

IMPACT OF INTERNET ON LIBRARY AND INFORMATION SERVICES

INTRODUCTION

Developed in North America, the Internet has rapidly spread around the world in the past decade and has had an impact on the lives of millions of people. Many could not work effectively without it. Over the past few decades a variety of new and exciting information services have appeared on the Internet, each with its own distinct characteristics. Computer and Communication technologies have revolutionised the whole world of information and have penetrated in areas beyond libraries transforming nearly every facet within society. Powerful PCs, sophisticated network technologies, affordable telephone lines have given a boost for Internet. Use of the Internet and other network resources is changing the traditional library functions. While in the 1980's and early 1990's the Internet's modalities were changing traditional library functions and was used mainly for communications, database searching, and bibliographic access etc. Today, the Internet's modalities are changing or augmenting traditional functions of library profession such as the information transfer process and the perceived nature of information itself.

INTERNET

History

- 1960s-Advanced Research Project (ARPAnet), U.S.
- Connected computers from four different universities.
- 1972 – Over 40 different sites were connected to ARPAnet
- DECOrpn. and AT&T Bell Labs IBM setup their own networks.
- ARPAnet split in to MILNET and ARPANET.
- 1970s – NSF net (Csnet).
- Then all is a story – network of network

Growth

- 1995 - 30,000 interconnected networks.
- 5 million computers connected.
- 40 million users spread over 96 countries.

- 1998 - Crossed 65,000 networks.
- 16 million computers.
- 100 million users spread over 140 countries.

2000 AD - 200 million computer will get connected

Indian scene

- By 1997 – 2,00,000 users
- By 2000 – 15,00,000 users
- By 2002 – 80,00,000 users

INTERNET TOOLS / SERVICES:

1. Email - Exchange of mails
- Text, Graphics, Programmes, Audio, Video etc.

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- One-One, One-many, many-many.
 - Usenet, listserv, mail base etc.
2. Telnet - (Remote login)
 - Connect to remote machine & login and use the facilities.
 3. File Transfer Protocol (FTP)
 - To move files between computers.
 4. World Wide Web (WWW).
 - Navigational tool that enables browsing information linked to other related information.
 - Hyperlinks/ Hyper text/ Hypermedia based.
 - Provides unlimited access to large universe of e-documents.

Other tools include:

Gopher, WAIS, Archie, Veronica, Usenet, bulletin Board Services etc.

IMPACT ON LIBRARY & INFORMATION SERVICES:

Perhaps no other recent innovation has impacted the library profession to such a great extent as Internet. Not only is our world becoming an interconnected global community, but this early use of the Internet has changed the fundamental roles, paradigms, and organizational culture of libraries and librarians as well, which created profound impact on L&IS by offering new modes of information delivery and a vast information source. There is a continuing evolution of the roles and functions of libraries and librarians, which appears to parallel the growth of acceptance and use of the Internet by library professionals. The innovative use of Internet technologies enable us to reach both local and distant users much more easily and effectively than hither to possible. Technologies such as email and Web provides tremendous opportunities for library & Inf. Scientists to deliver the information to the desktops of our users. Web offers significant advantage by integrating different library & information services with a common user interface offered by Web browsers. Realising the potentials, many libraries are rushing to getting the connectivity.

The following listing will give an idea of which various functions of libraries may take advantage from Internet and Web technologies.

Acquisition:

- Correspondance with Book seller & Publisher.
- Reminders, Price verification
- Bibliographic details and downloading of bib. records etc
- Ordering, billing
- Bookshops are on-line e.g. amazon.com

Classification:

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- Network resources (in place of conventional sources)
 - available on the net
 - subscribed or free or trial basis
 - Dewey Online
 - Maths. Classification System
 - Engineering Electronics Lib. Classification
 - Search engines – such as yahoo use DDC.

Collection Development :

- Ownership vs Access
- Subscribe in print or e-form
- Subscribe in print as well as in e-form
- Pay-per-use
- Consortial approach

Cataloguing :

- Cataloguing of network resources
- Online Catalogues
- WorldCat (OCLC)
- WebOPAC – web sites
- MARC adds 856 field
- OCLC Scorpion project- MARC & AACR2
- Metadata standards- Dublin core

Circulation :

- Remote login
- Status check
- OPAC access
- Reminder to users
- User requests
- Direct borrowing
- ILL

Resource Sharing:

- Union Catalogue
 - Access, adding, downloading
- Access to databases over networks
 - Ohionet, ILLINET, WLN, OCLC, BID (UK)
 - full text journals access etc.

