The Importance of ICT Tools in Academic Library

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Abstract

According to the study, the development of ICT is one of the wonderful gifts of contemporary science and technology that has profoundly altered the background of library and information science. Information and library applications of ICT go hand in hand. It has transformed the traditional conception of libraries from a place to store books into a hub for intellectual information. It has prompted global access to data that transcends geological boundaries and opened up a new chapter in library correspondence. Libraries are adopting a crucial role in promoting access to global data and information resources through ICT. The survey also discovered that while information technology has had some good improvements and effects, there are also some troubling patterns.

Introduction

Academic libraries are created to facilitate teaching, learning, research, and the growth of a culture of knowledge sharing and transfer to achieve the goals and missions of their parent institutions. Academic libraries are essential for making sure that higher level research is successful. Academic libraries play a significant role in providing users with access to organized collections held by the library, as well as collection development, referencing services, document delivery, and assistance with information search.

Recent improvements in ICT have not only expanded considerably the ability to access, save and process information within the library but also have brought important changes in the concept, organisation, operation and management of library and information systems. Online Public Access Catalogues (OPACs), which offer improved search capabilities for accessing the local collections and frequently incorporate the holdings of other local or regional libraries, have nearly supplanted card catalogues in the majority of academic libraries in developed countries. Many libraries are also providing a web interface to their library and information system, often including direct links to electronic journals, books and Internet resources (Mohsenzadeh & Isfandyari-Moghaddam, 2009). ICT can support the functions and services of academic libraries in two ways: by providing the means to acquire, organize, store, retrieve, and disseminate information (Sabashini, Rita, & Vivek, 2012); and they are also used in libraries to connect library users with libraries and make relationship between librarians and library users. The most common application of ICT-based tools in academic libraries include

- Communication tools such as e-mail, instance messaging, telephones, tele conferring, Intranets and video conferencing, etc.
- Long-standing tools such as databases and institutional archives, etc.
- Social media tools such as wikis, blogs, online communities, social networking sites.

Over the last two decades, academic libraries in India have witnessed the impact of ICT on the structure of services. The academic libraries in India are at various stages of development in the applications of ICT in their day to- day activities. Many academic libraries in India are already using computers and advanced telecommunication systems and many more are currently implementing such systems. Libraries in India have explored ICT for computerizing a wide range of administrative and technical processes, building databases, developing networks and providing innovative and intelligent information services.

Information Technology means a variety of technological applications in the process of communication of information. According to the Webster's New Encyclopedia, information technology is

the collective term for the various technologies involved in the processing and transmission of information. Thus information technology includes computer technology, communication technology, multimedia technology, optical technology, networking and barcode technology, etc.

a. **Computer Technology:** A computer can store all type of knowledge that people have ever recorded, remember it whenever necessary, and perform calculations millions of times faster than the human brain. With a set of clear instructions, a computer can therefore perform precisely all the tasks in the library for which we utilize numerous devices.

b. **Communication Technology:** It is used to transmit information from the information generator to the information user. For connecting with the individual, some communication tools including the phone, fax, television, e-mail, and internet are highly common.

c. **Multimedia Technology:** In larger libraries where certain types of students must access and use, multimedia technology is most often used to create presentations while simultaneously using sound, text, image, and video.

d. **Optical Technology:** Compact discs are among the most significant and practical electronic data storage devices.

e. **Networking Technology:** Networking is the fusion of computer and communication technologies. Some of the significant networks in India include NICNET, INDONET, PUNNET, CALIBNET, DELNET, and INFLIBNET.

f. **Barcode Technology:** A barcode is a self-contained message that contains information that is encoded in a series of black bars of varied widths with white spaces in between each pair of bars. They are useful for the tasks of library document stack verification and circulation.

Objective:
• To identify the use of different ICT-based tools for knowledge sharing.
• To examine the librarians' perceived challenges of ICT application.
• To facilitates the maximum utilization of resources.
• To avoids duplication in resources.
• To make overall improvements of library services.
• To provide better library services with less budget and safe the times of user.
• To identify the problems faced by the students and faculty members while using different ICT based applications.

Scope:
The scope of the present study in Academic college library is limited to Wardha city.

Research Methodology:
We conducted a survey of academic libraries to address these objectives.

Method of Research:
• Questionnaire method
• Interview method

The investigator used the questionnaire method for collection of data for the present study. A self-structured questionnaire was designed for purpose to collect data about the infrastructure available at the college libraries for access of ICT application and the respondents for the same were librarians/in-charges of the college libraries under study.

The personal interviews will also conduct with library and information science professional to access the problems relating to use of ICT by the faculty members. Primary survey will be conduct to collect the information regarding use of social media.

*ICT and Library Services

The following library services can be rendered using information and communication technology (ICT):

On-Line Public Access Catalogue (OPAC): Technology has completely changed how libraries catalogue their collections. Users can view the holdings of the library collections by using OPAC. It lowers the price of keeping a library catalogue. Along with removing paper and pens, it also facilitates the creation of union catalogues. The simplest way to learn about the library's collection, weekly new arrivals, and other recent additions is through OPAC.

