Internet and its Impact on Library Application: An Overview

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Abstract

Internet is the most revolutionary development in the field of information Science. It has opened up new opportunities for the information professionals to meet the growing challenges being faced by them under the fast changing scenario. The paper traces the history of 'Internet' and its entry into Indian Library Culture. It emphasizes the need and importance of adopting the 'Internet' by libraries in India to expand the information base and to meet the ever-growing demands of their users. Provides information about important Internet Services Providers (ISPS) in India. Discusses the Service being offered by Internet in libraries in India.

Introduction

'Information' is the most vital resource for any kind of activity but is difficult to define. According to Newman and Newman, "Information is that which destroys uncertainty" Today we are passing through a phase in which information is of key importance. It has been recognized as the fourth resource that has become one of the basic elements to determine the quality of life, the other three being men, material and money. Although, information has always been the basic need of the society but at no point of time. It has played such a crucial role as it is playing today. Inception of computer and communication technologies has brought revolutionary changes

What is Internet

The global network of networks called 'Internet' is information super highway that allows information to flow to unimaginable distance at an incredible of large and small interconnected computer networks, extending all around the world.

The Internet is a network of networks, a giant agreement among thousands of computer

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in the whole system of information, particularly during the last one decade. In the information age, the element process is communication Recipients state of knowledge is alerted by informative communication. Information gamut is felt everywhere. Presently technology has been a marvelous tool to have access to governmental information, grey literature, trade reports, technical reports, technical reports, etc, and other unpublished and which is not supposed to be published i.e., the electronic journals. This tool has enabled us to communicate between anyone, anywhere in the world without any discrimination of status. This tool is nothing but the talk of the present world "Internet".

systems to connect together. Internet is the network of 'networks' spread worldwide. It connects people world wide to have access to remote database, allow personal communication, and group discussion.

In other words, Internet is another telecommunication network Majority of connections for the Internet run on standard telephone lines. The concept behind the internet is 'Resource sharing' Internet paves the way to Universal Availability of Publication (UAP). Researchers from all Corners to the earth are finding that their work is thriving in a network environment-immediate access to the work of colleagues and a vital library of millions of volumes of paper-afford them the ability to

incorporate a huge amount of knowledge hither to unthinkable Internet has the philosophy of sharing information (mail, documents, programme, data and graphical and the perspective dominated now the system work today.

Internet Growth

Presently, Internet is growing at a very fast rate, spreading its roots at an unimaginable speed and becoming an integral part of our lives. No one had ever, imagined that Internet would become so integral to the world when it started as a simple communication tool for defense personnel in sixties. It was just plain text, text and text. Today, there are moving pictures, graphics and sound that one never imagined off. All these developments have revolutionized the presentation of the information on the Net. There are over 140 million Internet users in the world hooked to over a 12 million host computers connected to the Net, and this number is growing today.

During 1990, the Internet was supporting commercial activities and the network was growing fast to include more and more sites. By the end of 1994,over 3.5 million hosts were connected and over 9.4 million by Jan 1997.Growth of Internet in India has been slow as compared to Western Europe and South East Asia. However, it has been assumed that Internet access in India will grow at the rate of 164% in the next few years as compared global rate of 59%.The traffic on the Internet is doubling every hundred days. The Internet has undergone a virtual explosion, due to the enormous popularity of World Wide Web. At present more than 4000 Indian users have access to Internet through VSNL, and 7000 users from education and research community through ERNET, It accounts to a very small fraction of total population of India. Dept. of Telecommunication (DoT) and VSNL are the two key public sector bodies controlling Internet till date.VSNL has presence only in 16 cities all over India.

Internet Service Providers and Popular Networks in India

Internet service provider (ISP) is the bridge between Internet and the customers with a point of presence on their network. The customers should have connection to one of ISP's server either through dial-up or lease-line. Until early 1990's Internet access was possible through some kinds of dedicated line connection. Later with the introduction of various Internets access providers, dial-up accounts became available. By early 1994, more then hundred dial-up commercial Internet access providers were offering services in North America along. Now there are various ways to get Internet connectivity, ranging from dial-up facility to satellite links.