Services:

- ILL
- Document Delivery Service e.g. Ariel
- Reference / Inf. Services
- CAS

- Recent additions,
- Contents pages
- SDI
 - From library collection (Lib. Catalogues)
 - Databases
 - Internet Sources
- OPAC
- Database access
 - Bibliographical
 - Full text
 - Many vendors & organisations are moving to Internet (web) access

Subject Lists/ Gateways (*With their own Search engines*)

- Internet Public Library (University of Michigan)
- EEVL – Engineering
- SOSIG – Social Science
- OMNI- Medical
- ADAM – Arts, Design etc.

User Education:

- Through Email
- Through Web
- Setting Intranet

Preservation & Storage:

The Internet is also a medium for the preservation and storage of information. In past, libraries were seen as the main storage facility of information. As society becomes increasingly more digital and more information resides on the Internet, the focus on storage and preservation is shifting. For example, some academic libraries are now faced with the problem of whether or not to purchase serials that can be just as easily accessed on – line. Preservation of these same media also becomes an issue of economics, not the “just in case” preservation ideology of the past paradigm. Co joined to the function preservation is the destruction of information. Because the Internet can be seen as a medium for preserving information, the process of destruction of information also is affected. As more and more information is created and stored on the Internet, the capacity to store this information is also decreasing.

RETRIEVAL OF INFORMATION

Directories, Search Engines, Meta Search Engines and Information Gateways/Virtual Libraries etc are widely used to retrieve relevant information from Internet.

Search Engines

- ? Search Engines are huge databases of web page files that have been assembled automatically by machines.
- ? There are two types of search engines
 - Individual- compile their own searchable databases on the web
 - Meta- Do not compile databases of multiple sets of individual engines simultaneously.

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- Search engines employ 'spiders' or 'robots' or ' crawlers' to crawl through webspace from link to link.
 - Spiders /robots index most of the publically available sites
 - Submission by the page owners are also solicited
 - Searches first its own database
 - Comprehensive in coverage
 - Best means to search huge databases
 - Usually up-to-date
 - Relevance of returned documents is less.
 - Less descriptive
 - Repetition is more
 - No quality evaluation
 - Cover only around 35- 40% web pages
 - There is nearly 60% overlap among the search engines coverage.
 - Rank the sites
 - Best at finding unique keywords, phrases , quotes and information buried in the full text of web pages.
 - Use them when you want wide range of responses to specific queries.
 - Source to keep in touch with-
Search Engine Watch <http://searchenginewatch.com>

Meta-Search Engines

- ? They are also called Meta crawlers or multi search engines
- ? Do not crawl the web compiling their own searchable databases
- ? Search the databases of multiple sets of individual search engines simultaneously from a single site and using the same interface.
- ? They function as intermediary
- ? Present the results of their searches in two ways
 - Single lists (merged and duplicates removed)
 - Multiple Lists (not collated, displayed specially, duplicates may appear).
- ? There are three types of meta search engines,
 - listing
 - options
 - automatic
- ? While you query , options less
- ? Cover all major search engines
- ? Do not return all results retrieved, they take only top ones from the list.
- ? They are very fast.
- ? Use them when you are in a hurry
- ? Helpful when you want to have quick overview on a subject and/or unique term.
- ? Use them when you are,
 - conducting a relatively simple search
 - not having any luck pulling up documents in your search.

RESOURCES AVAILABLE ON THE INTERNET :

The advent of IT and other communication technologies changed all means of information services and sources. The Internet has given the world numerous easy-to-use and

inexpensive research tools. Internet is changing the way we view information sources. Information bundled in World Wide Web in the form of structured and non-structured sources create huge problem for professionals who are dealing with information. The shift in publication process takes place as individuals, institutions, publishers, professional associations, business houses and many others are publishing information on Internet. Electronic publishing is considered as the speedy, accurate and effective way of communication among academia and research community, and becoming a favorite idea among information professionals to experiment with. The library and information professionals have a vital role to play in organizing the information and bridging the *information gap*. Internet has become a part of library environment today. Internet for reference work in the library is gaining popularity. It can be successfully utilized for providing short-range and long-range reference service because various primary and secondary sources of information are available online from many sites. As information professionals, we can arrange the sources on net as we come across, in a structured manner. These can be;

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|-------------------------|--|
| - E-journals | - E-books |
| - Standards | - E-TDs |
| - Preprints | - Library catalogue |
| - Bibliographical Tools | - Share wares |
| - Old books | - News papers |
| - Dictionaries | - Magazines |
| - Encyclopedias | - Databases |
| - Directories | - Films |
| - Maps | - Technical reports |
| - Audio/Video | - Proceedings |
| - Patents | - Websites of Companies, Institutions,
Organisations, Associations etc. |

Here the relevant question is that “*What is not available on Internet?*”

Evaluation of Information Sources

When we access or retrieve something on the Web, we need to decide whether the information is useful, reliable, and appropriate for our purposes. The resources identified can also occasionally contain inaccurate and misleading information. The nature of the Internet and WWW makes it easy for almost anyone to create and disperse information. People also have considerable freedom and variety in the formats with which they publish information on the Web. We have to double-check the facts before giving it to users. Here we need to use some general guidelines or criteria when evaluating information sources. We should ask the following questions about whatever information we found.

