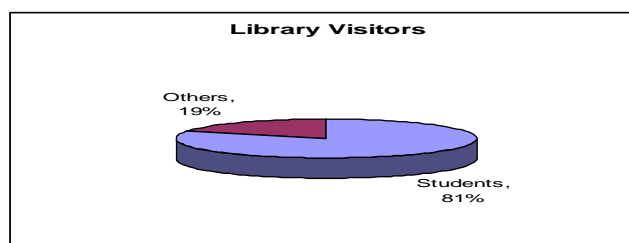


Fig.2 Types of Library Visitors

On an average, 310 users visit the library per day for satisfying their information requirement. Out of 310, 81% users are students and 19% are other category members comprising of teachers, non-teaching staff, graduate members and institution members.

6.1 E-resources

CUSAT Library has IP enabled access to on line Journals under the UGC-INFONET E-Journals Consortium and INDEST-Consortium set up in the Campus Network. Libraries through out the world are grappling with the space problem. CUSAT library is also subscribing e-journals. E-resources solve the space problem due to information explosion to some extent. Table 2 shows e-resources available in CUSAT library.

Table 2 E-Resources in CUSAT Library

E-Resources in CUSAT Library		
	Name of the Publisher	
UGC- INFONET	<u>American Chemical Society</u>	<u>Portland Press</u>
	<u>Royal Society of America</u>	<u>Taylor and Francis</u>
	<u>American Institute of Physics</u>	<u>Elsevier Science</u>
	<u>American Physical Society</u>	<u>ANNUAL REVIEWS</u>
	<u>Institute of Physics</u>	<u>Blackwell Synergy</u>
	<u>Cambridge University Press</u>	<u>Oxford University Press</u>
	<u>Springer Link</u>	
INDEST	<u>IEEE Electronic Library</u>	ProQuest Databases
CUSAT	<u>Current Contents Connect</u>	EBSCO DATABASES
Subscription	EMERALD	Chemical Abstract on CD

6.2 ICT Enabled Services

Information Technology enhances easy information retrieval of documents. Retrieval of information from electronic resources and Internet is simpler, easier and faster in comparison to manual systems. Table 3 reveals the ICT enabled services offered by the University library.

Table 3 ICT Enabled Services Offered by the CUSAT Library

ICT Enabled Services offered by the CUSAT Library		
Loan service	CD ROM Search	Compilation of Bibliographies
Inter-Library Loan	Literature Search	Document Delivery Service
Reference Service	Developing local databases	Conference Alert Service
Proficiency Corner	Internet Service	New Addition Alert Service
Patent Information	Consultancy Service	Reprographic service

Survey was conducted among 200 library users to find out how many of them are making use of ICT facilities available in CUSAT library. The result obtained is given in Table 4.

Table 4 ICT Users Vs Others N=200

Types of ICT	Users	%	Non users	%	Total N = 200	%
OPAC	180	90%	20	10%	200	100%
Internet, Online journals etc.	130	65%	70	35%	200	100%

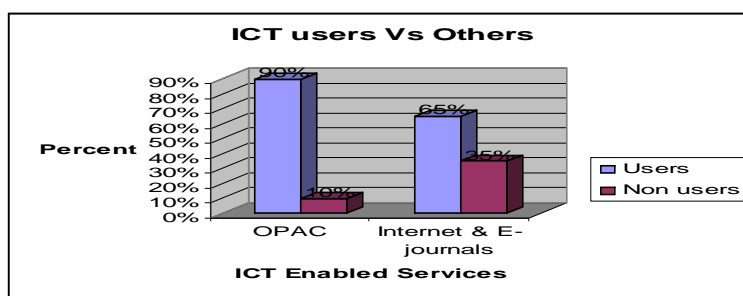


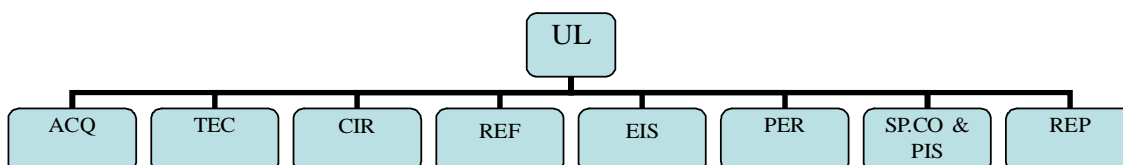
Fig. 3 ICT Users Vs Others

The Table 4 and Fig.3 show that 90% users searching OPAC and 65% users make use of Internet and E-journals etc. From the table it is clear that most of the visitors of the university library make use of one or another types of ICT enabled services.

6.3 Impact of ICT on Different Sections of the Library

The CUSAT library has seven major sections. The figure 4 shows different sections of the library.

Fig.4 CUSAT library Sections



UL=University Library

ACQ=Acquisition

PER= Periodical

REF=Reference

TEC= Technical

EIS=Electronic Information Service

CIR=Circulation

REP= Reprographic Unit

SP. Co & PIS= Special Collection & Patent Information Service

Various functions of the library are discharged more effectively with the application of IT. Detailed analysis of major impacts of IT on different sections of the library is described below.

