Chapter 3

Use of Internet in Libraries and Building Websites

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The internet is becoming the town square for the global village of tomorrow.

– Bill Gates

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3.1 Introduction:
Libraries are mainly entrusted with a host of predetermined tasks acquiring organizing, preserving, retrieving and disseminating information to the users. However, the way this purpose has been achieved so far has drastically changed due to use of different technologies in libraries. Information technology has influenced on the nature, business and management of libraries. Libraries are undergoing significant changes not only in outlook but also in function, services, methods and techniques for collection development, processing and dissemination for information (Singh and Krishan 2004). The conventional set up of brick and mortar libraries that store information within a constrained physical space have given way to data centers that integrate data sources around the globe by way of networking. Libraries have not yet explored their full potential (Miao 2001) in using technology and its direct applications in libraries. Business and management libraries are becoming lean and agile libraries that streamline information supply. The pervasive nature of the internet, coupled with platform independent database connectivity is turning library portals more and more effective. The electronic revolution has brought out innovations in the field of information technology and its applications in libraries changed the faces. Modernization has gifted mechanized preservation and dissemination of the information globally. The scientists and academicians are thinking of online services and networking of information system.

The use of library creates awareness in users about their rights. They also know the other’s achievements. The competition encourages them to think about themselves and about other’s too. As a result of increased activity, knowledge is expanding tremendously and the expansion can be treated as knowledge expansion. With slow increase libraries are closet to our heritage or past but with speedy change it is not within the reach of the present generation. As implications of the explosion present day student/ user has to read more. In this way self-study has become more important. Library is a live agency to promote education. Professor Yashpal, Ex. Chairman UGC a leading scientist in his forward of INFLIBNET report has stressed that “the role and growth of information and knowledge is faster than even before and still accelerating. There are enormous number of new developments both in applications and pure thought”. He further added that the education and creative members of the society
should have quick access to whatever is happening in their own country and the world over.

It is assumed that whole of the knowledge generated throughout the world is shared through the various type of publications such as book, and journals. If it is true a good substance of knowledge is not reaching to the scholars of universities and colleges as the universities are not in a position to purchase each and every published document, this handicap of purchasing the new arrivals is applicable to each and every institution. If we want to be at par with the international development, then a quick access to what is being done in the country and abroad must be established by removing all constrains of distance, language and other man made barriers.

It is not possible for teacher to know everything even that has to be known in the field of his specialization. In a class lecture only a broad outline of the subject is given to get the comprehensive knowledge one has to depend on the books which are generally available in libraries. The real learning can be performed in the libraries. It, therefore, becomes essential for students to come closer to libraries to establish relation with the books. Library is the heart of the university education. It is a treasure house of knowledge.

The adequate library services within such institutions were developed for raising the standard of higher education in the country. After independence high priority has been accorded to develop appropriate collections and also attention has been paid to provide necessary equipment to cope with the application of the modern technology. In pre-independence era the universities and the college for years together in the country continued without adequate building, collection and organized services. In the beginning the collections were housed in some less used area in the custody of some caretaker clerical staff. A new light spread services. Then the libraries were realized as information services centers.

For common purpose coordinated development (networking) of library and information centers is an urgent need of the nation. It may bring quality in services. Libraries will be able to work as centers for self-directed learning, which in turn be of
full use of human resource. The library services should be expanded to reach everyone in every condition. It should not be restricted in any case.

Modernization has accepted application of technology to cope with the faster growth. At present people of our country has general feeling that technology minimizes the job opportunities and this fear of pushing youth prevent them to accept the new light coming from the scientific and technical development of the world, where the modernization generates potential and creative thinking for understanding international socio cultural linkages.

Libraries all over the world have their own place of importance in the scheme of higher learning. There is no doubt that when libraries of universities and colleges ignored or not given due recognition, the country as a whole suffers because the standard of study, teaching and research mainly depends upon the qualitative and quantitative services rendered by the university libraries. Many people like to give more importance to formal teaching than to information teaching; but in the case of higher education which involves these of libraries intensively, the libraries take precedence over the class room. It is so because a teacher may at best be able to make an exposition of a subject throughout lines, hints and guidance. If student is keen to go beyond this and seek more knowledge to supplement his classroom learning then has to necessarily depend on libraries.

