

INTERNET AS EMERGING TECHNOLOGY FOR INFORMATION GENERATION AND ITS INFLUENCES ON ACADEMIC LIBRARIES

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In an era of exploding information, the professionals in Academic Libraries have a key role to play. They have to identify the shift in the paradigm and gear-up to meet the new challenges by adopting Super Highway Technology like the 'Internet'. This paper discusses the advantages of the 'Internet' and its impact upon Academic Libraries. The practical application of e-mail, Internet and other Electronic Media has been dealt in brief. Need of the use of Computers in Libraries has been stressed.

0 INTRODUCTION

The basic aim of the academic library is to disseminate knowledge. It has been a known fact that this has been practically successful under different forms. People in ancient and medieval times had only palm leaves, parchments, clay tablets and other selective sources for preserving and disseminating unbound knowledge. These were the modes of passing information till the 14th century when the invention of paper technology came into light. In recent times, scientists continued their search process and invented the most feasible tools for facilitating the easy retrieval of information.

The period middle of the 19th century and 20th century needs a special mention because this period marks the age of revolution with new modes of communication technology. Instead of 'paper' man made the use of terminals, computer printers and other types of data communicating devices. 'The use of paper' has been completely superseded by the Super Highway Technology. During this electronic age, academicians have become very close to the non-book materials.

In the 1990s, we have more justification for this feeling than any other generation has had before. Never in the history of mankind so many technologies have emerged and all of a sudden compelling us to change the ways of our thinking. People have started recognizing the importance of Information Technology as an effective tool in catalyzing economic activities. In efficient governance and in developing human resources, efforts are being directed towards improving the utilization of the scarce capital resources, making the delivery of social services efficient and creating a culture of open information, thereby integrating the society globally. Telecommunication and computerization are being increasingly seen today as means to improve efficiency of operation. The quality of 'library service' has vastly improved with the introduction of communication technology.

1 EVOLUTION OF COMMUNICATION TECHNOLOGY

Telecommunication plays an important role while designing an effective library functioning. Digital technology, improved antennae systems and use of microcomputers have been instrumental in achieving a communication revolution. The recent trends in the telecommunications are the use of E-mail technology, Multimedia technology and Super Highway Technology. They accommodate a wide variety of multimedia communication services that are very popular in most developed countries and are now gaining importance in developing countries like India as well.

Advances in both Telecommunication and Computer Technology have facilitated the designing of new library software thereby making the delivery of information quicker, convenient and efficient than ever before. With the users feeling increasingly comfortable with computers and the falling price of hardware, many academic libraries have opted to computerize their functions. It is pertinent to discuss the active role played by telecommunication in information processing. The communication technology land-line, line of sight and satellite communication have made the world a 'global village'. Rapid developments in the field of Super Highway Technology in recent years have paved the ways for revolutionary changes in different sectors including libraries. In such a challenging situation academic libraries have to welcome not only e-mail, LAN, WAN and likewise services but also Internet services in their libraries.

2 OVERVIEW OF INTERNET

A world wide communication system that links millions of computers has been developed. Such a network is called the Information Super Highway or Cyber Space, most popularly known as the Internet. The Internet permits two way speech which allows millions of people to communicate by either sending messages through their computers or receiving messages from other computers all over the world.

Internet is a network of computers. In other words we can say that Internet is not only a network but also is a network of networks providing global access across geographical boundaries. Internet made a humble beginning way back in 1969 in the United States under the Department of Defence sponsoring a collection of computer network known as ARPANET (Advanced Research Project Agency). It was connecting about 64 computers providing admissions to researchers and commercial sectors. Within a span of thirty years, the system has considerably advanced in its research and technology. It is connecting millions of people and sharing information in different fields like agriculture, transport, defence, economics, sports and games, medicine, education, and libraries. Although its popularity is spread over the developed countries, Internet has been only a recent development in India. It was introduced in India in August 1995.

3 THE INDIAN EXPERIENCE

It has been since over four years that the public sector organization Videsh Sanchar Nigam Limited (VSNL) introduced Internet to the Indian Community. At present approximately 40,000 commercial users have access to the Internet through VSNL whereas from education and research communities 70,000 users have access through ERNET. So, around 1,10,000 Indian people are directly connected to the NET, which is a small fraction of total population of India. Department of Telecommunications (DoT) and VSNL, are two of the two key public sector bodies controlling Internet in India today. As stated above, at present VSNL has 40,000 subscribers of this service that include Indian homes, Universities, Public and Private sector offices, R&D centres, Business and Export houses etc. VSNL has been channelising the information particularly from the four International gateways at Mumbai, Delhi, Calcutta, and Chennai. With an aim to give more access to e-mail and Internet, VSNL has recently installed the new gateways at Ahmedabad, Kanpur, Ernakulam, Jullandar, Bangalore and Hyderabad.

