CHAPTER 4

INTERNET AND LIBRARY
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The researcher divided information in this chapter, they are as follows:

4.1 Internet in Library and Information Centre
4.2 Information Resources on the Internet
4.3 Electronic Publications on the Internet
4.4 Internet Applications for Libraries Services
4.5 Internet Impact on Libraries
4.6 Information Services in Thailand
4.7 Library Websites

Currently, libraries are gradually being transformed into knowledge resource centres. They are no longer limited to collection of books and periodicals. Users now require access to numerous kinds of materials and expertise. The modern library acts as a networking “hub” that collects, manages and disseminates information and knowledge beyond just providing access to a collection of books and other publications.

Libraries are in a key position to take advantage of these new trends, which demonstrate the shift from an emphasis on collections to a focus on connections and to become focal points for a variety of types of information. When you are looking for information which is a better place to go than a library? Internet has some incredible electronic libraries ready for you. On a small screen of the personal computer this digital world of the library is available for researchers.¹

4.1 Internet in Library and Information Centre

The world of libraries is witnessing a tremendous change due to the developments in information technology and abundance increase in information. Internet is making its headway in the libraries revolutionizing the whole concept of the library. The library paradigm is shifting from locally storing information to facilitate the connectivity to the distributed information centres world wide.²
The role of the library in the context of the Internet is highly revolutionized. It reduced the task of library and disseminating information. The users of libraries, who were geographically limited earlier have now expanded worldwide. The valuable information present in a library can be fed to home page and be made available to users everywhere. Thus the users of the library have become unlimited. So, library has a responsibility of collate, distribute and be depository of local information/talent/resources 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.³

Internet can provide access to essentially unlimited sources of information not easily obtainable through other means. In fact, the library and the Internet are being viewed increasingly as a versatile unified system, providing an enormous variety of materials, in a different format so that data, texts, images and other forms of information can be readily accessed by students and faculty.

Modern technology, including computer access, rapid and inexpensive electronic communication by e-mail, and the availability, with just a few clicks of the mouse, a vast quantity of information on the Internet have revolutionized many aspects of our daily lives. A major barrier to the effective utilization of digital resources is identifying excellent material. Searching the Internet can be a frustrating experience. Improperly phrased search queries can return a huge number of hits. There is no quality control for posted materials. This is especially problematic for people seeking information for educational or scientific purposes.⁴

4.1.1 Benefit of the Internet for Library

The growth and development of the Internet systems has forced a review of library services and infrastructure. The increasing provision of information on-line, as opposed to on shelf, is evident in a vast array of information services. The benefits of this change are significant: many users may access the same information simultaneously; information may be updated instantaneously; costs are reduced; and staff time in shelving and handling resources is minimised.⁵

Internet plays a very important role in a library by extending the following major benefits to the academic community.
(1) Education: Internet has made geographic distances time zones and language barrier insignificant for academic discussion, group research work and distance education.

(2) Publishing: Internet has brought electronic publishing within the reach of anyone with an Internet access or account. It has made convenient for the libraries to publish their homepage and information services.

(3) Acquisition: Internet helps in acquiring digital material rightly published over the Internet and quick access to desired knowledge or information.

(4) Careers: Electronic discussion groups help in professional development and career advancement of professionals.

(5) At the touch of a key one can access a whole range of subjects and can become an expert in self-learning.

(6) WWW has made the librarians navigate to global intellectual resources as well as facilitators, instructors, evaluators, consultants, communicators, managers, researchers and has improved the image of librarians.6

Some people see Internet as an already existing component of the international information superhighway, which is growing exponentially despite its lack of dominant players, centralized planning, and nation-specific regulations. These global networks are changing the way people communicate, access information, and do research.

Internet has emerged as a broadcast medium, a publishing medium, an information exchange medium, and a virtual community. Many information resources useful to library customers are available on Internet and can be located with Internet-locating software tools. Internet is being used by academician, corporate, public, and school libraries for E-mail, cooperative research, subscriptions to electronic journals, as an inexpensive way to get to many bibliographic and full-text resources, and to answer reference questions. Specialized Internet services aimed at libraries are popping up as well. For example, OCLC announced an Internet-based current awareness service called Contents Alert. It sends tables of contents of serials selected to Internet E-mail boxes.7

4.1.2 Role of the Library

Currently, libraries are gradually being transformed into knowledge resource centres. They are no longer limited to collection of books and periodicals. Users now
require access to numerous kinds of materials and expertise. The modern library acts as a networking that collects, manages and disseminates information and knowledge beyond just providing access to a collection of books and other publications. Libraries are in a key position to take advantage of these new trends, which demonstrate the shift from an emphasis on collections to a focus on connections and to become focal points for a variety of types of information.