The value of information has now been recognized by all and the present age is rightly called the “Information Age”. Everybody expects to get timely, reliable and precise information. Expectations from libraries and information centers for providing such information have now increased. The special libraries in India have accepted this challenge to the new information age and have geared themselves to provide documentation /information services to meet the objectives of their parent organization. However, university libraries are slow in coming out of their traditional tasks. It should be in the fitness of things that university libraries also intensify their documentation /information services.

Most of us have grown up in non-digital, non-networked information environments. The information generation and flow is largely printed oriented. With small portion
mainly surrogates of print publication, available in electronic form such as OPACs, CD-ROMs and online databases. Libraries and the users have co-existed in a relatively stable and slow paced information environment. But this scenario is rapidly giving way to the global network information environment, exemplified today by the internet. It is anticipated that within the next few years significant portion of scholarly information will be produced and accessed over the internet, in digital form. A large number of scholarly publications like journals, reports, preprints are already accessible on the internet from the user’s desk-top computer. Authors and publishers today have easy means to publish on the internet and reach the end users directly, by-passing the library.

The term library usually invokes in our mind a storehouse of information in the form of print on paper publications like books, journals, reports, etc. and newer media such as films, filmstrips, video and audio cassette. Most of us view the library as a place where such information ‘containers’ are acquired and organized for the purpose of consultation, search, extraction and information dissemination. While the walls of the libraries have begun to be less solid with the use of technologies like OPACs, CD-ROM and online systems, libraries are still largely associated with buildings that house a variety of information ‘containers’. This image is being serious challenged today by the rapidly emerging ‘network information’ environment digital information that is produced managed and accessed over computer networks. Developments taking place over the internet is an indication of these trends.

3.2 Information World:
Traditionally in the area of scholarly information most of the information flow is from the point of its generation to its use, is in the form of print publications like journals, conference proceedings, books, etc. A portion of these publications covered particularly the abstracting and indexing journals, have been made available in electronic form in advanced technology era, first in magnetic tape form and now in the form of CD-ROMs and diskettes. Electronic databases are now accessible online through vendors like knight rider, Dialog and STN international. Libraries around the world also have developed varieties of OPAC, Local bibliographic databases and provided computerized services like SDI, and facilitated improved access to their collections.
Few key features which characterizes the traditional information environment scenario as:

a. The primary publications are in print form only.

b. Libraries functions are acquiring, organizing (classification, cataloguing) and providing access to publications.

c. Users are generally expected to visit libraries and other such information stores for browsing, consultation and borrowing of publications.

d. Focus of libraries is mainly on acquiring print publication for just in case use, i.e. publications is acquired in the belief that they might be used by some users someday.

e. Purchase of print publications is assumed to give ownership to its purchaser for example journal purchased by the libraries.

f. Limited duplication of library materials through photocopying is considered under ‘fair use’.

g. Focus is on developing mechanisms that facilitate easy identification of primary publications catalogues.

h. Delay in publishing and distribution of print publications.

i. Users generally do not have easy access to recently published primary material.

j. Authors (information producers) generally cannot publish on their own and do not have control over the publishing and distribution systems.

In this information chain key players have been the print publisher, libraries, and users. The main focus is on printed collection which is poorly linked and slow in growth. The weakness of this media is slow searching information and connectivity. Resource sharing activities were bare minimum due to print media and other reasons. ICT has rooted out many issues as electronic data is useful in migrating and free flow of information globally. The sharing of data is faster in e-publications.
3.3 Sharing of Information Resources:

This is the most important area where libraries are going to exploit the potential of internet effectively. No village, town, city, state or country can afford to survive in isolation in this era of globalization without detriment to its socio-economic interests. Libraries, like other segments, cannot ignore approach. No library can afford to acquire every document which is of interest to its patrons. Therefore, sharing of resources is a viable alternative to meet the requirements of the library patrons at economic rates. The resources of libraries can be shared in more than one way. OPACS are going to serve as useful tools for identifying the library owning a copy of the required book, journal or other reading material and e-mail technology would be used for getting copies of research papers or other material. There might be a lot of saving in time and money for getting a book on inter library loan. In other words except the delivery and return of the document, physically, rest all takes place by internet tools such as e-mail and FTP.