- ? Who is the author or Institution? (Authority and Reputation)
- ? How current is the information? (Currency)
- ? Who is the audience? (Users)
- ? Is the content accurate and objective? (Accuracy)
- ? What is the purpose of the information? (Purpose)
- ? How easy to use it? (Accessibility)

More than that, we can consider coverage, presentation and arrangement of information in the sources to find out its value. The tremendous increase in online information sources made the searching difficult, where organizing skill is required for library and information professionals.

Libraries role is also enhanced where they will have to adapt to changing environment. The scope is only limited to the imagination of information professionals, where they have to acquire thorough understanding of changes in their profession. Willingness to take up the challenges in information resource management is the need of the hour for us.

WEBSITE FOR A LIBRARY

The roles of libraries and the Internet in providing information in the 21st century are firmly intertwined. It behooves any librarian working today to understand not only how to find things on the World Wide Web, but to have a basic understanding of how it works. Librarians will be called on to become information architects, to be able to create Web sites with clearly stated goals, that are aesthetically pleasing and filled with relevant content and functionality. As more and more libraries set up comprehensive Web sites, there becomes an increasing demand for librarians who have an understanding of HTML, as well as other types of Internet programming skills such as javascript, SQL, CGI, ASP, and Cold Fusion. Librarians should know the principles of setting up an efficient information resource. As the Internet becomes more interactive, there is a push toward making databases accessible online; the best example of this is the library card catalog. Other interactive options include e-mail and bulletin board service, and moving from CD-ROMs to online subscriptions.

A library Web site is not merely establishing a presence on the Internet. It can be a virtual addition to the existing library structure, reaching out to patrons around the clock and providing valuable information resources. Additionally, a library's Web site is an important source of information about the library. The library's Internet policies, special programming, and new materials can all be made viewable at any time from the Web site. Libraries, too, should be designing their own Web sites that serve as portals to interesting sites that have been reviewed and annotated by professional librarians. Librarians will continue to play an important role as information professionals in the Information Age, well into the 21st century.

MARKETING OF LIBRARY SERVICES

In recent years, libraries of all types from all countries have found it necessary to compete for both money and clients as major changes have occurred. The Internet brings a whole new dimension of competition that public, academic, and special libraries are facing daily. Whereas budget problems have been around for some time, the recent competition from the Internet can translate into fewer users, despite the fact that the Internet is also a crucial tool used by librarians for research and marketing. Because of all of these existing challenges and intensifying changes at least a handful of libraries have turned to "tried and true" business models for improved planning and development, and that they are employing marketing plans as one method for moving forward. As time goes on, libraries must think about marketing of their services and resources to achieve goals. It is important to clarify what marketing means in a library environment. Marketing is not so much about "selling" information products to researchers, as it is more about spreading the word about potentially useful new tools. It is also about keeping users informed about library activities and involving them in collection development. It is more about integrating new research tools into existing, effective research processes, and in some way enhancing researchers' work, rather than selling the tool to users as an end in itself. As librarians market new tools, they should know how the tools may offer clarity, and not simply contribute to noise for the users. Effective marketing can only occur when librarians understand, at least in a broad sense, what the scientists, professors, and graduate students are already doing to keep informed, and what their research projects are about.

CONCLUSION

The changing roles of librarians, as facilitated by the use of the Internet, should be of great concern to the profession. There are three major areas, which should be addressed by the information profession to meet the challenges of these changes:

- 1 Because the Internet provides library users with a vast array of seemingly accurate information, librarians will need to increasingly adopt the role of teacher or guide. Users will not only need to learn how to best access information, they will also need to be taught to critically evaluate Internet resources to determine their validity. Librarians can and will need to provide this guidance.
- 2 Library professionals will need to address the issues of information organization and retrieval via the Internet. Librarians should remain proactive in dealing with policy and procedural issues concerning organisation and access. In this way, the Internet of the information retrieved by library users can be ensured.
- 3 Library professionals should embrace the changes confronting them. Radical shifts in traditional ideas of service need not occur. Library professions do, however, need to remain flexible and open to the potentials the Internet can have for the profession and for library users. Internet access should instead be seen as a means to augment information access for users. Library professionals who embrace this new environment of collaboration will be better able to provide customized service to their clients.

There is no crystal ball that can predict the future of the library or the impact the Internet has and will continue to have on libraries and librarians. However, as long as library professionals never lose sight of their mission and purpose to serve library users in the best possible manner, there will always be a place for librarians and libraries—virtual or not. It is also fair to suggest that further research is needed to assess the impact the Internet has upon library professionals, so that we may enable all librarians to prepare for the future.