ICT Application to Next Generation Libraries

Arun Kumara, T. S
Research Scholar
Department of Library and Information Science
Kuvempu University, Shimoga-577451
Email: tsarunkumarmsc@gmail.com

Shilpa, B. S
Research Scholar
Department of Library and Information Science
Kuvempu University, Shimoga-577451
Email: shilpabsmsc@gmail.com

Santhosh Kumar, K.T
Associate Professor
Department of Library and Information Science
Kuvempu University, Shimoga-577451
Email: santhosh956@gmail.com

Abstract

The increasing role played by information technology in the development of library services for an active reaction to the challenges of the information service providing. The paper attempts to discuss the fast development of Information Technology and its application in the library services, benefits of ICT based products and services, application of information technology in libraries, skills required for the new age LIS professionals and advantages and disadvantages of information and communication technology etc. Today libraries are equipped to accomplish the newly Information Technology based services. Information Technology enabled services fulfill the information needs of the users at the right time in the right place to the right person.

Keywords

Information and Communication Technology, ICT, Information Technology, LIS Professionals

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INTRODUCTION

Information is the key factor of any kind of research and development. Information is a fundamental resource, which is essential for survival in today's competitive and wired world. The information itself and way is accessed have undergone changes owing to the developments in information and communication technology. It is a vital ingredient for socioeconomic and cultural development of any nation or individual. According to Kemp, "Information is considered as the fifth need of man ranking after air, water, food and shelter"[1]. The value of information in every human endeavor cannot be overstressed. Quick and easy access to every required information is a supreme importance especially for libraries [2]. Information technology application and the techniques are being used by the libraries for information processing, storage, communication, dissemination of information, automation etc. Further, origin of internet and the development of World Wide Web revolutionized the information communication technology. Recognizing the advantages application of information technology, the libraries are essential to provide the facilities to their user community [3].

DEFINITION OF ICT

Information and Communication Technology (ICT) is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. [4] Hamelink provides a useful and clear definition of ICT indicating, ICT's are those technologies that enable the handling of information and facilitate different forms of communication. These include capturing technologies (e.g. camcorders), storage technologies (e.g. application software), communication technologies (e.g. Local area network) and display technologies (e.g. Computer monitors) [5]

Therefore, we can define ICT as 'the use and application of computers, telecommunications and microelectronics in the acquisition, storage, retrieval, transfer and dissemination of information.

REVIEW OF LITERATURE

ICT-based tools and applications are widely used in libraries to facilitate networking and resource sharing, eliminate duplication of efforts, improve the speed of operations, increase access to information resources and improve the quality of information

services (Peyala, 2011). Use of ICT applications can also assist libraries in creating, storing, transferring and using tacit and explicit knowledge. Libraries can use numerous ICT-based tools including , integrated library management systems, competency databases, decision support systems, online retrieval and search systems, expert networks, e-mail, groupware, teleconferencing, intranet, WWW, document management systems, video conferencing, meta data and data mining (Okumus, 2012; Peyala, 2011; Rah, Gul, &Wani, 2010; Shanhong, 2000).

Mohsenzadeh and Isfandyari-Moghaddam (2009) performed a study to define the status of the application of ICT in academic libraries in Kerman, Iran. Results showed that the level of application of ICT in Kerman academic libraries was acceptable, but efforts should made to improve their status to match with the ever-increasing demand for better library services at universities. The most important problem and serious difficulty was lack of educated librarians, which requires suitable investment and planning. Ramzan and Singh (2009) investigated the levels of ICT application in academic libraries across Pakistan and found a lack of ICT infrastructure, especially the absence of computers, e-mail and internet. Itrevealed that the respondent libraries needed to be fully automated using standard library software. However, access to online resources found to be extensive and comprehensive. Parirokh, Daneshgar&Fattahi (2008), based on a survey in USA; report that how sharing of knowledge with the use of ICT among librarians can improve organizational learning in academic libraries. The findings of the study show that almost all libraries use email and library Website as part of their communication system. The Intranet and telephone lines have also used by most libraries. However, the traditional face-to-face communication method is also widely used. About half of the participating libraries, probably waiting for a wider acceptance in future, have used virtual reference desk and user mailing lists, which are relatively new artifacts.