**Table 4.1** The Changing Roles of Libraries

<table>
<thead>
<tr>
<th>Past</th>
<th>Present</th>
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<tr>
<td>- A repository of books, journals,</td>
<td>- journals in electronic form, accessible</td>
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<tr>
<td>archives and other media</td>
<td>from any Internet connection</td>
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<tr>
<td>- facilities for borrowing</td>
<td>- articles can be downloaded and printed out</td>
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<td></td>
<td>at the users' desk</td>
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<tr>
<td>- reference works containing</td>
<td>- realization of the advantages of web</td>
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<td>information on a wide range of</td>
<td>publication for reference works at</td>
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<tr>
<td>subjects</td>
<td>directories, timetables, index and</td>
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<td>abstracts</td>
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<td>- references services</td>
<td>- Hybrid ongoing library experiments</td>
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<td>- bibliographic services</td>
<td>- The library catalogue is generally</td>
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<td></td>
<td>available via the web</td>
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<tr>
<td>- A place of study</td>
<td>- Library maintains resource discovery</td>
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<td></td>
<td>gateways-Net, CDs, others</td>
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<tr>
<td></td>
<td>- References services offered via E-mail or</td>
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<td></td>
<td>telephone</td>
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<tr>
<td></td>
<td>- Library’s role as a quiet refuge for study</td>
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<td></td>
<td>is superseded by IT clusters</td>
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Not everything published is on the web, despite its description as "a gigantic digital library, a searchable 15 billion word encyclopedia". Only about 8% of all journals are on-line and only a fraction of books are available. Thus, the web is a useful research tool but it is not a substitute for a library. Library services have been
greatly improved by computer automation and use of the web, but it cannot replace all of the services offered by a good library.

It is true that researchers have increased access to a growing amount of information on the web that would otherwise have required frequent trips to the library. But it is a cause for concern that "researchers are increasingly becoming biased against locating some of the higher quality research" simply because the desired article cannot be found on the web without payment. Apparently, a few researchers have experienced "interlibrary loan delays" and were troubled by substantial efforts in locating the source. However, access to the web and Internet in the past has greatly increased the speed of interlibrary loans and document delivery. Some articles arrive through document-delivery services in less than 24 hours, or even within an hour.

Rather than seeing the web as a replacement for their services, many academic and public libraries have embraced the web and its possibilities to enhance their services and improve resource sharing. The web is a powerful tool; librarians use it and recommend aspects of it daily to patrons who phone, e-mail or visit the library. Few libraries do not have a web presence and at least an on-line catalogue that can be accessed remotely.

There are several problems with the notion of the web as a gigantic digital library. Firstly, the web is an uncatalogued mess, and despite what any search engine claims to do, none of them searches the entire web. Secondly, not all search engines or robots are created equal. Each search engine and robot searches the web differently, and some prioritize their search results according to who paid to appear near the top of the list or by the number of hits the popularity of the site. Thirdly, libraries have guidelines and standards for collecting all materials, as well as cataloguing them.

Some indexes and databases on the web provide free access to text or at least allow one to search their holdings but always in consent with other library resources. These free on-line databases are a tremendous asset to researchers and are excellent tools for locating new supplementary material. However, they are no replacement for the resources of a library, nor do they come close to the skills of a professional librarian. Finally, a library is not merely a collection of books, or some vast warehouse of words, books, and journals but it is a part of cultural, historical and scientific memory too. With the advent of the web, libraries are now connecting and
sharing their collections and resources with each other. Thus, an individual academic or public library can be the access point for people to explore their world and their history, and to enlist the aid of information professionals to help guide them through their journey.\textsuperscript{12}

4.1.3 The Role of Library in Life Long Learning

In transforming the learning environment, one goal of the library in the Information age is to foster effective self-service among users and to create lifelong and self-directed learners.\textsuperscript{13} The library is focusing on the creation of self-sufficient information to literate users. Librarians must also reinvent themselves and become involved actively in teaching how to find, use and evaluate information as part of a lifelong learning. Principles of information/knowledge management and the ability to access and exploit a variety of information resources to increase productivity are added values of libraries, provided to their users. The capacity of libraries makes a difference to learning experience. The opportunities provided by new technologies are limitless but the high cost of providing library collections, including full-text electronic resources as well as print resources, which increase in price, inescapable and limiting features of the changing environment for libraries.

