ORIGINAL RESEARCH PAPER

Commerce

KEY WORDS: Information and Communication Technology; libraries; E-Resources

# IMPACT OF ICT AND USAGE OF ELECTRONIC RESOURCES IN LIBRARIES

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ABSTRACT

ICT i.e. computer linked to all facets of society. ICT has made the transfer of digital information from remote sites possible Shift from Print to Digital. Libraries and libraries must adjust to the burden of the information /knowledge society by acquiring the skills to handle digital information and to be efficient creators, collectors, consolidators and communicators of information. ICT facilities and services available in libraries include computers, access to the Internet and its resources. The role of e-resources has been instrumental in speedy transfer of information and ideas in this rapidly evolving world.

## CONCEPT OF INFORMATION AND COMMUNICATION TECHNOLOGY

Information and Communications Technology (ICT) is an umbrella term that includes all technologies for the manipulation and communication of information. Benefits of use of ICT in services can be broadly explained in terms of 4 Es, namely **economy, ease, extension (or expansion) and efficiency.** For the Libraries, ICT's has tremendously changed the Management of Resources or House Keeping Operations as well as the way services are delivered. While general IT application tools and Integrated Library Management Systems are largely used in housekeeping operations, like acquisition, cataloguing, circulation control, serials control etc; Internet has been used extensively as a resource as well as a tool to deliver the Library and Information Services (LIS). In the specific context of LIS, one of the implications of use of ICT is that Libraries can reach out globally to provide their services 24-hours a day in very cost effective manner. ICT has enabled users to avail many services without any human intervention,

**Ayodele** (2002) defined ICT as electronic based technology generally used to retrieve store, process and package information as well as provide access to knowledge.

**Aluko** (2004) also described ICT as enabling technologies (both hardware and software) necessary for delivery of voice/audio, data (high speed and low speed) video, fax and internet services from point A to point B (or possibly to multiply B C etc) using wired and wireless media protocol (IP) and non IP networks.

## ROLE OF LIBRARIAN

**Creators:** developers and producers of information products and services

**Collectors**: librarians, archivists and records managers

**Communicators:** information workers, extension workers, subject specialists

**Consolidators:** reference librarians, information brokers, analysts

The **librarian** of today is seen as an information resource provider, a resource centre manager, a human gateway to electronic resources, and a walking encyclopedia of quick reference Sources (Asamoah-Hassan, 2003). This transformation is due to the fact that the librarian is able to use sophisticated gadgets; he/she operates in a modern era where libraries are not limited by walls; and where, with the touch of a mouse, he/she can access necessary information from anywhere in the world.

## ACCESS TO WEB BASED RESOURCES

### E-Journals

E-journals are an invaluable source of up-to-date scholarly information. E-Journals play an imperative role in the distribution of prime information and are available via web. Edwards (1997) defines electronic journals as one where the text is read on, and/or printed from, the end user's computer rather than as print on paper. She further emphasized that online e-journal means where the data is downloaded directly from the host computer rather than via an intermediate medium such as CD-ROM. So e-journals can be accessed via Internet from any web-enabled PC.

### E-Books

E-books are digital objects containing electronic representation of a book, which means printed books are converted in to digitized form in order to be read by a computer. An e-book has electronic text and the text is represented to the reader visually. Thus it is the electronic form of a conventional printed book. The electronic text is saved to floppy- disk, transferred in to a CD-ROM, downloaded from the internet, and built into a palm-size digital-reader (Bhattacharya and Siddiqui, 2004).These can be read just like a paper book, using dedicated e-book readers such as Gemstar e-book, Kindle etc. or on a computer screen after downloading it from the internet or on portable book readers net. With advances in IT, some new forms of e-books are emerging like talking books in MP3 format or books on electronic paper.

### Electronic Theses and Dissertations (ETD)

Dissertations and theses produced at universities are important sources of information and knowledge for further research. A large number of universities have converted their theses and dissertation collection into digital libraries and have made it available on Internet for global access. A number of universities have also implemented Electronic Theses and Dissertation programmes, where researchers submit theses in electronic format.

### CD-ROM Databases

Various agencies( governmental and non- governmental) are involved in developing databases by collecting information from varieties of sources and packaging the information in the form of databases. Some databases provide information that is primarily numeric, such as data from a recent government census and some contain information that is primarily textual. These days databases are produced in a computer readable form and these contents are accessible in various ways according to users' requirements with the help of suitable software. Databases can be stored on CD-ROM, on the internet, or on commercial sites that are accessible only if the library has a subscription. CD-ROM in the library may contain periodical indexes, abstracts, statistics, directories and other complete texts.