Internet Connection

Basic Requirements to get into the Internet are:

(1) Computer

(2) Modem

(3) Communication link (Dial up or lease line access)

(4) Password or login address

Internet Service Provider

Today's information networks have broken down all the barriers of time and space enhancing users expectations continuously and creating the dements for more and more sophisticated, high quality Information products and service. Today in India there are various networks offering online services through Internet. Some of them are as follows:

Ernet

In Nov. 1986 ERNET was started by Dept. of Electronic (DOE) with the financial support at govt. of India and a United Nation Development Programme (UNOP).

The educational and research network (ERNET) implemented by Department of electronics (DOE) has over 400 organizations connected with in India and neighboring countries. These institutions are mainly academic and research organizations non-governmental organizations and to a limited extent private and international organizations. Several backbone its support ERNET, covering Doe (New Delhi), IIT (Chennai), and IISC (Bangalore) IMTECH (Chandigarh),VECC (Kolkata), IUCAA (Pune), NCST (Mumbai) and University of Hyderabad, which enable organizations located at different geographical locations to access various services

of Internet.

NICNET

The National Information Centre Network (NICNET) is operational since 1987 NICNET covers all district head quarters, states/UT capitals and national capital. Internet connectivity through NICNET has been made available via VSNL since 1995. It provides services to govt. organizations in the country by using satellite base data communication of national informatics centre (NIC). NICNET has been offering Internet Connectivity through dial-up mode under the service name RENNIC (Research and Education Networks) to academic and research organizations. It is estimated that more than one million users (8000 institution) are using NICNET facility in India. NICNET has become an important network facilities decision-making in the govt.

(VSNL (Videsh Sanchar Nigam Ltd.)

In India, Videsh Sanchar Nigam Limited (VSNL) started the internet service in is August 1995, till that time it was the only ISP.

It acts as the gate keeper to Internet Connectivity.

Softnet

The Dept. of Electronics, Software Technology Park of India (STP) launched SOFTNET in 1993, which has started offering Internet service in collaboration with Section Service, India for software development companies. STP has six centers located Bhubhaneswar, Trivandrum, Hyderabad, Gandhinagar, Noida and Bangalore.

Satyam

Satyam Online was launched in December 1998 as a first private Internet Service Provider to announce the Internet service in 12 major cities in India. It proposes to cover more then 40 cities.

Mahanaga Telephone Nigam Ltd. (MTNL)

MTNL was launched in March 1999 in Mumbai and Delhi to provide Internet service to general public.

Internet Access Services

The Internet has enabled global connectivity of computers and develops various tools and techniques for networked information provision and access. The various services offered by Internet are as follows:

Gopher

Internet gopher was developed at the University of Minnesota. Gopher is a menu-based programme to browse the resources of the Internet without having any idea of its location. Gopher server accepts simple query and provides the clients a list of documents. It is a menu driven application that allows the users to access data residing on multiple best and server as a distributed documents delivery system. Gopher actually gives out, gets the information that one wants, and puts the information on the computer.

Vronica

Veronica stands for very common Rodent-Oriented net wide Index to Computerized Archives. It is a programme accessible Gopher. It allows quick access to information of Gopher to reach particular files and directories.

File Transfer Protocol (FTP)

The Internet programme FTP is used transfer files from one computer to another, regardless of the storage format or operating system. Through FTP one can copy files available on Net from anywhere; FTP requires specific address to th remote machine from where the File has to be retrieved.

Telnet

Telnet is a simple programme created by the NCSA that uses the communication protocol of the Internet TCP/IP to provide a connection into another computer. One can use Telnet in huge databases to do research or even Telnet can be in libraries around the world to check if they have a certain book that one is looking for.

World Wide Web (WWW)

Also known WWW, Web W3 is the most powerful navigation tool on the Internet. It is based on a concept and technique called' hypertext'. Words in one document are linked to another document from the home page on web. One can go from one item of interest to by selecting hyperlinks in the documents. Web provides access to information in the form of text, graphics, pictures and even sound. The major features of the Web are:

- It is a hypertext system;
- It is a multimedia system;
- It incorporates other internet tools such
- as FTP, Telnet gopher and wais, etc.
- It is a distributed system; and
- It provides an interface to other database system.