The possibilities range from greater involvement of libraries in planning, design and delivery of the curriculum for flexible learning, offering information skills training at a time and place and in a format that suits the users, different types of physical space and facilities in the library for individuals and groups, highly personalised virtual services on the web and easy to use, new access tools to exploit the new services and collections both on the web and in the library. These changes obviously have significant consequences on strategic and financial planning, facilities design, and the recruitment, training and deployment of staff.

Librarians are finding new ways of working with academics to ensure students how to learn. Libraries are forming partnerships with teaching staff, instructional designers and IT experts. Such partnerships may extend beyond the university, leading to collaboration with commercial organisations seeking continued education for their employees, with schools wanting to introduce advanced skills and knowledge at an early stage in government organisations.

Classical library design has focused on the physical collection, with careful calculations about current size and projected expansion. The library has been seen as a
place where materials are stored, readers are seated, and staff work, many behind the scenes processing materials. Service areas have also been provided, with circulation or loans desks, and information or reference desks. This approach to library design matched the traditional paradigm of the library. Scholars, or users, went to a physical place to gain access to recorded knowledge. They used bibliographic records and rows of shelves of printed materials. Librarians were guardians of their collections and assisted the users to find their way.

Library uses a variety of information skills programmes. A web-based instructional tool, WebCT was used to create the programme which is interactive, has links to information resources available both in the library and outside, includes a bulletin board, e-mail and on-line chat facilities and assessment tools. Librarians designed the programme for each project with input from the project coordinators. An instructional designer was consulted to make sure learning objectives were compatible with the design. Evaluation results from previous years as well as assistance from a past student were extensively used to further improve the content and design.

The changes in higher education and libraries are both threats and opportunities. If libraries understand their external environment and the needs of their users, they can maximise the effective use of resources, including funds, brand identity, staff, physical space and facilities, the Web, and their collections, both traditional and electronic, and thereby ensure that the contribution made by libraries to teach and learn is truly effective. Libraries will be relevant, visible and credible in the new educational environment. Libraries must seek external sources for partnerships and innovative ideas to obtain and retain a competitive advantage. Libraries must promote, advertise and repack their services to all members. The new learning environment is libraries.

Conclusion

Briefly, the researcher intended this item, as described above, to introduce this chapter to the readers. It is hoped that by listing the many benefits of the Internet in library and information centres, the researcher has adequately supported the view that the Internet can be sufficiently applied to Information Science. The uses of the Internet in this field are both familiar to many and even in current use. Today, Internet can be used for publishing materials and for finding jobs and careers.
4.2 Information Resources on the Internet

The libraries' information resources include access to the Internet and to the World Wide Web. Providing Internet access supports the libraries' mission to provide an open forum for knowledge, ideas and cultural enrichment through free access to informational, educational and recreational materials and services. In response to community needs, libraries provide diverse resources with different viewpoints on a wide variety of subjects. Helping people use these resources effectively is part of libraries' mission in general.

Libraries have moved beyond the use of the Internet as a novel experiment into the use and provision of network-based resources and services as a substantial and increasing aspect of library services. The network environment as the myriad of public, private, organizational, and other networks, systems, and applications used to provide users with access to electronic services and resources. These services and resources could be as simple as an on-line document viewed via a Web page or as complex as an electronic commerce/e-government interaction through which a user can purchase products and/or attain services such as renewal of a driver's license. In libraries, network-based services and resources can take many forms, including:

a) Searching library holdings;
b) Placing a hold or recalling library material;
c) Making an interlibrary loan request;
d) Licensing on-line databases, e-journals, and e-books for customer access;
e) Digital library collections for on-line access;
f) Providing organized Web pages that lead customers to library content;
g) Providing real-time digital reference services;
h) Presenting table of Content (Journals);
i) Discussion Forums;
j) Technical Reports and
k) Other Information Sources

Individual papers, books, reports, software, graphics, films, music and sound are also available on the Internet. Individual papers are often hosted on personal or institutional web pages, or with archives and depositories. Reports of government and non-government agencies are now frequently available on the Internet.15
It is depending on the nature of the services or resources that libraries wish to provide their customers, libraries need to invest in technology infrastructures that range in ability, expense, staff and customer training. In addition to considering a number of management and organizational issues that best enable the library is to take advantage of such services and resources. Moreover, libraries will need to engage in evaluating the activities that truly reflect the complexity of the networked environment in general and library network-based services and resources in particular.\textsuperscript{16}

Classification systems are used in many library catalogues and in some Internet sites. Libraries use classification in order to improve access to Internet files; to bring related subjects together; and to help librarians in collection development, compiling bibliographies, communication with vendors, and supported services. Classification of Web sites assists users in browsing, broadening and narrowing searches, and in viewing information in context. In addition, classification creates the potential for multilingual access to a collection.

Theoretical analysis and practical usage demonstrate the importance of classification as a categorizing device and minimize its role as a notation that assists in locating materials on shelves. Classification can now be seen as a provider of subject access to information in a networked environment. Traditional library classification has survived in severe competition with non-traditional means of organization of information. Efforts of many librarians and information specialists in utilizing classification for new purposes and implement it into networked environments have been successful.

\subsection*{4.2.1 Benefits of Digital Collections}

(1) For materials that are damaged, it offers the opportunity to provide replacement copies that are comparable to those provided through preservation photocopying or microfilming.

(2) For rare or fragile materials, digital reduces handling the original copy while increasing access through the digital copy.

(3) Image enhancement can correct deficiencies in the original.

(4) Electronic imaging permits high storage density.

(5) Multiple access
4.2.2 Problems of Digital Collections

(1) Difficulty of finding information due to poor organization and lack of search tools.
(2) Lack of consistency in the presentation of similar information.
(3) Outdated information.
(4) Obvious errors in grammar and spelling.
(5) Too many links to empty or useless information.
(6) Frequent reorganization which forces users to guess where to find previously located references.
(7) Documents not available in formats suitable for both on-line use and printing.

Network resources and Internet connections have allowed some users to dial into the library from home or other remote locations. Despite the fact that libraries are providing more information than ever, user may rely on the library less as a physical place and more as a resources have also changed the role of library professionals. Although it was always essential for library professionals to be up-to-date on resources, the pressure is greater than ever. Electronic resources may force libraries and professionals to keep current, but they also have provided users with a greater variety of current resources that were often only available to those with the equipment necessary to access them.

4.2.3 Internet Tools in Library

(1) Bibliographic Verification: Research institution, academic, public and corporate libraries all over the world have their catalogues available on-line. The Internet offers a communication link to a multitude of library systems that have on-line public access catalogues (OPACs). Generally available free of cost these are useful for finding books not available locally, to identify and select books for local acquisition, bibliographic data verification and to search holding of periodicals and monographs. These can be accessed through Telnet, Gopher and WWW. Beside, well-known bookstores around the world are offering their holding over the Internet e.g. amazon.com.

(2) Reference Resources: Many OPACs also have full text databases such as CAI. World Fact Book on the Rutgers Library System. Besides various reference sources such as Encyclopedia Britannica On-line (http://www.eb.com/) McGraw Hill
Encyclopedia of Science and Technology, 18th ed. (http://www.mh.reference.com/EST.html) are available on the Internet. The librarians can use these databases and sources to respond to queries from the patrons.

(3) Means for Amplifying Resources: The library world has tried several measures for optimum resources sharing, but all of these have proved ineffective in document delivery. Internet can bring about real democratization of intellectual resources by providing access to the world information.

(4) Library Without Walls: The users of the library are expanded worldwide. The valuable information present in the library can be fed to the users' homepage and be made available to user anywhere. The library can be a depository of local information/resources to the world-wide community and at the same time provide process to the information available all over the world to the local users depending on their needs any priority.\textsuperscript{17}

(5) Assistance to Researchers: A large number of technical reports which provide details of on-going or complete R&D projects and Ph.D. theses are available on the Internet and these can be accessed free of cost. The libraries can assist patrons doing research by demonstrating various such databases and by obtaining information from these databases on a regular basis. There are a lot of electronic discussion lists and conference proceedings available over the Internet. They provide users a direct access to scholars in disciplines they are interested. Discussion lists give users an opportunity to ask or offer help. Video conferencing makes it possible for researchers to discuss latest development.

(6) Digital Reference: People are now using the Internet as a daily tool to find answers to reference questions. This offers an opportunity for the information professional to provide a remote reference service to users both within and outside the organization or community, providing links to high quality search services or to reference sites in specialist subjects via an Internet website accessible to all members of the community.\textsuperscript{18}

\section*{4.2.4 Documents on Demand}

Document delivery is becoming an increasingly important way to satisfy the need of the user for information. It can be viewed as a sub-set of inter-library loan, particularly if library staff mediate the transaction. Instead of obtaining an article or report from another library, the staff purchase it from a supplier. The OCLC Inter-
library Loan system, as one case in point, facilitates document delivery through contracts with suppliers and resource centres. The system likewise provides procedures and work-forms for document delivery that are consistent with other ILL transactions.

The acquisition process relates document delivery to collection development. But the item does not stay in the collection for others to use at a later time, it is delivered to the user. Publishers and suppliers have a different perspective, no library can afford to buy everything. They can meet market demand by offering individual reports, chapters, articles, and papers. If they can maintain profitability by selling parts instead of the whole. Library futurists have predicted that publishers will store the pieces as independent files and distribute them on demand.

Internet is a key in this evolution of document delivery and publishing. Speed is important, from one work-station users can search the catalogue, an index, or a universe of Web sites. Determining that the local library does not own an item, the users can e-mail a request to the inter-library loan staff. If the library subsidizes document delivery, then staff can process the request through the fastest, least expensive means. If the users have independent accounts, they can order the item themselves. Throughout, the Internet provides the critical connection between the users and the information.19

(1) Document Delivery.

When libraries need materials that can no longer be supplied within an ILL community, they can turn to one of many services for document delivery. These services have emerged partly to improve the efficiency of sharing photocopies, and partly to mediate compensation for copyright holders. They deliver journal articles by fax, express mail, and the Internet. Two of the bigger commercial systems are the Online Computer Library Centre (in Ohio) and the Colorado Alliance of Research Libraries. Recently, the US Research Library Group and the Dutch Centre for Library Automation, together with commercial publishers, have set up a system called WebDOC, which integrates a shared on-line catalogue with Web-based ordering of documents in full text. WebDOC uses an accounting server to verify that a user is covered by an institutional license or personal account. Publishers like this approach because it is secure against unauthorized use and guarantees payment.

Document delivery is one way of solve that crisis. In other words, libraries are in transition from collection development model to access, when needed. Documents
can be accessed and delivered on paper, on-line, or on CD-ROM. Electronically, they can be made into full image, full text or both. Payment may be done by subscription, per document, or a combination. Delivery may be from other libraries or from commercial publishers. It is working together between publishers and libraries for providing on-line or CD-ROM access to documents and information.\textsuperscript{20}

(2) Digital Fax.

Page images can be transmitted more cleanly in digital form over the Internet than over the telephone as an analog fax. The US Research Library Group has developed a software package called Ariel to transmit scanned pages over the Internet for printing at a target site. The UK project EDDIS ("Electronic Document Delivery: the Integrated Solution") plans to enhance Ariel for use in a national programme for electronic document delivery. In collaboration with the Australian and New Zealand national libraries, RLG and EDDIS plan to integrate the functions of bibliographic search, holdings discovery, ordering, and electronic document delivery for items that are both non-returnable (such as journal articles) and returnable (typical books). This system will also include interfaces to commercial database and document supply services, as well as centres for copyright clearance.

Conclusion

With the Internet becoming a popular means of information access in many libraries in the known world, digital collections of printed resources are necessary function. However, with each and every department, there will be the usual pros and cons. In this section, the researcher not only discussed the use of Internet and digital collections but also mentioned their advantages (read ‘pros’) and disadvantages (read ‘cons’). Both are worthy of notice.

The researcher provided a detailed description of the various tools available for libraries. Among these tools on-line public access catalogues (OPACs) and references materials are related. The Internet also can assist research. There is also currently a concept called library without walls, related to inter-library access and loan. However, it has been found out that not all published materials are available on the Internet. In any case, the available and applicable tools should prove useful in the long term.
4.3 Electronic Publications on the Internet

Publishing on the Internet is the next link in the process. It is a qualitatively different process. One aspect of the change lies in the fact that it is now possible for one person or an institution, using a single personal computer, to perform several functions at once to write, publish, archive and disseminate. The development of the Internet created increased opportunities for publishing information in several formats. Today, a large number of individuals and institutions use the Internet to make public their ideas, works and activities by publishing books, journals, conference papers, working papers, reports, electronic brochures and so on. Publication on the Internet has grown exponentially. They are used by an ever-increasing number of people who have accessed the Internet.21

Scholarly publishing on WWW and the Internet is on the increase. Through a very insignificant portion of the world’s publicly available data contained in the Web and Internet. Publishing industry is already exploiting the Internet by way of offering on-line journals, tables of contents of journals and catalogues of books and products over Internet. Many sites of publishers inform the user about the books recently published, book reviews, electronic books, rare book dealers, mailing list and reviews of new books.

4.3.1 Electronic Publishing

Electronic publishing has led to new opportunities to deliver information. In many cases, it has created opportunities for writers get their works exposed to a wide audience or gain a chance to publish through the traditional channels provided by mainstream print publishing. It creates opportunities for users as well as authors and publishers. Many electronic books or electronic publishers’ Web sites freely permit and encourage readers to provide feedback on works, often directly to the author rather than the electronic journals.

Electronic journals have helped publishers and scholars to disseminate information much more quickly than was previously possible. There are several types of electronic journals available on the Internet. Electronic journals may take the form of e-mail discussion groups or computer files or hypertext systems linking sources from across the networks. Their unit of access may be articles, not issues and they may be updated continually rather than at some periodic interval. They make their
table of contents and/or abstracts available on-line, thus, reducing access time for distant users. Occasionally, they make articles available on the Internet.

Electronic journals were logical progression of the trend in libraries to automate routine practices such as cataloguing and circulation. The emergence of electronic journals followed the widespread adoption and use of the electronic mail, listservs and group discussion to disseminate the information quickly to large audience. The other value-added feature that makes electronic journals unique is the hypertext links it can provide to a variety of items.22

(1) Other articles in the same journal title.
(2) Other articles in other electronic journals.
(3) Cited articles.
(4) Corrections or later articles that cite the paper.
(5) More detailed data, or to multi-media information.
(6) Reader comments or discussion forum.

4.3.2 The Characteristics of Electronic Publishing

The aims of those publishing electronically may be very much the same as those publishing in a book form - one needs only to scan the World Wide Web for a short time to discover this fact. Electronic publishing has very specific non-book characteristics that distinguishes it from print publication as follows:

(1) Electronic publications can be produced and disseminated very rapidly - once a page of text has been coded with HTML tags it can be published immediately - the book takes much longer to produce and distribute;

(2) If correction is necessary, an electronic text can be updated or corrected with the same immediacy, whereas a book must either go through a second edition, or, if the error is found in time, have an erratum slip inserted;

(3) Electronic publication can be made collaborative and interactive, involving either several "authors" or authors and readers;

(4) Electronic publications can be disseminated world-wide without the need for separate rights negotiations for different countries and without the costs of distribution or reprinting;

(5) Where an electronic publication is charged for, the producer does not incur the costs associated with retail bookselling, that is, there are no "middleman" costs;
(6) Through effective, electronic interaction with the buyer or user of an electronic publication, the producer can collect valuable market-research data very cheaply;

On the other hand:

(1) Electronic publishing reaches only a minority of potential users or customers - even though this minority may constitute most of the market for some products (e.g., financial business information, scholarly communications), and much of the majority is in the developing world, where usage is likely to be slow to emerge;

(2) Electronic publishing demands access to relatively advanced technology on the part of both the producer and the consumer of information or entertainment - even the base level of provision is still expensive for the ordinary citizen;

(3) Mobile computers, notebooks computer and smaller, are either too big or have screens that are too small, or otherwise inadequate, for use across the full range of environments in which a book can be read;

(4) The technology is still to a significant degree and user-unfriendly to many people;

(5) the technology consumes a greater amount of energy in its use than the book.23

4.3.3 Electronic Journals

The frustration (for libraries), caused by the reluctance of many journals publishers to face the perceived risks of moving away from printed and towards electronic journals, seems to be fading as the growth and acceptability of business-to-business electronic commerce is prompting publishers to make a commitment to the new formats. In addition to the large number of free electronic journals that are currently available to libraries, there are a large number of subscription journals that offer libraries the ability to subscribe on the same basis as print or to access on a pay-for-view basis. The role of the aggregator, well established in the world of print journals, in the form of the subscription agent, far from being rendered obsolete by the emergence of electronic journals has actually been reinvented and forms one of the main means by which libraries access electronic journals via the Internet.24