Reference/ ILL Service: By using computer and internet technology, the reference service has become very simple. Various types of information resources like the encyclopedia, directories, dictionaries, databases, online library catalogues, maps, biographies, patents and online information resources are available on the internet which can be used to provide required information to the users. In the reference section, queries are answered through the telephone. For ready reference service, library staff uses Internet and E-mail facility. The computer has provided a great promptness to reference section. The role of technology in reference services are as follows:

- Library staffs fulfill the demands of the users through various electronic resources like database, library catalogue database, directories etc.
- In reference service, services are also provided to the users regarding information available on the internet after getting delivered through the computer.

Reprographic Services: The reproduction of the documents uses reprographic technique. The photocopying and reproducing of papers has grown much simpler and more widely available thanks to technology. Using this technology, printed documents are digitalized before being made into photocopies. Software and a computer scanner are needed for the same. Users of the library can use this service to photocopy specific pages from books, journal articles, or other materials.

Selective Dissemination of Information (SDI) Services: Hensley (1963) stated "SDI involves the use of the computer to select from a flow of new documents, those of interest to each of a number of users. This process may be thought of as the inverse of information retrieval. In information retrieval, a user precipitates a search of a file of documents. In SDI a document precipitates the search of a standing file of user interests". Through the computer, the profile and document of user are prepared and aligned. As per the need of the users or area of interest, various online databases, electronic resources and other materials are viewed and selected; finally required information is sent to library users.

Document Delivery Service: It is difficult for the library to procure every type of resources published across the globe because of financial constraints. So, the exchange of library resources such as books, journals, etc. among the libraries are very much essential. To overcome these problems computer and the internet have got a great contribution in DDS. Through this medium first document are converted into digital form after that these can be received at any place by users through electronic mail. Besides, the storage reading material like electronic periodicals, documents etc. can be disseminated to users on demand.

Bibliographic Service: Through the computer, bibliographic services have become convenient. Nowadays, libraries and publishers are providing bibliographic service to the library users. Bibliographic software such as EndNote, RefWorks, Zotero and Mendely are very much helpful to compile the list of references for the research work.

Translation Service: Mechanical translation is carried out with the help of ICT. For this purpose, various online tools like Bablefish translator and Google translator can be used to make translation from foreign languages to English and vice-versa.

Database Search Guide: At present, databases have become the central focus for exploration of varieties of the research problem. Researchers are using databases hugely for their research work. Searching and retrieving the online resources or data from the database has become very easy in the ICT environment. Generally, libraries provide the database searching guidance through the library website. The search guidance helps to researchers and faculties for their research and learning.

Information and Communication Technology (ICT) for Libraries:

       The revolutionary developments in information technology have two impacts. Firstly, as more and more information are readily available in machine-readable form, there has been a fundamental shift in the concerns of the information profession from "more information" to "accurate, up-to-date and timely information." Secondly, as computers are used increasingly for provision of information, librarians and other information professionals must familiarize themselves with the latest technological development in this field.

Table 4.1: Is ICT be part of library tools to provide more user friendly services?

ICT in library	No.	%
Yes	89	95.69
No	4	4.30
Total	93	100

The results of table 4.1 revealed that 95.69 % of the respondents were of opinion for inclusion of ICT applications as library tools to provide more user friendly services and only 4.30% do not want library tools to provide more user friendly services.

Table 4.2: ICT-based Information Services

Serial Number	Services	Frequency	%
1	Access to in-house developed library databases /OPAC/Web OPAC	16	80.0
2	Online tutorials on how to use the information resources/services	8	40.0
3	Access to electronic resources, (e-books, e- Journals, e-databases, etc.).	15	75.0
4	Access to open access information sources through in-house developed subject gateways/Web portals	7	35.0
5	Web-based reference or other information services	11	55.0
6	FAQ database	3	15.0
7	Automatic (electronic) mailing alert system	2	10.0

Table 4.2 shows that highest Access to in-house developed library databases /OPAC/Web OPAC 80% was found. Second of 75% Access to electronic resources (e-book, e-journal, e-databases etc.) and Web-based reference or other information services 55%, Online tutorials on how to use the information resources/services 40% , Access to open access information sources through in-house developed subject

gateways/Web portals 35% , FAQ database15% and lowest was found Automatic (electronic) mailing alert system10%.

Table 4.3: ICT-based tools for sharing of knowledge

Serial Number	ICT-based tools	Frequency	%
1	E-mail	18	96
2	Phone calls/Teleconferencing	19	98
3	Intranet	16	75
4	Videoconferencing	3	15
5	Data Mining/Resource Discovery Tools	4	20
6	Institutional Repositories/Digital libraries	13	65
7	Wikis	7	35
8	RSS	6	30
9	Blogs	2	10
10	Social Networking sites	5	25
11	Book marking	2	10

Table 4.3 shows that both E-mail 96% & Phone calls /Teleconferencing 98% use. Intranet 75%, Institutional Repositories/Digital libraries founded 65% and Wikis 35% was founded. 30% RSS, Social Networking sites 25%, Data Mining/Resource Discovery Tools 20%, Videoconferencing 15% Blogs, Book marking show 10%.