4 MECHANICAL INFRASTRUCTURE

To have admission to the Internet, specific equipments are required. Primarily the computer forms the backbone of the network. A Personal Computer being a commonly used machine that is easily available can perform the task. Telephone lines form an important part regarding information passing through these lines and this facility can be availed of through additional payment to the telephone department. A device, which is necessary to use the Internet, is called Modem. The Modem sends information from one computer across phone lines to another computer.

Nowadays computer has become part of the Internet. One has to have subscribed to an Internet service provider (ISP) which gives the user admission to the Internet expecting reasonable fee. In India, the VSNL is the Service Provider that is connected to the webs of many popular countries including USA, VSNL has its main Internet admission node in Mumbai. It also has various other remote admission nodes at Pune, Calcutta, Delhi, Bangalore and Chennai that link to the US Web through the main node in Mumbai.

5 INTERNET SEARCH ENGINES AND THEIR APPLICATIONS IN LIBRARY FUNCTIONING

Nowadays Internet has become a multi-user facility within the reach of the common scholar. It is launched by exercising the search engines, which help the reader in library while searching vast collections of files like education, industry, trade etc. In case a reader spots certain information regarding Steel Industry and Biotechnology, he/she can transfer (download) the information across phone lines from a far away site to his/her computer. To do so the reader has first to go through the different search engines where some examples from the field of Steel Industry and Biotechnology are available.

This is how it may be done:

The Steel Manufacturers Association in USA has admission to the Internet. So this has a button on its Home Page giving link to other websites. Clicking on it provides an extensive alphabetical list of links to other steel related resources on the Internet including Societies, Institutes, Mining Companies, Steel Makers and other organizations connected to the Steel Industry.

Similarly to have access with Biotechnology and Environment

Departments, readers will have to deal with the following websites:

Institute/Organisation	Universal Resource Locator (URL)
(1) National Centre for Biotechnology Information	http://www.ncbi.nlm.gov .
(2) BIOSIS	http://www.biosis.org
(3) Environmental Network	http://www.envirolink.org
(4) United Nations Environmental Protection Agency	http://www.igc.apc.org .
(5) ECONET	http://www.econet.igc.org

6 INTERNET AND ON-LINE SERVICE CENTRES

In recent years a large number of Univesities and other Academic Institutes have been enjoying the benefits offered by the Internet service centres which are set up in various parts of the world with an aim to cater the academic needs of the research community. We can in brief discuss the role played by the selective number of on-line Service Centres that expect their special mentioning.

- (1) *Silver Platter World*: It is set-up in USA for providing precise knowledge on CD-ROM and related information products, training and support services etc. Its Internet access is possible by the URL <http://www.silverplatter.com>; and <ftp://ftp.silverplatter.com/>.
- (2) *UMI (University Microfilms International Inc.)*: It was started in USA with a motto of providing bibliographical, microfilming and distribution services for doctoral and Masters Theses and Dissertations produced worldwide. Its access through URL is <http://www.umi.com>.
- (3) *ISO*: It stands for International Standards Organisation that is set up in Switzerland. It includes information on Handbooks, Directories, Patents and Standards etc. Its URL is <http://www.isi.ch>.
- (4) *BIDS*: It stands for Bath Information and Data Service. It was started in UK. It is a very important Service for preparing the On-Line Bibliographic Databases and Citation Indexes etc. Its URL is <http://www.bids.ac.uk>.
- (5) *OCLC*: It stands for On-line Computer Library Centre. It was introduced in USA. It provides access to OCLC's On-Line Union

Catalogue from the member countries. Its URL is <http://www.oclc.org>.

- (6) *Knight-Rider Information*: Its service needs special mention because Knight Rider has information about both On-Line and On-Disk (CD-ROM) products, services, database descriptions etc. Its URL is <http://www.dialog.com>.

