Impact of Internet on LIS Education & Role of Future Librarians

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Abstract: Internet is the buzzword for today's information community. The www is threatening to replace the traditional library system. The only way to survival of the library professionals is to adapt themselves to the new technologies and become cyber- librarian. The information superhighway has imposed a challenge to the existing information professionals to provide information exhaustively and timely. The librarians should keep themselves up-to-date every moment with the new developments and to meet the diversified queries of the new generation users. This paper gives a brief idea about the impact of internet on LIS education and its utility in libraries.

Keyword: Internet, LIS education, Information

1 INTRODUCTION

Internet has enormous quantity of information with millions of web pages and thousands of newsgroups. We can get wide variety of information from the Internet ranging from simple web pages to interactive discussion groups. Considering this, we cannot ignore the fact that Internet is becoming one of the major information source and that it hosts a major part of information in its domain. Thus it has a status in the information source category and Internet plays a major role in providing information for various purposes. For any person seeking any information, the Internet can be a source, since it caters to various type of information from elementary to genera type of information to more specific type of information.

With the changing trends in educational technologies, the LIS education also has to witness the modern technologies in teaching methods. There are a number of different ways computer/technology can assist in learning and instruction. Some of them are:

- Computer-based Presentation
- Dial-in Service
- Electronic Message Groups

- Videoconferencing
- TELNET
- Desktop Data
- World Wide Web
- Interactive Multimedia
- Hyper Text/Hypermedia.

2 INTERNET AS AN INFORMATION SYSTEM

Libraries are traditionally storehouses of information mostly dealing with the print medium. A few years ago, the scenario started changing in the various media of storing information like the microfiche, diskettes and CD-ROM. Later 'Online Information System' emerged. Electronic data formed the core of the online information system, which used the basic database to generate various information services. These information systems had definite features in terms of the design and the management of information. There were steps involved in the generation of services using Information systems, such as:

- Database design
- Data compilation
- Planning of services
- Planning of interfaces
- Incorporation of feedback
- Evaluation and adjustment
- System Management

Internet is today a huge information system. Only the parameters/components of this information system are not in controlled environment and hence monitoring the various parameters is a problem. Though, the various components of information systems are present in Internet as an information system, there are marked differences as can be seen in the following table:

Library / Information System	**Internet**

Controlled environment	Uncontrolled environment
Selective	Arbitrary
Purpose oriented scope	Disjoint & varied scope
Limited	Unlimited
Organized	Chaotic
Time tested methods for organizations and retrieval includes automatic and manual methods	Lacks organizations and retrieval aspects – only automatic methods
Permanent	-
Emphasis is on ownership	Volatile
	Emphasis is on access

Fig 1: Differences between Internet and Library System.

3 INTERNET AND THE INFORMATION SYSTEM MODEL

Libraries or information system are defined by their function as system that comprise of a spectrum of activities from generation and location of information to dissemination and use of it .control and input by users are of course parameters that keep the model dynamic.

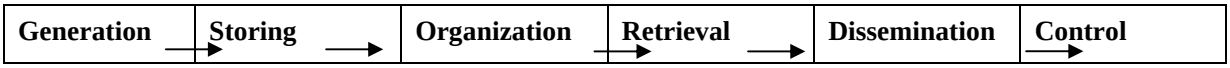

Fig 2 : Information System model of Internet

The nature of the activities in the internet information system conforms to model as in figure 2 from the stage of generation of information to its use. The following section discusses in detail this various stages in the internet perspective.

3.1 Generation

From the generators point of view, publishing information on the net or electronic publishing differs to a large extent when compared to traditional publishing. Just any person who has connection to the internet and has the tools to make information available can make it a part of the net. The formalities are least with the cost of publishing being negligible, thus opening the doors much wider for information generators to make their contributions. Further, the information generated the not be restricted to any geographical boundaries and can be reached globally, thus widening its scope. If we were talking of information explosion before, with the internet it has gone beyond imagination

3.2 Storing and Access

Internet is not one big centrally located system in which all the documents are stored. It comprises of various machines round the world networked together. The information or documents in these machines are interconnected to the net access is given through the various communication channels. The shift is from ownership to access. The storage model for Internet collection is disjoint. However access to information to possible with efficient technology, through protocols like HTTP, Net navigation tools and Web browsers. It makes the usage of large information databases easier by standardizing the procedures and features for searching and retrieving information.