Consortium approach for subscription of e-journal bibliographical as well as full text for libraries with similar clientele is another sector, where internet is going to play a vital role. Under this programmed a consortium of libraries with similar interests is formed. Full –text/ bibliographical databases, required by these libraries, is subscribed by the consortium. These databases are shared by the participating libraries through internet. Ministry of human resource development, Govt. of India has already established a consortium INDEST OF IIT’s IIM’s, NITC and IISC for subscription and sharing of full text databases of journals in the disciplines of engineering, science and management UGC and CSIR have established UGC infonet and ICAR net consortia respectively with similar objectives. ICAR is also working along the same lines. This approach benefits libraries in augmentation of their resources at economic rates. Only internet could make it possible to share resources globally.

3.4 Information Delivery:

Delivery of information to their clientele local or distant has been the primary objective of all the libraries. Before the advent of internet, manual methods were the mainstay of these services. Now the libraries have found an effective tool i.e. internet to achieve this objective. Delivery of full-text of articles by one library to another or
by the library to distant users is an arduous and costly job until the use of internet in libraries. Time taken and cost incurred on the supply of information to the distant information users through such modes as fax, couriers, etc. has reduced drastically. Libraries and document delivery agencies in developed countries are using internet tools like FTP and email for instant delivery of information. Sophisticated software e.g. Ariel (developed by Infortrieve Inc.) (http://www.infortrieve.com/ariel/) have been developed and implemented to handle such services. Access to bibliographical databases and conducting searches on them, access to OPACs and provision of personalized services such as SDI can be accomplished at minimal cost and time. Publishers and individual needs rather than library needs. This is one area where the Librarians are likely to be sidelined from the information delivery chain.

3.5 Internet: Tool for Libraries
By the turn of the century, information, including access to the Internet, becomes the basis for personal, economic, and political advancement. The popular name for the Internet is the information superhighway. Whether anyone wants to find the latest financial news, browse thought library catalogs, exchange information with colleagues, or join in a lively political debate; the internet is the tool that takes beyond telephones, faxes and isolated computers to a burgeoning networked information frontier. The internet supplements the traditional tools you use to gather information, Data Graphics, News and correspond with other people. If used internet skillfully it shrinks the world and brings information, expertise, and knowledge on nearly every subject imaginable straight to computer.

3.6 Impact of Internet:
The first publicly accessible internet services in India were established on 15th August 1995. When Videsh Sanchar Nigam limited (VSNL) launched its Gateway Internet Access Services (GIAS). Initially the GIAS was available only in Delhi, Mumbai, Kolkata, Chennai, Bangalore, and Pune. Now the internet has been expanded everywhere in country. The next couple of years should witness an exponential growth, both in the number of internet users and in the quality of the services.

The internet is one of the most important and complex innovations of mankind. It is a powerful means of communication, dissemination and retrieval of information. It is a
network of network connecting thousand of smaller computer networks together so that other networks may share information present in one network. It is one of the powerful / effective tools or technologies ever produced for getting information on fingertips from any part of the world even sitting at one’s own location.

The internet has made tremendous impact on the academic activates with the faculty, researchers and students, with the advent of internet, a significant transition can be seen in their approach and way they seek information and the methods they employ for research and learning activities. This has become possible as internet provides a wealth of new course materials and act as a powerful supplement to the traditional ways of studying and learning. Internet is now facilitating, electronic communication and exchange of ideas and collaboration in research globally. Internet can be accessed for the latest development in one’s areas of research at an amazing speed. The internet, therefore, creates an excellent platform on which the academic community can perform their activities in a rejuvenated manner.

Internet, the ‘network of network’, consists of a large number of interconnected computer all over the world and offers access to unimaginably large amount of information data and interpreted materials in a timely, cost effective and comfortable manner. Being a very powerful and dynamic tool for communication, it is the largest single source of information at the global level.

