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Impact of Information Technology on Library and Its Services

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Developments in information technology 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. The information explosion of recent years has led to the phenomenal increase in the production of scientific and technical literature. Approximately one million articles are published every year. The traditional tools and techniques proved inadequate and slow to harness the flooding information. Innovations in computer and telecommunications technology have resulted in major changes in basic library operations.

According to ALA Glossary (1983) "information technology is the application of computers and other technologies to the acquisition, organization, storage, retrieval and dissemination of information."

The term Information Technology (IT) is most commonly used to mean a combination of computer and communication technologies used for information storage, retrieval and dissemination. It also covers the developments and improvement of non-print media for re-ordering information such as microfilms, microfiches, CD-ROMs, etc.

Computer has brought a new impact to the library and information usage. It is used in various fields of library activities. Some of the important changes that developments in ICT have brought about in information services are:

ONLINE PUBLIC ACCESS CATALOGUE (OPAC)

Library catalogue is perhaps the most important tool for locating material in the library. Unfortunately until recently its value has been restricted by its physical form, most commonly a large card catalogue or a set of printed volumes. The advent of computers, with their ability to process large amounts of information and output in a variety of formats has finally brought the library to the customer, wherever he or she may be located, in the form of Online Public Access Catalogue (OPAC). OPAC provides access to the catalogue through a computer terminal. OPAC allows searching the entire catalogue online, conveniently and quickly, using one or more search criteria. One can search by author, title, keywords, class

number or one or more of these combined together. OPAC even shows the current status of a book, whether it is loaned out, available on the shelf or lying elsewhere.

BIBLIOGRAPHIC SERVICE: Compilation of bibliographies, reading lists and state-of-art reports are very parts of LIS work, particularly in research and academic libraries. Browsing through the manual indexes and abstracts is a tedious and time consuming work, and does not always produce up to date result. Availability of databases in electronic form on CD-ROM or online, offers convenient, efficient and cost-effective information retrieval.

CURRENT AWARENESS SERVICE: Current Awareness Services has been important means for keeping the users up to date in their areas of interest. A current awareness service may be as simple as copy of table of contents or a bulletin containing bibliographic records, of articles selected from the current issues of journals and other material, and usually organized by subjects. Libraries now compile current awareness bulletins using predefined search strategy and running on the database either on CD-ROM or online periodically and getting the desired output.

DOCUMENT DELIVERY SERVICE

Locating a source and procuring the document requires considerable time and efforts and the process is laden with uncertainties. ICT has made the document delivery services very simple and reliable. From searching the holdings to ordering and delivery have been benefited by the use of ICT. A large number of libraries now host their up to date holdings on their website and can be searched on internet.

INTER-LIBRARY LOAN AND UNION CATALOGUES

It is not possible for libraries to have everything that its clients may need. No library can fulfill all the needs of its users from its collection. Libraries use inter-library loan services from other libraries and commercial organizations for copies of research papers not held by them. Resource sharing through Inter-library loan is a necessity for the libraries. Access to the catalogue of partner libraries is crucial to inter-library lending. Union catalogues, standardization and machine readable catalogues are aimed at promoting resource sharing.

AUDIO-VISUAL SERVICES

Audio-visual materials are important sources of information, education and entertainment. Many libraries particularly media libraries and large academic and public libraries hold audio visual material such as music, films, pictures and photographs, etc.

ACCESS TO WEB BASED RESOURCES

INTERNET: Internet has emerged as the largest repository of knowledge and information containing billions of documents, a major part of which is available free of cost. It means that the library has access to more reference tools that are more up to date and cheaper. Finding particular information in an electronic reference tool is also very convenient and fast. Search engines now provide tremendous power to search and select Internet information effectively and in a user friendly manner.