The most important concepts required to understand the underlying mechanisms of the web are-Client Server Architecture, the Hyper Text Transfer Protocol (HTTP), Hyper Text Markup Language (HTML) and Uniform Resource Locators (URLs) and others.

Wais Wide Area Information System

Wais is full-text indexing software, used to index large text file, documents and periodicals.

Archie

It is a directory service available for searching the address of ftp servers around the world and one can telnet to the Archie server.

Internet Resources

Electronic Mail (E-MAIL)

E-mail meant for exchange of electronic information. is the most popular feature of the Net. It is cost-effective and fastest module of communication wherein one can correspond electronically with anyone, anywhere in the world. Mail is passed from one machine to another to reach its destination. For this purpose, person on receiving end must have an e-mail account. Messages can be sent or received in the form of text, graphics, images, photos and sounds.

Online Catalogues

Internet provides access to catalogues of far located libraries and one can come to know the availability of the particular information in particular library. Catalogues of many libraries are available on Net.

Database

Vast and in-depth information is present in databases, available on Net. Through Internet, one can get access to different databases of any library in this way, Internet I an ocean of information.

Discussion Group

Discuss on a desired topic or required can be done on internet various newsgroups, discussion forums are available on net which provides information on a particular subject field.

Services of Internet

1-It enhances the ease and speed of communication through e-mail.

2- It provides common platform like list serves for discussion and these type of common platforms are considered as electronic vehicle. These electronic vehicles include using the internet to share information on any subject of interest.

3- Internet is supportive towards reference services of any kind because it searches the entire database available on the net. To satisfy the user need of difficult queries, it conducts co-operative approach.

4- It exploits the catalogues of libraries which are not available locally and may offer access or search.

5- Regarding SDI services, it gathers information from users to create their SDI profile.

6- It makes locally produced database available to the remote users.

7- It evaluates competing online- systems for the purpose of selection.

8-It does various library related function like inter-library loan verification, request, document delivery, and consortia file

Sharing E-journals, image data and files of FTP and WWW sites, cataloguing, books-journals ordering.

9- It products homepages of libraries so that information regarding the library, its resources and services can be made available through out the world.

10- It provides the connecting facility among the libraries.

Advantages of Internet

Internet provide significantly more flexibility over the means of information dissemination including LAN'S ,WAN'S and paper based

publication internet offer the following advantage & benefits-:

1- As the internet uses the internet technology. It is easy to access the internal
information using any web browses and it allow employees to deed us in internal information as they deal with external information.

2- It is an egalitarian to a fault.

3- It provide simple and familiar interface

4- It entrances the communication

5- Increase employ productivity Information can be presented more   attractively by using multimedia and hyper text technology.

6- It the internet us developed over the internet, then   user can access the
information from any where and at any time.

7- Individual wealth state powers do not have much signification.

8- Individual wealth, professional produced information already exits and is on the increase, relevant for research, education, business and entertainment.

Disadvantages of Internet

Though intranet offers many advantages and application, yet it has some problems also some of them are:-

1- Seems to be virtual mess.

2- Setting up and effective running of intranet requires skilled personnel,

3- Information sources of doubtful quality.

4- Maintenance is one of the big problems posed by intranets. The setting up an intranet is easy but proper maintenance and up dating is a difficult task.

5- It is difficult to navigate through.

6- Both the staff members and users should be trained properly for effective use of intranet.

7- Difficult to control non productive use.

8- Security is another important problem posed by the intranet. Care should be taken that users are misusing the intranet.

9- Slow response line

10- Noise in telecommunication.

Impact of Internet on Library Application

Internet is playing an important role in discharging the function of libraries. It is changing the ways of organizing, managing and disseminating the information. With more documents getting published electronically and internet resources growing fast. Libraries of 21st century have to shift towards electronic means of acquiring, processing and disseminating the information. Internet is a bone of information profession where main aim is provide information to their clientele. It is greatly influence the practice of librarianship.