OBJECTIVES

1. To examine the benefits of ICT based products and services.
2. To know the applications of ICT tools to provide innovative services to the patrons.
3. To know the major areas of communication technology
4. To study the skills required for the new age LIS Professionals
5. To discover the ICT application skills in LIS Professionals to modernize the libraries.
6. To recognize how information services can be provide effectively by using ICT application tools
7. To suggest LIS Professionals for improving ICT applications in academic libraries

BENEFITS OF ICT BASED PRODUCTS AND SERVICES

The ICT products & services are beneficial for the libraries in the following ways:

- It provides efficient and accurate services;
- It saves the time, space, energy and resources;
- It helps for controlling the tremendous escalation of information;
- It assist to provide high quality of services and increases the range of services;
- It has invented the ways of resource sharing by co-operation and co-ordination;
- It helps for the betterment of library image by providing better services in modern ways.

APPLICATION OF INFORMATION TECHNOLOGY IN LIBRARIES

Information Technology is very useful for libraries in creating databases of their own and meeting them available to users through networks. It also enables libraries to provide effective and efficient services. Most of the library operations like book acquisition, circulation, office management, information services, etc. are inter-related, inter-dependent and mutually supportive for overall administration of library.

The modern technologies, i.e. Information Technology gadgets that are convergent and highly relevant for application in modern library and information system grouped into four areas, as follows:

1. Computer Technology
2. Communication Technology
3. Reprographic Technology
4. Printing Technology

1. COMPUTER TECHNOLOGY

A computer is a now extensively used in the library operations and has great impact in the management of libraries and information centers. Computer technology can used in various fields of library

activities. Some of the areas where computer application takes place are:

a) Information Resource Building:

Acquisition of books, monographs, audio-visual, electronic materials such as CD-ROM, maps and so on. There are some specific functions of an acquisition process. (Suggestion, recommendations and selection of library collection)

- Duplication checking/library holding checking.
- A vender selection.
- Preparation of order/cancellation of order lists with terms and conditions of the supply.
- Checking of overdue orders.
- Record of items on order.
- Record of received and non-received items and receipt to the vender.
- Items verification with order file and invoice.
- Inspection of items by the concerned department.
- Prepare for payment after accessioning.
- Preparation budget and maintain accounts and statistics subject wise etc.
- Final report. (Items/subjects wise/chronologically/booksellers reported etc.)

b) Data Entry:

Database is required for each:

- Books
- Clients/Members.
- Serials.
- Audio-visuals.
- CD-ROMS, Floppies
- Gifted items.
- Maps, Reports etc.

c) Classification and Cataloguing:

- Catalogue card production.
- On-line cataloguing.
- Duplication checking of catalogue cards.
- Production of duplicate catalogue cards.
- Preparation of authority file subject-heading list.
- Shorting, checking and filing of catalogue cards.
- Automatic generation of added entries (author, title, series etc.)
- Generation of monthly accession list.
- Developing centralized and on-line cataloguing.

d) Circulation Control:

- Registration/cancellation and make time for membership.
- Issues, return, renew reservation of documents and produce the slip for proof.
- Charges for late, lost book, binding and production of penalty slip.
- Maintenance of circulation statistics.
- Inter library loan.
- Use of bar code system.
- Report/statistics of circulation.

e) Serial Control:

- Input essential serials data.
- Order list of new serials.
- Mode of payment, prepare for payment.
- Receipt and updating the records.
- Receipt to vendors or publishers.
- Preparing the list of present holdings, additions, missing, cancelled
- Serials chronologically, subject wise, etc.
- Renewal and cancellation of present subscriptions.
- Sending reminders and follow-up of missing issues.
- Binding control.
- Accession register of bound serials.
- Prepare budget and maintain accounts/statistics - subject wise,
- Binding etc.