3.3 Organisation

Libraries use with specific organizing techniques for their collection using various classification schemes. Traditional classification schemes aim at facilitating browsing on the shelves of the library. In the Internet collection, there is no such linear arrangement of Internet documents. Hence the classification schemes, tools and techniques needs to be applied in a different way. The experience of library science in classification can be applied to organization of web resources. Access to information should be through the subject approach. This is possible through subject gateways. These subject gateways are domains specific and include organization and retrieval approaches. There are today several such services on the Internet infields such as medicine, engineering, geological studies etc. These subject gateways maintain information on a given subject and give access through subject/keywords or resource types. They are updated periodically.

3.4 Retrieval

Libraries consist of well organized collections of information resources.
There are different ways to point out particular information items through time tested methods in information retrieval such as cataloguing and indexing. These methods are based on well defined rules for document description and identification.

The retrieval aspect depends to a large extent, on the description of the document with location of the document as the primary purpose. In traditional library science, the catalogue performs this function. In the Internet parlance, ‘the book’ or ‘information item’ is basically an ‘Internet resource’ or most commonly a ‘homepage’ or ‘webpage’. The Internet resources are peculiar by their content and structure. Efforts are currently being made to identify descriptive elements (also called metadata or data about data) which would be used to adequately describe the

Internet resource. The doubling core suggests metadata elements which help authors themselves (and not the cataloger) to describe their documents in a formal way so as to facilitate the search engines in efficient retrieval.

3.5 Dissemination

If one envisages the Internet as a virtual library, then it follows that many of the services of conventional libraries should be designed and delivered in the 'cyberspace' also. Again, instead of the conventional book, the information is in WebPages. Once there are ways and means of identifying and locating relevant information, services can be defined accordingly. In addition to the familiar services, a few others could also be offered using the Internet as the base. To name a few information services:

- Reference service
- Referral service
- Webliographies
- BBS/Discussion forums
- Alert services, Announcements
- OPACs
- Newspaper clipping services

The list of services above is only partial. There can be innumerable such services today as tremendous amount of information is available on the Net and communication channels enable the speedy transfer of data across the globe. Net based information services will soon be part the library routine work. The potential is unlimited. Familiarity with a few techniques required for handling the Net resources would help to a large extent to generate and provide these Net based services.

3.6 Control

Information centers have various functions that are dynamic in nature. There is a need for monitoring all the activities from start to finish bringing about efficiency in their services. This involves the concept of 'control' with 'planning & management'. In a virtual library such as the Internet, the aspect of control takes on a new dimension. The virtual library has to co-ordinate the information need and the information item, identity, retrieve and deliver the document at the time of the demand. This involves a great deal of instantaneous decision making and application to achieve maximum efficiency of the system. Traditional management techniques can be applied with desired modification and orientation.

4 RESEARCH & INTERNET

A researcher goes through all the processes of research. One major part of any research process is information gathering form various sources & this should generally include both online and print sources. In this context Internet plays a great role in the research process y providing the required information to the researcher to be used in their research activities.

4.1 Research Process: A researcher in any discipline has to undergo the cycle of activities often referred to as research process. The research process includes the following activities

- Topic selection
- Searching for information
- Evaluating Sources
- Establishing a Focus
- Notes taking
- Citing Sources
- Drafting, Revising & Editing

Till recently libraries and other traditional sources of information were the prime sources of information. But today with the large amount of information being published on electronic media like CD-ROMs and Internet, the research process must include both electronic sources with the web hosting information, it is better to integrate both library and web sources.

4.2 Role of Internet on research:

- Using the web skillfully can change the attitude towards research.
- Researching for a topic on the Net can be lively and interactive with the various types of sources like discussion forum, newsgroups which enables you to discus an issue with other people interested in that particular topic
- Web gives a chance to visualize and compare our views on a topic with views of others around the world
- Web allows us to find sources from more varied domains than we will be able to if we are confined to traditional sources.