Today all sorts of library services from membership registration to document delivery can be offered through the internet. Some of the important library services that can be offered through the internet are as follows:

Collection Development

Collection plays very important role for the users of Internet has given new meaning to the process of collection development as there is a clear shift from the concept of ownership to accessibility. Large numbers of documents are accessible on Net few of them are available free and rest against payment. Extensive access to information resources has proved to be very helpful for financially starved libraries. With internet access the libraries are able to achieve economy, as they are shifting towards consortia approach to acquire access and subscribe the material they need. Acquisition of documents in e-form is becoming the order of the day.

Acquisition of Document

With the application of internet the acquisition process has become much better and many of the problems related with the acquisition have been solved. Todays most of the publishers and booksellers have their web sites on the internet and place their regular catalogues and leaflets of new publication. Some of the publishers of primary journals like American Chemical Society, IEEE (USA) Elsevier Science publisher, are providing their journals online. The IDRC, Canada is providing books on research and development that can be ordered online through the URL http://www.idrc.co/book have It also publishers its best reports online which are also available at web site http://www.idrc.co. : CAB

publishing has recently launched a series of subject online communication catering to the needs of librarians and researchers; each community features a comprehensive abstract database with 25 years archive. Examples of some of the useful set of links available through the Internet for acquisition are:

1-Association of learned and professional society publishers;

http://www.alsp.org.vk/member.html:

2-Ingentia journals, provides access to bibliographical information from more
than 550 journals from academic press, Royal Geographical Society, White House press and hardwood Academic, etc. and searched without restriction from http://www.ingentia.Com.

3- ARL Directory of Electronics journals product by association of Research Libraries gives Information on electronic journals and newsletters along with details of the subscription.

4-Britannica online offers the world's first online encyclopedia. The libraries can provide access to the readers by paying some registration fee. The Britannica online has advantage of accessing articles not yet in print, and Britannica book of the year http://www.ep.com/.

5-Amazon.com books w web site provides access to greater selection of books with over one million titles which is searchable by keywords, author title or subject. The site also has the provision for purchase, via Netscape's secure commerce server or over the phone. Its address is http://www.amazon.com.

The library and information professionals can easily browse through the current publications available on various web sites in their area of interest, confirm the prices, etc. and place the orders online. Any discrepancy in the invoices or bills, edition of books, printing etc. can be clarified within minutes through e-mail and much of the work is reduced. It is expected that in near future, the Internet will become the mechanism for distribution of three fourth of the specialized journals and also the major medium for transfer of research information.

The librarians will thus need to change their attitude towards collection development, as the technology advances in future; it will encourage access to document rather than ownership. In future, virtual libraries may replace a traditional rather than the source.

Tecnical Processing

Preparing standard catalogue without much effort has become possible due to Internet and the World Wide Web Librarians can check-the catalogues of other libraries like that of Library of Congress and confirm the information required for a record which can be easily ascertained from the original document. The library professionals can also access Internet resources for a record which can be easily ascertained from the original document. The Library professionals can also access Internet resources for verification and downloading the bibliographical information from other institution OPACs via Internet have become a popular source of bibliographic information. Libraries can make use of other institutions by OPACs to get information they need to organize knowledge Databases of bibliographic utilizes will become more comprehensive source of information than has been so far possible by their present catalogues. With advance information retrieval facilities, the libraries in future will have added value by using catalogue of journal articles.

The librarians can provide the bibliographical data through internet access via OPACs of other libraries in the world. The electronic documents can be supplied to the users on demand through the network. According to Schmidt, "access to OPACs will be increasing from outside the library. The boundaries between the cataloguing of libraries holding and cataloguing of information will be more difficult than today, in my opinion they will vanish completely when networks have reached a certain technical capacity."

Internet has also affected the traditional classification system of our libraries. Several libraries are opting the cyber Dewey Decimal Classification Summaries as a way to organize and navigate resources on the www. The Cyber Dewey website includes alphabetical index to Dewey. The Dewey home page (http://www.oclc.org/pp) division contains links to some of these systems. Joan Mitchell, the editor

of DDC says, "it is exciting time to be Dewey user because we have a commitment to keep pace with knowledge to help our users classify efficiency and help our users extend from the shelves of their libraries into the electronic environment."

Circulation

The Internet has made the circulation of in house document much easier. After the technical processing the new books document can be placed in the OPAC on the day acquisition itself and readers with Internet connection at home or at university can browse and reserve the books sitting at their offices or at home, within seconds after arrival of the book in the library.