### RFID technology

RFID (Radio Frequency Identification) is the latest technology being used in modern libraries to prevent theft the library materials. Unlike EM (Electro Mechanical) and RF (Radio Frequency) systems which have been used in libraries for decades, RFID – based systems moved beyond security to become tracking system that combines security with more efficient tracking of materials throughout the library, including easier and faster charge and discharge, inventorying and material handling. RFID is a combination of radio frequency based technology and microchip technology. The information contained on microchips in the tag affixed to library materials is read using radio frequency technology regardless of item orientation or alignment and distant from the item is not a critical factor except in the case of extra wide exit gates. The corridors at the building exits can be as wide as four

feet because the tag can be read at a distance upto two feet by each of two parallel exit sensors. The target used in RFID systems can replace both EM or RF theft detection targets and barcodes. RFID is necessary requirement for modernization of college libraries.

## CATALOGUING STANDARDS

### MARC

The Machine-Readable Cataloging (MARC) formats are standards used for the representation of bibliographic and related information for books and other library materials in machine-readable form and their communication to and from other computers.

Why is a bibliographic record in MARC format necessary?
A bibliographic record in MARC format will allow the application system or library automation system to: format the information correctly for printing a set of catalog cards or for displaying the information on a computer screen search for and retrieve certain types of information within specific fields display lists of items as required by the search

Why is support for the MARC standard important?
The MARC standard allows libraries to share bibliographic resources with other libraries that also use it. It also enables libraries to easily migrate to commercially available library automation systems, a majority of which support only the MARC standard

### Z39.50

Z39.50 is generally defined as the information search and retrieve protocol standard used primarily by library and information related systems. The standard specifies a client/server-based protocol for searching and retrieving information from remote databases simultaneously using a single interface.

## RECOMMENDATIONS

We would like to emphasize on the following recommendations to adopt ICT at a proper and accepted level by the university libraries:

- The government's agencies should allocate sufficient funds to support the purchasing and maintenance of ICT based system by the university libraries.
- Library and information science teaching and training institutions should introduce types of training programs for unskilled library professionals. The training programs should include basic things such as cataloging (both manual and electronic), classification, bibliography, indexing and abstracting, electronic information delivery, public relation, email, internet, so that the unskilled library professional can handle information efficiently.
- Library Associations and other professional organizations organize seminars, workshops, etc. to create awareness among librarians about the current development and technologies in library field.
- The government can open library and information science department in different government and private colleges and universities to build up more efficient library professionals. It may be noted that only two government universities are offering the library and information science course (both under graduate and graduate degree).
- Government and concerned authority should co-operate each other for the development of ICT competencies of the information professionals of the university libraries of Bangladesh.
- The library authority should aware of the changes in ICT in the world.
- The Government may recruit new ICT professionals.
- The Government may introduce a pilot project to implement ICT in the university libraries.
- The concerned library authority and other ICT institutions should provide training to the library staff.

In summary the paradigm shifts from the traditional libraries to embrace ICT's in both libraries has brought the following advantages:

1) Transformation of traditional libraries to digital libraries,
2) Print on paper to digital information,
3) Card catalogs to Web OPACs,
4) Print journals to online or electronic journals,
5) Ownership to access,
6) Provision of access to library resources to remote and desktop access.
7) Continuous availability of Information from different libraries.
8) Photocopies to digital copies,
9) DDS being provided through E-mail instead of post or fax.
10) Standalone libraries to Information networks
11) Real to Virtual libraries.

## CONCLUSION

The amount of information in the world and the speed of information growth on the Internet, with the number of web pages currently estimated at 19 billion, consequently this leads to the situation in which searching for information requires a great amount of time, effort, knowledge, skill and efficacy in order to ensure high precision. It appears that in order to efficiently find, select, check or validate and make information available, and understand the users' needs, it is not only a matter of a computer programme or database being able to provide some sort of condensed data, but the input of the human being in the form of a qualified connoisseur such as a librarian.

## REFERENCES

1. Trends and Strategic Issues for Libraries in Global Information Society, ICSSR Sponsored Seminar, March 18-19, 2008, DLIS, Panjab University, Chandigarh
2. ICT Enabled Library and Information Services, By Buddhi Prakash Chauhan, University Librarian, Thapar Institute of Engineering & Technology, Patiala 147004
3. Libraries and Reading Habit in Electronic Environment, Chandigarh Librarians' Association; Punjab College Librarians' Association, 2012
4. Choudhury, B. K., & Sethi, B. B. (2009). Computer literacy of library professionals in the university libraries of orissa: an analytical study. IASLIC Bulletin , 54 (1), 15-30.
5. Islam, A., & Rahman, A. (2006 ). Growth and development of information and communication technologies in Bangladesh. The Electronic Library, 24 (2), 135-146.
6. Kavulya, J. M. (2007). Training of library and information science (LIS) professionals in Kenya : A needs assessment. Library Review , 56 (3), 208-223.
7. Rice-Lively, M. L., & Racine, D. J. (1997). The role of academic librarians in the era of information technology. The Journal of Academic Librarianship , 31-41.
8. The National Library of the Philippines: Its Role in the ICT Development of the Country's Libraries Prudenciana C. Cruz, Director, The National Library of the Philippines