The services available on internet have been increasing day by day, which has become channel for communication where text, sound and graphics are easily available. The internet offers a wealth of information to the users. It is a source of up-to-date information and assistance related to education teaching and research in science and technology, social science and humanities, in medical science biotechnology, management and computer science. Many organizations set up an ‘intranet’. This is the network used in the internet to communicate and share information across the organization. In universities internet can be useful for sharing instant information among the faculty members, research scholars, students and administrations in the campus.
In the era of networked information, internet is the largest worldwide network of network has emerged as the most powerful tool for an instant access to information. Information is now just a ‘finger touch’ distance away from the user and it would not be inappropriate to say that the internet has become the biggest global digital information library which provides the fastest access to the right kind of information in nano-seconds of time to end-user at any time and at any place in the world. The internet has become the most extensively used information sources that empowers the average person to get in roaming with the latest information. Today’s user can no longer depend on conventional information sources to cope up with the latest development in their respective fields.

The internet has emerged as a powerful educational tool, with the increasing impact of information and communication technologies on higher education; all those concerned with higher education are attempting to grasp how ICT could help in modernizing the process of teaching, learning and research. With the advent of the internet, teachers and students can carry forward their work on the internet in ways that are similar to and tightly intertwined with the traditional ways that they learn, teach and study in libraries, class room, laboratories, seminars, conferences, etc. The internet can provide access to essentially unlimited information resources not conventionally obtainable.

Information technology has radically changed the perspective of the whole information system, particularly with the emergence of computer applications, telecommunication networks, fax, CD-ROM, email, optical scanning, hypertext and hyper-media, video text and tale-text, multimedia technology, online databases. Electronic publishing, voice mail services, teleconferencing, radio paging, mobile phone system, etc. The internet is one of the most important and complex innovations of mankind. It is the most modern worldwide system of information transfer. It is referred to as inter-network system and is described as a network of networks. This conjures up an image of something mysterious that magically connects people information and computer from the point of generation to the point of use by anyone and anywhere in the world.
3.7 Internet Useful for Technical Services:
The services available on internet has been increasing day to day, which become channel for communication where text, sound and graphics are easily available, library and information professionals cannot afford to miss the opportunity for acquiring the knowledge of handling internet for their library users. Library users are now demanding the e-mail / internet services which force the professionals to learn more about the internet services and tools so that better services can be provided to their clientele. Internet is a storehouse of information, which is not organized properly for easy retrieval. Any person for getting instant and new information, recreation, educational purpose, research and development, business, health care etc can use it. This is possible thought the followings major tools and services available on internet for communication and searching of database or desired information – electronic mail, Telnet, File Transfer Protocol (FTP) Bulletin Board System (BBS) and World Wide Web (WWW).

The internet greatly enhances both circulation and inter-library loan primarily, through increased access to online catalogues which allow a patron greater convenience in completing an online search; additionally the patron can check holding records at the office or at home. Thus providing internet access to the library catalogue place it on the patron’s desktop and can actually increase the use of the library collection. If a patron comes to the desk with a potential inter library loan request one may find a nearby library that can help without going, through the hoops of other bibliographic utility. Cataloguers can also benefit from using online catalogues in the same way the OCLC and RLIN were used.

3.8 Advantages of Internet:
The internet is a virtual treasure of information. Any kind of information on any topic under the sun is available on the internet. The search engines on the internet helps to find data of any subject that is need. There is a huge amount of information available on the internet for just on every subject known to man, ranging from government law and services, trade fairs and conferences, market information, new ideas and technical supports.
☞ Services: Many services are now provided on the internet such as online banking, job seeking and application, and hotel reservations.

☞ Buy: The internet is a very effective way to buy and sell products all over the world along with getting information on the internet. One can shop online at economical cost. There are many online stores and sites that can be used to look for products as well as buy them using your credit card. No one needs to leave house and can do all shopping from the convenience of home.

☞ Communities: Communities of all types have sprung up on the internet. It is a great way to meet up with people of similar interest and discuss common issues.