7 INTERNET APPLICATION INTO LIBRARY FUNCTIONS IN GENERAL

For instance, when the Librarian in Sri Sathya Sai Institute of Higher Learning wishes admission to the Internet the Modem connected to the Library's Computer establishes the link to the VSNL, which automatically connects the Librarian to the main Web through the Internet admission node in Mumbai. The VSNL offers admission to the Internet expecting reasonable fee per annum. Once it gets connected to the service, a list of areas that he/she can use appears on his/her computer screen in the Central Library. For instance, topics like Sciences, Social Sciences, Humanities and Engineering subjects also appear on the screen. Using the mouse the Library staff can click on any item of their interest and information pertaining to the particular subject will automatically appear on the screen.

8 INTERNET SERVICE-PERIODICAL AND REFERENCE SECTIONS

The academic Library mainly at University Level associates with outstanding scholars who expect readymade information like SDI (Selective Dissemination of Information). To succeed the above every Librarian should maintain close contact with professional and non-professional bodies like INSDOC, DESIDOC, INFLIBNET, ERNET and NICNET etc. Internet services help in providing the relevant information seekers. Penguin India Ltd., Business India, PC World and other Publishers have tied up to help book-lovers while placing orders for books and subscribing journals through on-line.

A subscriber can send an order via Internet whether to Penguin India or Informatics, Bangalore or any related publisher and avail discount too. Currently this service is available in Delhi, Mumbai, Chennai, Calcutta, Bangalore, Hyderabad and other Hi-Tech cities. It also provides instant information for library executives regarding the subscription of

journals; sending reminders for missing issues and informing payment clearances etc.

For example the Reference Librarian in the University Library expects the service from MALIBNET (which is run under the auspices of INSDOC, Delhi) which satisfies the scholar community of numerous disciplines. To ensure it the Library Staff normally can refer the Websites of Malibnet where Web Pages pertain to the world popular journals can be located on computer. The Home-page Protocol [http://www.insc.ernet/in/insdoc](http://www.insc.ernet.in/insdoc) contains the full amount of knowledge on scientific journals.

In another example if the Librarian types referred protocol he/she gets a list of subjects preserved in the INSDOC. Similarly a web of on-line Dictionaries in Humanities disciplines give a list of languages choice with translation, acronyms, biographies, proverbs etc. Likewise the world wide web of sports provides abundant information on over sports of numerous types. There are other web-sites on Photography with guidelines to take good pictures and handling cameras in special situations. It is a fact that many Academic Library Professionals can nowadays enjoy multi-faceted benefits of Internet.

91 ADVANTAGES IN BRIEF

- (1) Internet can be efficient and convenient in the context of desktop automation
- (2) Internet does not cost much
- (3) Internet can shrink social as well as geographical distance
- (4) Internet can support and sustain the Academic interests of the research community
- (5) Internet is purely a paperless tool in the communication chain
- (6) Internet as network medium disposes of transmission delays imposed by geographical distance.

92 CONCLUSIONS

Internet is growing exponentially worldwide and India is no exception. It is no doubt that the use of Internet has increased the efficiency of Librarians today. It has altered the nature of Library Professionals while deploying on-line services in their regular

functioning.

Even though the benefits of Internet are well recognised by Academic Community, the Librarians are not in the same pace. It is unfortunate that in spite of living in paperless era, many Library Professionals remain averse to the introduction of Internet service into their library functioning because they do not care to identify or redefine their roles in the institutions. They do not undertake any effort to fulfil the objectives of the library till the time they are forced to do so.

But in today's academic world, libraries have a significant role to play in National Development. There has been a reasonable improvement in the total library system in the country during the last decade.

Both the Central Government and the State Governments have initiated many new programmes and innovative steps. To ease the existing communication barriers at the level of VSNL, the Government of India has very recently allowed private vendors into the Internet business. This has enabled Internet access at reasonable and competitive rates. Following the Central Government move, the Government of Andhra Pradesh also is very much interested over IT application into their regular public administration with an aim to provide free access to remote corners of the Andhra Pradesh.

To disseminate the latest developments among the information users, Librarians mainly at the University Level should seize the Internet as the most viable instrument.

The management of different institutions of Higher Educational and universities should encourage the Librarians to usher the benefits of modern technology. They are requested to allow the Library Professionals to attend the interactive sessions with senior professionals.

The Teachers in the Library Science are also requested to introduce one paper entitled 'Applications of Computers in Libraries' in their regular teaching curriculum. They should also see that all students/trainees in Library Science during their study period undergo practical training in computer application.

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