Table 4.4: Training required for handling ICT-based Information Management Systems &services

Serial Number	ICT-Based Information/Knowledge Management System	Need Training	Trained Staff Available
1	Database creation & management	6(30%)	14(70%)
2	Content Management	12(60%)	8(40%)
3	Metadata/e-resource management	13(65%)	7(35%)
4	Web/portal development	15(75%)	5(20%)
5	Hardware Maintenance	14(70%)	6(30%)
6	Computer Programming	17(85%)	3(15%)

Table 4.5 shows that 48% of the librarians are of opinion that physical visitor ship will be affected with

the addition of ICT tools in library, followed by increase in use of e-resources by 28% and web-based services with 17.5% response. 6.5% of the respondents are also in opinion that use of print resources will decrease if the ICT is used for delivery of library services.

Table 4.5: Impact of ICT on library services

As per your opinion, please indicate the impact of ICT applications on library services?	%
Increase in use/ demand of e-resources	28
Increase in demand of web based services	17.5
Decrease in use of print resources	6.5
Decrease of library visitors (physically)	48
Total %	100

Conclusions:

All library and information services, such as the reference service, current awareness service, online public access catalogue, etc., are positively impacted by ICT. In response to evolving information systems, better and more efficient information communication channels, and users' preferences for using libraries as information sources, libraries and information centres are undergoing metamorphosis and are reengineering their services, reskilling their staff, and reorganising their work spaces.

Almost all of the libraries surveyed had ICT, which will aid in the sharing of information resources. The human aspect, though, is what really makes networks function well—how strong the vision, how successful the implementation, how participative the management, and how dedicated the individual members are. Academic libraries contribute significantly towards the academic community by giving faculty and students the space and tools they need to conduct research and enhance their knowledge. Academic libraries need to actively address the many problems associated with the design and delivery of cutting-edge resources and services in order to successfully fulfil the customers' expanding expectations and run academic libraries successfully.

The major findings of the present study are:
1. The results of table 4.1 revealed that 95.69 % of the respondents were of opinion for inclusion of ICT applications as library tools to provide more user friendly services and only 4.30% do not want .
2. Table 4.2 shows that highest Access to in-house developed library databases /OPAC/Web OPAC 80% was found. Second of 75% Access to electronic resources (e-book, e-journal, e-databases etc.) and Web-based reference or other information services 55%, Online tutorials   on how to use the information resources/services 40% , Access to open access information sources through in-house developed subject gateways/Web portals 35% , FAQ database15% and lowest was found Automatic (electronic) mailing alert system10%.
3. Table 4.3 shows that both E-mail 96% & Phone calls /Teleconferencing 98% use. Intranet 75%, Institutional Repositories/Digital libraries founded 65% and Wikis 35% was founded. 30% RSS, Social Networking sites 25%, Data Mining/Resource Discovery Tools 20%, Videoconferencing 15% Blogs, Book marking show 10%.
4. Table 4.4 shows that Trained Staff Available of Database creation & management 70%. Content

Management founded 40%, Metadata/e-resource management 35% and Metadata/e-resource management 35% & 20% Web/portal development, Hardware Maintenance 30% Computer Programming 15%.

5. Table 4.5 shows that 48% of the librarians are of opinion that physical visitor ship will be affected with the addition of ICT tools in library, followed by increase in use of e-resources by 28% and web-based services with 17.5% response. 6.5% of the respondents are also in opinion that use of print resources will decrease if the ICT is used for delivery of library services.

Suggestions:

The above identified challenges could be solved through the following strategies:

1. Organizing a public awareness forum such as library orientation, conferences, symposia, workshops to create awareness and educate librarians and users on the social networking services and applications.
2. Embracing current change in order to remain relevant and adapt to the new ICT driven environment.
3. Imbibing a maintenance culture so as to manage the few available ICT facilities effectively.
4. Provision of stable power supply will encourage and facilitate the effective use of these tools.
5. Pro-active training of librarians to acquire 21st century skills to adapt to the changing ICT environment.
6. Should take an active role in providing ICT facilities to institutions.
7. Educating the public on the issue of copyright law and violation.

On the basis of results of the study, following suggestions are set forth for further advancement in social media applications as per the requirements of health sciences education, so that these applications be used to better healthcare education and delivery:

A. Thus definition of a training policy to guide and direct the proper use of ICT is fundamental to moral development. Health sciences professionals must be aware of their responsibilities when using ICT tools and should be involved in discussions looking into the ethical aspects of their use (Englund et al., 2012) (Santoro,2011).

B. There should be proper trainings/ courses designed to educate the health sciences professionals and the designed education should be student-centered. Student orientation is an important point that should be paid special attention to in the development of education. To develop education student-centered further research is required to identify the most widely used applications. Even though ICT applications are widely used in free time, it needs different kinds of skill levels not only from teachers but also from students to use these applications in studies. ICT enables students to work independently, but it also allows extensive networks between students. The utilization of technology in education should be understood as an opportunity, not just the technology itself. In this way, we can enable deep learning and learning development (Tuominen, Stolt & Salminen, 2014).

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