☞ Online: There are many chat rooms on the web that can be accessed to meet new people make new friends, as well as to stay in touch with old friends.

☞ Downloading: This is one of the most happening and fun things to do via the internet. One can download innumerable games, music, video, movies, and a host of other entertainment software from the internet most of which are free.

Apart from these advantages in general libraries are also more benefited in getting global information available in public information domain.

- Exchange of data
- Information searching
- Web page supporting
- Data Mining
- Publishing quick information
- Personal data storage
- Using web 2.0 tools fasten the information delivery
- Free but qualitative information available
- All most all the resources are available over the net from primary to tertiary.

Librarians have always relied on expert individuals for assistance; this approach is in no way unique to internet environment. But the ability to connect so many individuals quickly and cheaply and to rapidly receive so much free advice in return is certainly a special quality unique to the internet. Academic librarians can
also benefit from participating in electronic discussion groups in a number of ways.

The technologies and tools used for making information available on the internet are relatively inexpensive and easy to implement. Also, with extensive knowledge of the nature of information, of patron needs, and of specific subject domains, academic librarians possess a unique blend of skills that can go a long way in improving the internet’s publishing process.

Internet act as basis for connecting information servers and exchanging information globally like development of portals, personal blogs, library blogs, facebook, IR etc. Resource available through internet may be divided into two major classes i.e. user assistance resource which assists the user in using internet and documentary resource which provide the primary source material for research.

3.9 Disadvantages of Internet:
There are certain disadvantages relating to the use of internet that can be summarized as: Insecure access to personal information, online banking, data theft, viruses, hacking of sites, sending unsolicited e-mails in bulk, no standard URL, sites changes quite often, Repeating data again and again and increases hits. Report more garbage if not skillfully searched data on net.

3.10 Internet for Libraries:
The role of library in the context of internet is highly revolutionized. On one hand, the internet reduced the task of library in retrieving the library paradigm the information. On the other hand, the library paradigm has shifted from locally storing information to facilitate the connectivity to the distributed information centre worldwide. The users of libraries who were geographically limited earlier have now expanded worldwide. The valuable information present in any library can be made available over home page and made available to users anywhere. Thus the users of the library have become unlimited. Library has responsibility of collate, distribute and be depository of local information talent resource to the world wide community and connect retrieve and disseminate the information available all over the world to the local users depending on their need and priority. Perhaps no other recent innovation has impacted the library
profession to such a great extent as internet. It has created profound impact on library and information science by offering new models of information delivery and a vast information source. Not only our world of librarianship becoming an interconnected global community, but the early use of internet has changed fundamental roles, paradigms and organizational culture of libraries and librarians as well. Fig 3.1 shows sketch of library services organized or managed using internet.

**Figure No. 3.1: Library Services Using Internet**

1. **Acquisition**: E mail is one of the most effective services offered by internet.
   - We can send a suggestion form to the users of library by email and get prompt response of their requirement
   - Through email, correspondence with Booksellers and publisher become very easy and speedy
   - Reminders can also sent by email to the users and booksellers etc
   - Bibliographical details can be downloaded from the internet
   - Online catalogue searching saves our time and repetition of the work
   - Online Booksellers are also available on the internet e.g. amazon.com

2. **Classification**: There are many classification systems available on the internet e.g.
   - BUBL-user DDC
   - Cyber Dewy
3. **Cataloguing:** There are many cataloguing systems on the internet. e.g.

- Internet
- CORC
- NETFIRST
- OPAC

4. **Circulation:**

- Interlibrary loan
- Reminders can be sent to users by email or they can be informed online
- User requests
- Direct Borrowing

5. **Preservation and Storage:**

JSTOR Project

6. **Serial Collection:**

- Acquisition process
- E-journals
- Link to the free E-journals

7. **Resource Sharing:**

- Union catalogues can be accessed, added, downloaded
- Access to databases over networks e.g. ohionet, WLN, OCLC, BD
- Full text journals access

8. **Reference Services:**

- Linking to useful sites
- Subject guides
- How to search
- Answering short range and long range questions
9. Services:

☞ ILL
☞ Document delivery services
☞ Reference/ Information services
☞ CAS
☞ Recent additions
☞ Content pages
☞ SDI
☞ From library collection
☞ Databases
☞ Internet sources
☞ OPAC
☞ Database access
☞ Bibliographical
☞ Free full text of certain journals
☞ Free databases e.g. Medline
☞ Silver platter

Collectively they contribute to a pervasive environment of web access; homes; offices, dormitories, hotels and public locations.