ELECTRONIC JOURNALS: Electronic Journals can be accessed via internet from any web-enabled system. Depending on the type of subscription, one or more users can access the service simultaneously; either directly from an independent web-enabled

PC or in a local area network through a proxy server (IP addresses based access). Electronic journals also offer benefit of full text searching and downloading of articles. Many publishers of electronic journals offer their journals through consortia of libraries at much lower rates. INDEST (Indian Digital Library of Engineering, Science and Technology), and INFLIBNET are two of such consortia operating in India. Access to articles in electronic journals can also be made through aggregator services which offer searchable databases of contents of e-journals from several publishers, and links to journal site for full text. Emerald, OCLC and J-Gate are some of the example of e-journal aggregator services.

ELECTRONIC BOOKS: E-Book has been described as a text analogous to a book that is in digital form to be displayed on a computer screen. E-books can be read just like a paper book, using dedicated e-book reader such as GemStar eBook or on a computer screen after downloading it. There are also some newer technologies developing such as electronic paper, which is much like paper, except that the text can be changed, and talking books in MP3 format. E-book offer advantages like portability, 24x7 access, text search, annotation, linking, and multimedia and self-publishing possibilities. Development of e-book is still in the infancy stage and issues like compatibility, e-book readers, availability and intellectual property rights are to be addressed before it can be implemented on large scale.

ELECTRONIC THESIS 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. Some initiatives such as Networked Digital Library of Dissertation and Theses (NDLTD) (www.ndltd.org) in development of web based union catalogues of ETDs submitted over 100 libraries throughout the world are worth mentioning.

PATENTS: Many patent issuing authorities now have made their complete full text patent records online. For example United States patent documents can be searched and downloaded free of cost from (www.uspto.gov/patft/index.html). Some of the commercial organizations such as Derwent also provide downloading of full-text patent from either an online database vendor (e.g. Dialog, STN) or directly from their site to the subscribers.

COURSE MATERIAL: A large number of web based courseware and teaching aids are being developed to facilitate flexible open learning by many universities and commercial organizations. Many academic institutions have adopted such course material for their curricula. Libraries can provide access to course material to the learners and teacher and thus contribute to open learning. This can be done by providing links to the courseware sites through subject gateways or provide local access after downloading the material. Some of the important sites where web based course material and tools can be found are Ask ERIC (http://ericir.syr.edu/), IGNOU, New Delhi, CAREO-Campus Alberta Repository of Educational Objects

Alexandria (http://www.careo.org), LESTER-Learning Science & Technology Repository (http://lester.rice.edu/), MERLOT-Multimedia Educational Resources for Learning and Online Teaching (http://www.merlot.org/), and GEM- The Gateway to Educational Materials (http://www.thegateway.org/) .

SUBJECT GATEWAYS

Preparing subject guides or path finders has been an intellectual activity for reference librarians. Such guides are normally prepared in consultation with the subject experts or by a subject librarian, who picks up the sources after careful evaluation. Random surfing of the Internet may be a popular pastime, but is an inefficient use of bandwidth and time. One of the most useful ways to discover quality resources in a particular subject area is use of subject-based Internet gateways and directories. A subject gateway thus is a facility that allows easier access to web based resources in a defined subject area. These are basically a dynamic catalogues of pre-dominantly online resources, though some libraries include information on print resources as well. Generally access to subject gateways is provided through library website, designed to help library users discover high-quality information on the internet in a quick and effective way. A simple subject gateway may list web based or print resources on a given subject with links to the website of the resources and some useful information such as keywords, class number, description and how to access. Advanced subject gateways offer searchable catalogue or even full text search facility on listed sources.

CONCLUSION

The library environment is currently undergoing a rapid and dynamic change. IT has tremendously changed the management of resources or housekeeping operations as well as the way services are delivered. There is an increasing demand for processing of data and retrieval of information in the quickest possible time. The innovation of Internet, e-mail and fax facilitate the electronic document delivery. Thus the new trends of information technology have a great impact on library and information science profession. The application of information systems and services is perhaps the only way to cope up with the information needs with speed and relative accuracy and reliability.

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