Further libraries subscribing to electronic journals need not necessarily provide, with a user ID. The reader by enquiring the user ID from the circulation section can access the journals from their departments or offices without taking pain of visiting the library.

Through Internet the libraries can also provide bibliographical databases via OPACs from libraries of other institutions worldwide. The OPAC may be searched from a terminal located at a remote place. Some of the examples of online catalogues are:

1. Library of Congress.Locis.loc.gov.

2. Catalogues-Catalogue Guide to several OPACs

   ftp;funet.fi;path:/doc/library

3. Library, University of Southampton

   http:/ww.soton.ac.UK/library

4. Library, University of Newcastle.

   http://www.ncl.ac.UK.//library

The electronic documents required by the readers can also be supplied on demand through the network.

Information/Reference Service

Current Awareness Service (CAS) and Selective Dissemination of Information (SDI) services are the most useful services of any good library. Internet is playing a very significant role in providing CAS/SDI services to its users. It has widened our information resources base extensively by providing access to global information. One can access abstracts, citations bibliographic and full-text databases, library OPACs or other sites wherever the information is available.

Libraries using Internet can provide for better information services, much wider in scope at minimum cost and time. Reference sources like encyclopedia, dictionary, directories, bibliographies, index/abstract, gazetteers, maps and available with up-to- date information.

Resource Sharing

Due to multiplying cost of material, resource sharing has become an important facility where Internet is being used heavily. Through internet, users of one library can know what is available in the collection of other libraries. It creates a cooperative network that is very useful for fund starved libraries. Under this programme all networked libraries make their resources available on the Net to be used by other libraries.

Inter-Library Loan (ILL)

The traditional inter-library loan operations are quit time consuming and labour intensive. With the advent of technology, the electronic documents and various inter-library management tolls such as software like Ariel and Avis have facilitated the libraries to share their resources effectively and efficiently.

Ariel software opens the window on internet document transmission. The Ariel workstation developed by Research libraries group lets users send and receive crisp clear copies of document over the Internet with speed and ease of fax. Avis is another Canadian product developed at the University of Waterloo and refined with the cooperation of interlibrary loan practitioners in libraries across Canadian and USA. Avis is PC based software designed to manage all aspect of inter-library loan process. The inter-library loan office can network multiple Avis workstation on local area network .It offers the following benefits:-

* Single comprehensive solution for the management of all ILL activities.

* Effective management of the paper work and record keeping acquired in borrowing and lending an item.

* Status tracking of request at all stages of the

ILL process.

* Integration of bibliographic and location information from CD-ROM catalogue and online union catalogue.

* Transparent electronic transmission of requests and messages through the Internet.

Thus with the help of these software, inter-library loan the Internet has become of great help in the inter-library lending and borrowing. Retrieval has become easier and transaction much quicker as the request can be sent through e-mail.

Communication

Internet has become the primary mode of communication which carries more than the combined total of the postal services of all countries in the world. It is an important means of communication which provides a cheap and efficient means of mail transfer. Libraries can use this facility extensively to communicate with the publishers, book sellers and vendors of the other library products and services with scholars librarians and users across the globe. The most popular means of commutation on the Internet is e-mail, like the regular mail; there are also mailing lists to user groups of people. These mailing list often called listservs, can serve a valuable resource for the librarians. A more public electronic forum for discussion on the internet is called the Usenet News. Usenet provides large numbers of news groups or conference that have open participation which can be used by the library users and library professionals.

Conclusion

The emergence of computers, communication technologies, sophisticated network technologies, affordable telephone connections and certainly the positive attitude of information professionals has brought a sea change in the world of information .All these developments have given a boost to the new library culture of accessibility than ownership. Change is inevitable and to make-up one needs to know acquire and update oneself with the change. Although the change is so rapid that one become out of date very soon but tuning up with the latest technology is the only answer .It is a high time to rebuild, redefine the objective of libraries and the function of the Information professionals" The libraries have to develop skills to cope up with the changing scenario. Their skills classification of, cataloguing, indexing, etc are to be remolded for data analysis data structuring, data organization, packaging, repackaging and for providing value added services.

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