3.11 Status of Librarian in Internet and Web Era:
Since the 1980s, the field of librarianship has seen the emergence of technologies from traditional to ICT. Electronic resources and the Internet now helps to make the task of obtaining information material more accessible and much faster than ever before. The technologies have affected almost every type of library but very few libraries have been immune to technologies. Librarianship is calls for a new breed of librarians, those who understand and integrate technologies, information and learning into a new model. To sustain in the field of librarianship, librarians need to equip with technical skills such as knowledge of HTML, programming languages, knowledge of hardware basics and troubleshooting, understanding of software programs, and the
skill to search, display, and retrieve data effectively in a variety of information retrieval systems.

Library professionals have strength in managing libraries in any era including information explosion and ICT. The strength of the librarians can manage any environment as they are master in:

☞☞ ☞☞ Librarians are service oriented.
☞☞ ☞☞ Librarians are information and technology literate.
☞☞ ☞☞ Librarians understand user needs.
☞☞ ☞☞ Librarians orient users.
☞☞ ☞☞ Librarians accept information sharing and networking need.
☞☞ ☞☞ Librarians are knowledge managers

There are many opportunities developed for librarians in IT era. Few of them are:

☞☞ There are numerous opportunities for librarian in Internet and Web environment in providing information services easily, timely and appropriately to the users.
☞☞ Universal Accessibility to Material: electronic document viewed by multiple users. Rare and fragile historical documents scanned and stored for electronic viewing by numerous users around the world for indefinite periods.
☞☞ Online Catalogs: The catalogs of many libraries are available in Web-based and telnet based formats for platform independent easy browsing.
☞☞ Local Databases: Creation and provision of access to local information by the librarians has taken new life on the Internet. Even these databases and e-resources in libraries can be linked through web site of library.
☞☞ Virtual Reference Desks: the Web, and technology developed virtual reference librarian providing reference services to the users online using e-resources.
☞☞ Virtual Tours: Virtual tours can be managed by librarian to describe the physical and e-library.
Distance Education Support, provision of access to E-Journals, coordination of Electronic Bulletin Boards, posting guides and hosting online tutorials, developing web pages or sites are some of the opportunities for librarian in the web environment.

To manage the opportunities librarians need to face many challenges in the profession and play a different role.

3.12 Role of Librarian in Internet and Web:
Internet and World Wide Web are very powerful and bringing changes not only in librarianship but also in professional activities. Due to ICT, internet, web, librarians have to face technological developments and to become more efficient organizers, indexers, abstractors, archivers, etc. Librarians have to play different new roles such as, intermediary, facilitator, end-user trainer/educator, web organizer & designer, researcher, interface designer, knowledge manager/ professional and sifter of information resources etc. The role of librarians in present era is briefed under:

3.12.1 Librarians as Search Intermediary:
In an organization, though librarians began training end-users to perform their own searches, the demand for searches by information professionals have not decreased. End-users having been trained and having performed some of their own searches became aware of the complexities of searching, the limitations of some of the resources and of the searching process especially on World Wide Web. Hence a more educated user who continues to perform simple searches on his own behalf, returns to the librarian or information specialist to perform the more complex searches. Hence, role of librarian is as search intermediary as he knows information literacy skills.

3.12.2 Librarian as Facilitator:
The availability of electronic documents on Internet and the support extended by World Wide Web to access these documents have recently increased tremendously. Several print journals have shifted their platform to Web, which includes free and paid publications. In this scenario, it is imperative for the traditional librarian to acquire necessary skills in effective use of modern gadgets and associated software to locate and retrieve the widely dispersed information in the cyberspace. Not only he
has to acquaint himself but also guide and train the information seekers in their usage. Thus, the traditional librarian has to play the role of facilitator in identification, gathering and arranging information infrastructure such as network access, software access, licenses and passwords to use charged resources like FirstSearch, UnCover, Ovid etc.