f) Documentation and allied services:

- Indexing and abstracting of micro and macro documents.
- Thesaurus construction.
- Compilation of union catalogue.
- Current Awareness Services.(CAS)
- Literature search.
- Selective Dissemination of Information.(SDI)
- Newspaper clippings.

g) Information Retrieval:

- Database creation and maintenance, interactive searching, saving of in house as well as external databases
- Search and print outs of queries against specified requirement.
- Information about the books (issued, reserved, lost, overdue, weed out), member-ship, inter library loan, penalty charges, periodicals, newspaper clippings, reports etc.
- According alphabetically, chronologically, subject wise, member's wise keywords with each particular such as accession

Numberwise, title, author, call number, edition etc.

2. COMMUNICATION TECHNOLOGY

Communication is the process of transforming information from an information source to a destination. Communication, the exchange of information and the transmission is very essence in a social system or in an organization. Dictionary meaning of communication is news or the act of making oneself understand the means of sending information between one places to another. In modern days, various means of communicating the information came into existence. There is a need to communicate information effectively, efficiently and timely by applying modern technologies such as communication technology. The major areas of communication technology are:

- Audio-visual technology
- Fax
- Telex
- E-mail
- Video text
- Tele text
- Online search
- Tele conference
- Voice Mail Box
- Satellite Technology
- Cellular telephones
- Internet
- Intranet
- Extranet
- CD-ROM/DVD

3. REPROGRAPHIC TECHNOLOGY

Reprography also known asmicrography. It is a reproduction process. It has made a great impact on document delivery system. Today it is possible to record micro images in various microforms such as microfilm, microfiche, ultra-fiche and COM (Computer Output Microform). Micro-graphics is a powerful micro-force for records management and information control.

Reprographic technology covers:

- Photocopying.
- Micro-copying
- Optical/Digital process.

4. PRINTING TECHNOLOGY

Printing or Printing Technology has great importance and playing important role in information and communication process. It has various evolutionary changes from making of paper and invention of printing to the modern printing technology of laser printers. Printing Technology covers:

- Technical Writing
- Editing
- Publishing

SKILLS REQUIRED FOR THE NEW AGE LIS PROFESSIONALS

The electronic environment of the 21st century will demand a range of skills from Library and Information Science (LIS) professionals, including:

- Technical skills
- Information Technology (IT) skills.
- Managerial skills

As per the National Knowledge Commission, India, skills required fulfilling the changing role of libraries are:

- Library and information handling skills
- Service orientation
- ICT knowledge skills
- Communication and training skills
- Marketing and presentation skills
- Understanding of cultural diversity
- Knowledge mapping skills

ADVANTAGES OF ICT

- Easy to gather different library activities.
- Collaboration and creation of library networks
- Avoid repetition of efforts within a library
- Increase the range of services offered
- Save the time of the users
- Increases efficiency
- Speedy and easy access of information
- Improves the quality of library services
- Enhance the knowledge and experience
- Integration within the organizations.
- Improve the status of the library
- Improve the communication facilities
- More stable
- Helps to attract the users.
- Remote access to users
- Round the clock access to users
- Access to unlimited information from different sources
- More up to date information
- Information flexibility to the users
- Reforming and combining of data from different sources

- Reduce the workload of the library staff

DISADVANTAGES OF ICT

- Insufficient funds
- Operational costs are exceeding year by year
- Inadequate trained staff
- Unemployment [6]

CONCLUSION

An eventual remark it is reminds that libraries are operating in a quickly changing situation, they should be aware of latest technologies to continue and maintain the importance of the service offerings. Utilization of 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 helps to progress the rank of the library and it condense the work stack of the library professions. Information Technology has broken the worldwide boundaries, new apparatus and methods help to provide better services to our clients.[7]

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