5 SKILLS REQUIRED

Internet certainly conforms to the information system model. The dimension and parameters are very dynamic and at times intangible. Net documents are very heterogeneous in nature. Application techniques of information processing and retrieval to harness the unwieldy quantity of information on the Net would make the virtual library a dream come true. Internet has tremendous potential as it is the world's largest collection of information resources. The knowledge and skills of the information professionals corresponds to the changed dimension at every stage of the Internet Information System. The following figure illustrates this.

Stage	**Knowledge / Skill**
Generation	Electronic publishing, SGML, HTML, XML, Web page authorizing tools, Web servers.
Storage and Access	Internet Databasing, Interfacing, Java appletting, CGI scripting, Perl Browsers, Webcasters
Organization and Representation	Indexing and Classification of Internet Resources, Document description
Retrieval	Design of subject gateway, Z39.0 Protocol, Search Engines and efficiency, Navigation location tools, WAIS
Dissemination	Virtual Library practice, Design of information services using Internet
Control	Internet implementation, firewalling, Maintenance, Monitoring and incorporation of feedback, Management of dynamic systems

Fig 3: Skills required for Internet handling

6 REVAMPING THE CURRICULUM

In the wake of the varied knowledge/skills demands of the information professionals, the LIS curriculum needs to be revamped. But there are some practical constants that should be kept in mind. Any change in the curriculum should not be drastic—rather it should be gradual. It is also essential to determine the extent of the change to be incorporated into formal syllabus. The other factor is that teachers of LIS have to work on the broad guidelines of the prescribed syllabus and papers for particular subject areas or topics. It is a fact that information revolution will not wait, especially where internet is concerned. Internet today is too attractive and is the best prospect for

information seekers for quick and nascent information on line. It is imperative therefore to make the necessary changes to accommodate the topics required for Internet information handling into the LIS curriculum.

7 TRAINING OF TRAINERS

Building the information professional of tomorrow entails updating of knowledge and skill of trainer/teachers today. To start at the beginning it is required that teachers are trained in Internet handling techniques. This can be solved by incorporating the Internet training aspects into the training programs of academic staff colleges, library and information centers and LIS departments. It is often felt that organizing seminar and guest lectures will fill up the gaps in modern application area in LIS curriculum. But, Internet will dominate and affect the working style of libraries and information centers directly. For this reason, it is important to build in-house capabilities rather than depend upon others.

8 E-LEARNING & LIS

8.1 Reasons of e-learning: Growth of e-learning globally is steadily picking up pace due to various reasons. Reasons like costing, access, modularity timeless, relevance and accountability, some of the reasons why LIS education should go for e-learning mode are –

- Govt. incentives (financial or otherwise) in several countries to promote e-learning
- Language barriers being addresses with availability of localized, quality syllabus or courseware
- Availability of adequate infrastructure
- Shift to a knowledge based economy and subsequent importance given to knowledge workers
- Wide geographic dispersion of LIS employees due to increasing globalization.

8.2 Methods of e-learning: There are two e-learning methods which can be adopted in LIS education, thus taking it globally. They are—

a. **Virtual class room**: this trend is growing rapidly. This system uses synchronous tools or virtual classrooms to create and deliver content. The technologies allow LIS education to

be provided through lecture, demonstration discussion and peer collaboration via the web.

b. **Mobile learning (M-learning):** LIS education can also be given with the help of WAP (Wireless Application Protocol). Internet access is possible without being wired up to networks or telephone lines. This combines with other wireless devices is opening up the door to mobile learning.

To survive in the present competitive world of information technology and to make the users acquaint with the internet society, information professionals or librarians must be technically aware. But it also demands much responsibility on the part of the LIS schools so as to produce such skilled professionals.