3.12.3 Librarians as End-User Trainer/ Educator:
The number and variety of information sources available, whether locally or remotely via the WWW have increased greatly, and users in many cases have not been able to keep up with all of the choices open to them. Few users of the libraries are effective and efficient in accessing information resources. However, no matter how sophisticated interfaces and search engines come up in future information access systems, people still would need to be educated regarding their usage. Users need to possess an understanding of essential information gathering skills and tools. The librarian therefore, has a critical role in the digital library of future as educator or end-user trainer.

3.12.4 Librarian as Web Site Builder or Publisher:
The traditional skill of a librarian in locating, evaluating and organizing the information would be of immense use in the creation, development and content filling of a Web site for the organization and library. Web site of an organization provides access to external resources, where Web pages specific to their discipline are available. Managing organization’s own information on the Web site includes details of course information, directories, statutes, annual reports, etc., The role of the librarian while creating a web page is to deliver information about the library and its services like hours of service, location of services, details of library staff, library policies, an interface to the library Online Public Access Catalog (OPAC), etc.

3.12.5 Librarian as Researcher:
Librarians are highly skilled in the research process and possess a unique knowledge of the breadth and depth of information resources in various subject specialties. Librarians are increasingly going to participate in and be critical members of research teams. By facilitating access to information – finding it, analyzing, synthesizing, and packaging - librarians would move to the beginning of the information production
cycle, playing a more substantial role in the information creation process. Teams within an organization should have an information professional who is responsible for the information gathering skills of the team.

3.12.6 Librarian as Interface Designer:
Interface design is going to become increasingly important and increasingly relevant to the way people access and use digital technologies. A beneficial way for librarians to break out of their insularity is to become much more closely involved and collaborate in the work of computer and information scientists in tasks such as design, organization, development, and maintenance of digital library repositories, interfaces, search engines, networks and Web documents. Librarian can help in the design of technology-based information services and share their intimate knowledge of what users want and need as they have years of experience in helping patrons utilize electronic media and subsequently using Internet and World Wide Web.

3.12.7 Librarian as Knowledge Manager/ Professional:
Knowledge Management (KM) involves the identification and analysis of available and required knowledge, and the subsequent planning and control of actions to develop knowledge assets so as to fulfill organizational objectives. Organizations worldwide are realizing the advantages of enlisting librarians in the KM systems. Librarian as a part of KM system can effectively participate in the process of knowledge creation which includes mechanisms for knowledge capture, exploitation and protection besides in required infrastructure creation by the virtue of capabilities gained as Information Managers of the organization. Librarians to become Knowledge Managers or Professionals should possess variety of talents and perform the work with high level of skill and expertise. They should be able to extract, filter and disseminate vital external knowledge, and work side by side with users in collecting and analyzing strategic intelligence throughout the organization.

3.12.8 Librarian as Sifter of Information Resources:
Normally, sifter or software is described as “software programs to extract unknown, valid, and actionable patterns, associations, changes, anomalies, and rules from large databases”. This process is also known as “Data Mining”. The Internet and Web provide access to vast information resources. The term “sifter” may be used for the
skilled librarian who helps users make sense and order of the resources. The future belongs neither to the conduit or content players but to those who control the filtering, searching, and sense-making tools to navigate through the expanses of cyberspace. In another words, the librarian can be a key player in the emerging scenario. The role of librarians is continuing to evolve with the adoption of Internet and World Wide Web into the profession of librarianship.

**Summary:**
An attempt is made in this chapter to indicate the changes being brought about by the internet in the generation and flow of scholarly information, and the implications of these to the library and information profession. This chapter describes the importance of internet and its applications in libraries as well as working in the web environment. Internet is a boon to libraries and due to internet and web technologies librarians role have been changes. This is also highlighted pin pointedly. Internet is backbone for the development of web pages of an organization and link internal, external and internet resources.
References:


