

Review Study on Application and Use of Information Communication Technology (ICT) in Academic Libraries

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ABSTRACT

Advances have brought many changes in libraries. Information and communication technology (ICT) provides libraries with new opportunities to improve their resources and services. ICT uses the traditional methods of library activities and services and provides new dimensions for teaching, learning and research in higher educational institutions. With the help of ICT tools, it is possible to store, retrieve, and disseminate information as and when required and finally organizing it systematically by creating websites and databases. Information is now published both electronically and in print making it accessible to users according to their demands. In this paper the review study has been carried out on application of Information Communication Technology (ICT) and use of ICT tools in Academic Libraries.

Keywords: Library and Information Science education; Information and Communication Technology (ICT).

I. INTRODUCTION

A common thread that runs through the core interests of most governments all over the world is development. Progressive governments around the world are desirous of enhancement in all sectors of their national lives and therefore, they formulate policies and initiate programmes to achieve this. Sometimes, the achieved development leaves grave consequences for succeeding generations. Information is the building block and base of any kind of research and development, and resulted in development of information and communication technology. According to studies it is considered as a fifth need of human after ranking air, water, food and shelter. Information technology entered into academic Libraries, during 1960s. The prime aim of Academic Library is to cater to users need quickly and promptly with precision. Use of technologies for Information processing, storage, communication, dissemination of information automation is ever increasing in academic

libraries. Further origin of Internet and development of World Wide Web, revolutionized the information communication technology. Because of which application of ICT in libraries have become essential to provide the services to user community.

As the 20th century was drawing to a close, the information technology revolution hit the library world, producing sustained calls for inclusion of Information and Communications Technology (ICT) courses in the training programmes of library schools in every region. It has become increasingly clear that the librarian of the next decade will need not only knowledge and skills in traditional librarianship but new skills in the use of modern technology for handling information. They are invariably advocating a Library and Information Science education programme with adequate ICT component.

II. Applications of Information and Communications Technology (ICT) in Academic Libraries

Developments in ICT have made significant impact on all spheres of human life. The impact has been rather prominent in case of service activities such as banking, health, transportation, education and libraries. Digitally literate teachers have great impact on student learning. Information and Communications Technology (ICT) has significant impact on student learning when teachers use ICT tools to communicate, create, disseminate, store, and manage information [1]. In some contexts, ICT also plays vital role in teaching-learning process. Approaches such as replacing chalkboards with interactive digital white boards, using students' own smartphones or other devices for learning during class time, and the "flipped classroom" model where students watch lectures at home on the computer and use classroom time for more interactive activities channelizes effective teaching and learning.

2.1. Library Automation

According to Encyclopedia of Library and Information Sciences (Kent, 1977) "Library Automation is the use of automatic and semiautomatic data processing machines to perform such traditional library activities as acquisitions, cataloguing and circulation. These activities are not necessarily performed in traditional ways, the activities themselves are those traditionally associated with libraries; library automation may thus be distinguished from related fields such as information retrieval, automatic indexing and abstracting and automatic textual analysis". In other words we can say that Library automation is application of ICT techniques which are used for replacing manual system in the library. In simple terms "When we use machineries for collection, processing, storage and retrieval of information and do another works of library with the help of machineries it is called library automation." Online Public Access

Catalogue is the computerized version of the library catalogue database of the library holdings which ensures that library users know the collection of their library and retrieve it. The advantage of the OPAC over manual methods is ease of use and the fact that it saves space. It provides access to the catalogues of a library on the local intranet, extranet or even the internet.

Need of Library Automation:

- Due to Information explosion it is hard to keep pace with growing resources.
- Information is available in various formats (Print, nonprint, graphical, audio-visual etc.)
- To cater different approaches to user's need
- Library's Limitation in terms of (time, space & human power)
- Duplication in housekeeping operation
- To manage and retrieve information
- To search national and international database
- Impact of communication technology
- Library users ever increasing
- To increase efficiency of library
- To improve the quality of services
- To improve the access to resources wherever available including the Web
- To manage physical and financial resources of library
- To facilitate wider dissemination of their information products and services
- Enable their participation in resource-sharing library networks

2.2. Library Networking

Technology now a days is moving very speedily and in this age of electronic revaluation and computers, more and better gadgets are being invented each and every day which make our lives easier and simpler. Communication too has developed tremendously due to the advances made in communication technology such as blue-tooth and WAP technology we are

moving towards a seamless environment where every forms of communication are merging.

One area in which librarian has been energetic in the compilation of resource guides to network provisions; this has been a specific feature of the research networks environment. The online text document or printed guide is not well suited to inclusive coverage of the quick changing network environment. A database which can be essential from any network node can provide more authoritative and faster information on changing resource and location.

Benefit of library networking is that Library users can get access to various types of e-resources like e-journals, e-books, online databases, standards digitally through networked systems online or remotely through the internet or intranets.

2.3. Library Management System

Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarian to manage the library using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, addition of new students etc. Books and student maintenance modules are also included in this system which would keep track of the students using the library and also a detailed description about the books a library contains. With this computerized system there will be no loss of book record or member record which generally happens when a non-computerized system is used. In addition, report module is also included in Library Management System. If user's position is admin, the user is able to generate different kinds of reports like lists of students registered, list of books, issue and return reports. All these modules are able to help librarian to manage the library with more convenience and in a more efficient way as compared to library systems which are not computerized.

Library Management includes the following activities which will certainly be geared up by the use of these fast ICT developments, Classification, Cataloging, Indexing, Database creation, Database Indexing.

Libraries utilize software's designed to manage different library routines and processes. Most of these software's are integrated and have modules for the different activities or tasks carried out in the library like cataloguing, statistics, acquisition processes, serials control etc. Some examples of such software's are CDS/ISIS, GLAS, ALICE for Windows, X-Lib and SLAM. SLAM is used in the University Library FUTA and stands for (Strategic Library Automation Management).

2.4. Digital Library

Digital Libraries are organization that provide the resources, including the specialized staff to select, structure, offer intellectual access to interpret, distribute, preserve the integrity of and ensure the persistence over time of collections of digital works so that they are readily and economically available for use by a defined community or set of communities". Digital Libraries are being created today for diverse communities and in different fields e.g. education, science, culture, development, health, governance and so on. With the availability of several free digital Library software packages at the recent time, the creation and sharing of information through the digital library collections has become an attractive and feasible proposition for library and information professionals around the world. Library automation has helped to provide easy access to collections through the use of computerized library catalogue such as On-line Public Access Catalog (OPAC). Digital libraries differ significantly from the traditional libraries because they allow users to gain an on-line access to and work with the electronic versions of full text documents and the associated images. Many digital libraries also provide an access to other multi-

media content like audio and video.

A digital library is an assembled of digital computing, storage and communication machinery together with the content and software needed to reproduce, emulate and extend the services provided by conventional libraries based on paper and other material means of collecting, cataloging, finding and disseminating information. A full service digital library must accomplish all essential services of traditional libraries and also exploit the well-known advantage of digital storage, searching and communication. It provides access to part of or all its collection, such as plain texts, images, graphics, audio and video materials and other library items that have been electronically converted, via the internet and www.

Institutional repositories are publications that originate locally from within the university community such as theses, dissertations, reports, conference papers and seminar papers. ICT has made it possible not only to provide better access to these resources but also to ensure the preservation of the resources.

2.5. Technical Communication

Technical communication is also a type of communication that has a specific purpose with a well-defined audience. Technical communication has to be correct, accurate, clear, appropriate, and to the point. Technical communication continues to change in substantial ways, and research has produced new insights into effective communication practices and pedagogy. Technical Communication consisting of technical writing, editing, publishing, DTP systems etc.,[2].

III. Use of Information and Communications Technology (ICT) in Academic Libraries

Today's library users are techno savvy and hence making extensive use of the new ICT including computers, the Internet, the Web, Intranet, Extranet and other technologies. As a result, library has to proactively work to meet the requirements of users as far as digital resources are concerned. Therefore Libraries are required to maintain latest and updated information resources so that resources can be accessed. Use of ICT has become the need of libraries which results in user's satisfaction. Some of the benefits of ICT are:

1. Easy to gather different library activities.
2. Collaboration and creation of library networks
3. Avoid repetition of efforts within a library
4. Increase the range of services offered
5. Save the time of the users
6. Increases efficiency
7. Speedy and easy access of information
8. Improves the quality of library services
9. Enhance the knowledge and experience
10. Integration within the organizations.
11. Improve the status of the library
12. Improve the communication facilities
13. More stable
14. Helps to attract the users.
15. Remote access to users
16. Round the clock access to users
17. Access to unlimited information from different sources
18. More up to date information
19. Information flexibility to the users
20. Reforming and combining of data from different sources
21. Reduce the workload of the library staff
22. ICT makes library work easier, faster, cheaper and more effective.
23. Managing information overload.
24. Remote access is enabled through networked systems
25. Computerization saves space and reduces paper.

IV. Information and Communications Technology (ICT) Tools used in Academic Libraries

Library 2.0 uses varieties of technologies offered by Web2.0. In recent days, different web resources like wikis, blogs, RSS, and podcasts e-group, e-mail, fax, Internet, Intranet, Mobile Phone and Video Conference have become popular in conveying and acquiring information.