9 ROLE OF LIBRARIAN IN INTERNET ERA:

Internet has got a wide spectrum through internet, the ignorance of which by the librarians will make 'them' suffer and not the users as they will somehow manage to collect information and thereby leading to the value degradation of the information professionals. In today's information era the library professionals have to perform various roles which should be trained in the classroom, such as:

9.1 **Managerial role:** Library is a system consisting of sub-systems independent on each other. Every system needs a manager. Obviously, manager has to give away the system which is outdated. Thus he is forced to change his old norms of management.

9.2 **Marketer:** Marketing of information is the latest foot march in the field of information science. This innovation will prove a good step for the survival of library profession. Many new skills will have to be developed including market survey, accuracy and timelines.

9.3 **Trainer:** Future librarians will have to shoulder the responsibility of training their clientele as well as the staff. The advent of new technology requires the development of skill and repetitive skill more often than once or twice. Hence, training will be an additional area where librarians have to work as a permanent feature in electronic age.

9.4 **Customer care:** Customer care has its importance in the new marketing features of the information centers. Customer care changes the previous ethics of the librarianship. It tells us that one is not doing any favour to the customer but he is doing a favour to us

by giving the opportunity to serve him. In the competitive age only those who care for their customer will be successful in their ventures or endevours.

9.5 **Information broker:** The librarian will be the information broker tomorrow, as he is the mediator between the knowledge and the user. He will have to customize the information according to its clientele. Repackaging of information will be the area where his involvement and expertise s required.

9.6 **Information analyst:** Intellectual processing of information has been the core job of a good information scientist. Again, in the world of Internet it will prove as a good weapon for survival.

9.7 **Competitor:** Once it is decided to enter in the information market, certainly, the competition is the unavoidable phenomenon. He has to have an edge over others in the field so as to stand out and become a competitor.

9.8 **IT expert:** Librarians will perform the role of information technology expert as they will guide the users for using the computer for retrieving the required information. They will themselves get acquainted with the technological know-how, the hardware and software requirements etc. They will work as system managers**.** The whole work will be dependent upon computers.

9.9.1 **Information navigator:** The work of the library professionals became too easier after the advent of computers and telecommunication advancement that they are now supposed to navigate the users towards the right resource.

9.9.2 **Translator:** It is the quality of a good information manager to have commands over much more languages which broadens the coverage of knowledge. The job of translation will be increased much after the use of Internet because of its world wide nature.

9.9.3 **Interpreter:** Librarians will be the interpreters between the users and the computer. They have to always modify the users' demand and make it accessible to the software used to get maximum relevant information. The information worker is only the suitable person to do this job.

9.9.4 **Communicator:** We can call communicator a mother of information. Someone has said "Wherever there is communication, there is information". The librarians have to be good communicators; should be instructive and precise while giving information.

9.9.5 **Content provider:** Now-a-days, the information generated need to be athered either from printed sources or electronic sources and be provided to the developers of

information who will use it for a website in Internet to access the information globally. The librarian will have to collect and disseminate it to organization where it will be immediately known to the users of information.

91 CONCLUSION

We know that Internet has great amount of information at its disposal for any researcher, but this does not mean that library has no more any role to play in research. The fact is Internet cannot replace a library, but both these that the library & Internet serve complimentary functions. A library has its advantages which the Internet cannot offer and vice versa. It is often not very easy to find the required information on the Net nor is it easy to authenticate the sources, since any one can publish anything via Internet. Whereas, libraries are organized based on standards for access to information in such ways the Internet is not yet organized. Libraries preserve and provide access to millions of documents that predate the Internet and probably may not be available online. Access to journals, newspapers, books etc. are easy with search tools like indexes, bibliographies etc. which are designed to retrieve more reliable results.

However, the knowledge of searching the web for required information makes the web worth and information source. More so, the organization of sources on web also can enhance the chances of providing qualitative information to its users. In this context it is right to state that the librarian's knowledge in organization of information will be more helpful in achieving this goal.

Most research in labs and academics schools takes a while to make an impact on day-to-day activities in any stream of work. But Internet is a phenomenon, which came straight from the stage of research and hit the work in academics, production, defense and any given area. It has created a new users community so-to-speak, who seek Net based information. Hence the immediate need to revamp the LIS curricula in lieu of Internet.

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