6.3.1 Acquisition

The impact of Information technology in collection development is very prominent in university library. The CUSAT library is integrating electronic and Internet based information sources in its collection. The university library has been keeping non-book materials like floppy disks, CD-ROMs and multimedia reference books in the collection.

With the help of web, acquisition work has become very much simplified. Order placing, duplication checking, price checking etc are done very effectively using ICT technique. Online bookshops and publisher's websites save the time of the librarians. For the procurement of journals, order is placed in the prescribed format to the publishers through Internet. Invoices can be downloaded from the Websites that makes service faster and avoids postal delay. E-mail helps in sending reminders to the publishers, vendors and even to the borrowers of the books. IT also helps in the process of the serial control in the university library. It helps in preparing union list of serials and helps in circulating via e-mail to the branch libraries.

6.3.2 Technical

Establishing links to the most frequently used library catalogues help the librarians for authority work. With the help of OPAC, it is now very convenient for the technical staff to assign call numbers to the newly added books. IT has reduced the volume of work done in catalogue card preparation. With the help of ADLIB software CUSAT library created a central bibliographic record for the library management system.

6.3.2.1 OPAC

ICT has revolutionized the practice of cataloguing in the library. With the help of OPAC users access the holdings of the library catalogue at their desktop across the campus. It reduces the cost of maintaining a catalogue. Elimination of many paper files and decentralization is possible.

6.3.2.2 New Addition Alert Service

CUSAT technical section provides new additions alert service to the users including the staff. List of new additions in the library is compiled and E-mailed to user community regularly. This service is the major impact of ICT in technical section.

6.3.3 Circulation

The use of technological devices such as computers, barcode scanners and its software in circulation helps in performing the routine operations easily and quickly. The integrated facilities of the ADLIB software help in this regard, as CUSAT has bar-coded its collection. Transaction process of the collections in the library has become faster than before. Now, CUSAT library heavily depends upon telephone, Internet and E-mail for checking availability, reservation and renewal of books.

6.3.4 Reference

CUSAT reference section has both, printed and multimedia reference sources. In the reference section, queries are answered through telephone. For ready reference services library staff uses Internet and E-mail facility.

6.3.5 Electronic Information Service

Electronic services are also provided very efficiently in CUSAT with the application of ICT. This section offers following services to the user community:

6.3.5.1 Online Search / Literature Search

The implementation of ICT has created an environment for searching and retrieving the documents from the databases. The advantages of online searching over manual include speed, accuracy, convenience, accessibility to combine concepts, specific search, modification of search strategy etc.

6.3.5.2 CD ROM Search

CD-ROMs are another outcome of ICT. In CUSAT library CD-ROM databases are increasingly used as an important medium for storage and dissemination of information. Chemical Abstract on CD version is one of the important databases subscribed by the CUSAT library.

6.3.5.3 Developing Local Databases

Computerized databases provide easy and user friendly access to the information resources. CUSAT library utilizes ICT for creating and sharing databases of its holdings through CD-ROMs, VCDs and other multimedia resources.

6.3.5.4 Internet Search

CUSAT library provides free Internet service to its users. About 100 users make use of the Internet services daily in the university library.

6.3.5.5 Document Delivery Service

No library can afford to procure every piece of information published across the world because of financial and other constraints. Data exchange between different systems and media such as co-

axial cables, satellite communication etc. have promoted the resource sharing among the libraries. ICT has helped in the emergence of various networks in the LIS field. CUAAT library is member of DELNET and document delivery services are provided in association with this networking agency.

6.3.6 Patent Information Service

CUSAT library is an approved patent centre. About 60000 patents are available here either as hard copy or on CD. Patent Information service is also provided through email on request.

7. ICT Advantages

ICT reduces labour and saves a lot of time of the staff and users too. LAN is used to link a variety of different communication devices. LAN provides cost effectiveness in various services in CUSAT. It allows secured resource sharing in CUSAT library.

Internet and E-mail system in CUSAT enable the students and scholars to remote access, worldwide communication. Professional communication among library and Information Science societies has become easy with the help of E-mail.

8. ICT Disadvantages/ Limitations

Impact of ICT made various problems in online publishing. In case of e-journals and online databases, the library loses its access after stopping the subscription. The publishers do not give access to the issues which were subscribed. Besides these ICT has following general disadvantages:-

- ◆ Expensive
- ◆ Need Expertise
- ◆ Socio technical issues
- ◆ Information insecurity
- ◆ More technology dependence
- ◆ Less use of human brain

9. Findings & Conclusion

It is revealed from the above study that in CUSAT:

- ◆ Users are making very good use of the available ICT facilities.
- ◆ With the help of telephone, e-mail, Fax etc. reference queries are answered faster than before.
- ◆ SDI, CAS etc. are also done faster than before.
- ◆ Issue & return of books, renewals are done faster than before.
- ◆ Book selection, price checking are also done very efficiently using ICT
- ◆ About 90% of the users of the library search OPAC for getting information about the where about of books

- ◆ About 65% of the visitors make use of Internet searching facility, online journals etc.
- ◆ If the software or the hardware stops working, it is very difficult to continue the routine work of the library.

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About Authors

Mrs. Santha Devi Antherjanam, University Librarian(I/c), Cochin University of Science & Technology, Cochin-22 .

Mr. N K Sheeja, Joniur Librarian, CUSAT, Cochin-22.