- **Wiki** is a collaborative website whose content can be edited by anyone who has access to it. It is a web application that allows users not only to add content, as on an Internet forum, but also refers to the collaborative software used to create such a website. Wiki in library can be used as training Tool, for Library website, for subject guides and for Library suggestion. Libraries can use wiki as a communication tool to enable social interaction among librarians and patrons. Users can share information, ask and answer questions, and librarians can do the same within a wiki.

- **Blog** is a related Web information sharing technology. A blog (WEBLOG) is a website that contains date entries in reverse chronological order (most recent first) about a particular topic. One person or groups of contributor scan write them. Entries contain commentary and links to other websites, images and sometime search facility may also be included. Earlier weblogs were updated manually, but as tools are available to automate the maintenance of such sites are used extensively. Browser-based software is used these days for blogging. It can be used in Library to Support Library instruction, in facilitating Staff Communication, for compiling Subject Resources and Course Materials, for displaying breaking news, library tour, for reference transaction, and displaying Library posters.

RSS stands for Real Simple Syndication or Rich Site Summary. This technology, allows a web site to list the newest published updates like table of contents of journals, new articles etc. Also it facilitates a web user to keep track of new updates on chosen website (s). An RSS document contains either a summary of content from an associated website or the full text, RSS can be used for announcing arrival of new books, journal and databases and also for promoting events organized by library.

Podcasting is derived from the words “iPod” and “broadcasting”. It is a method of publishing files to the Internet allowing users to subscribe to a feed and receive new files automatically by subscription, usually at no cost. It first became popular in late 2004, used largely for audio files. Pod casting is defined as “process of capturing audio digital-media files that can be distributed over the Internet using RSS feeds for playing-back on portable media players as well as computers”. Users can subscribe to such feeds and automatically download these files directly into an audio management program on their PCs.

Social Networking service uses software to build online social networks for communities of people who share interest and activities. Chatting, messaging, e-mail, video, voice chat, file sharing, blogging, discussion groups are some of the features of Social Networking sites. It can also be used for Library Promotion, as an extension of Library website, as a Catalogue, for databases searching. Social media networks like twitter, Facebook and LinkedIn, are some interactive internet services that are presently serving as communication forum for librarians and their uses. These networks can be deployed for educational uses. Social networking services could enable librarians and patrons not only to interact, but to share and exchange resources dynamically in electronic environment. Users can create accounts with the library network service; see what other users have in common to their information needs, recommend resources to one another.

IM Messenger (Chat Reference) can be used as Virtual reference and for Research Assistance.

V. Conclusion

Information Technology in present libraries is optimistic to gain right information at the right time in the right place and at the right cost. Information Technology has helped librarians to condense the work stack of the library professions. Information Technology has broken the worldwide boundaries and helped to provide better services to our clients. It supports teaching, learning and research. There is Great revolution in the libraries which has converted paper-based libraries to electronic based ones. With the emergence of ICTs and availability of national and global networks, libraries have turned their attention to digital collections rather than building printed-based collection. In this way, librarian's role has dramatically changed and is responsible for what e-repositories available for their users and how users can access to the available information within the physical walls of the library or elsewhere.

VI. REFERENCES

1. Blurton, C. (2000). New Directions of ICT-Use in Education. United National Education Science and Culture Organization (UNESCO).
2. Chetia, B.(2015) "Technical Communication for Engineering Students-relevance in the Indian context" International Journal of Management and Applied Science, 1(2) 17-19.
3. Kent, Allen., (1997).Encyclopedia of Library and Information Science. New York: Marcel Dekkar. 19.
4. ToAnyakoha, M.W. (2005).Information and Communication Technology (ICT) in library services. Coal City Libraries, 2(1&2) 2-12.
5. Ahmad, N., & Fatima, N. (2009). Usage of ICT products and services for research in social sciences at Aligarh Muslim University. DESIDOC journal of Library and Information Technology, 29(2) 25-30.
6. Ebijuwa, A.A. (2005). Information and Communication Technology in university libraries: The Nigeria experience. Journal of Library and Information Science, 7(1&2) 23-30.
7. Khan, J. (2016). Impact of Information Communication Technology on library users and its services. International Journal of Research – GRANTHAALAYAH, 4(9): 97-100.
8. Saleem, A., Tabusum, S. and Batcha,S.(2013). Application and Uses of Information Communication Technology (ICT) in Academic Libraries: An Overview, International Journal of Library Science, 2(3), 49-52.