Electronic journals come in a variety of styles and formats, much like their print counterparts. Early electronic journals were primitive with unattractive layouts and were difficult to read. Surprisingly, a number of electronic journals continue to
use this practice. Users of early electronic journals often printed hard copies and many libraries preferred to provide paper printouts of the electronic journal rather than access to the actual on-line version. Nowadays, they have undergone a dramatic transformation in style and format since their initial appearance in the early 1990s. Many now have full-color Web pages with an attractive and easy to use layout.

The reasons that electronic journals were adopted by scholarly research journals long before it was used for other kinds of publications:

1. The intended audience uses the Internet more than the general population and is familiar with using documents in an electronic form.
2. Libraries are experiencing extreme financial hardship and cutbacks in funding.
3. There is a strong move for scholars to find less costly ways to promote their work.


4.3.4 Electronic Books

Digital reading devices known as e-books have just come into the market at the end of 1998. Readers can turn pages with the use of thumb-buttons rather than scroll. It has a touch sensitive screen that lets readers search for and annotate texts.

E-books offer many things that books cannot do. E-books let users carry a dozen different texts at once, which is important to the frequent business traveler. As a result, the E-book libraries being built are heavy with materials preferred by the target audience: legal documents, government reports, business newspaper, magazines and best selling novel. E-books take place over a phone line. There is no need to trek to a bookstore or wait for magazines to arrive.

E-books are always current. They can be updated at any time, a feature of paramount concern to readers of periodicals and businesses newsletters. It can provide to print textbooks. With e-books, the material can be updated continually at much lower cost, giving teachers and students ready access to the latest in their fields. The advantages of using electronic book include 24-hours availability; it can be accessed
from anywhere; it can not be lost, stolen, or checked out; and copies may be printed on demand. Internet offers access to millions of valuable sites that can be personally, professionally and culturally enriching. However, some sites may be inaccurate, incomplete, dated or personally offensive. The accuracy of information gathered through this source is the responsibility of each originator/producer of the information.

Internet information sources, like other information sources, need to be evaluated by the librarian in order to judge the quality or appropriateness of information for a particular query or user. Almost anyone can put information on the Internet and hence, the quality of information sources varies tremendously. The need of evaluating Internet resources is particularly felt since the problem has become one of sifting through a mass of advertising material and vanity publications in order to find high quality information.

Table 4.2 Comparative Advantages of Internet and Print Reference Sources

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<th>Variable</th>
<th>Internet Encyclopedia</th>
<th>Print Encyclopedia</th>
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<tbody>
<tr>
<td>Storage</td>
<td>No storage requirement</td>
<td>Requires shelf space</td>
</tr>
<tr>
<td>Budget-dependent</td>
<td>Very little</td>
<td>Extremely</td>
</tr>
<tr>
<td>Cost</td>
<td>No addition cost</td>
<td>Expensive</td>
</tr>
<tr>
<td>Cross-indexing</td>
<td>Links from subject to subject</td>
<td>Some indexing</td>
</tr>
<tr>
<td>User friendliness</td>
<td>May be daunting</td>
<td>Familiar, non-threatening</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>No physical damage</td>
<td>Subject to wear, fire, bugs</td>
</tr>
<tr>
<td>Updating</td>
<td>Continuous</td>
<td>Annual</td>
</tr>
<tr>
<td>Instruction in source</td>
<td>Little</td>
<td>Usually considerable</td>
</tr>
<tr>
<td>Time required</td>
<td>May be substantial</td>
<td>Needs no instructions</td>
</tr>
<tr>
<td>Simultaneous users</td>
<td>Multiple users simultaneously</td>
<td>Not possible</td>
</tr>
<tr>
<td>Intimidation</td>
<td>May be substantial</td>
<td>Normally, zero</td>
</tr>
<tr>
<td>Intermediary required</td>
<td>Normally</td>
<td>No need</td>
</tr>
<tr>
<td>Amount of information</td>
<td>May overwhelm</td>
<td>Usually appropriate</td>
</tr>
<tr>
<td>Fact-finding</td>
<td>Finding specific facts</td>
<td>Frequently better</td>
</tr>
</tbody>
</table>

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### Booksellers’ and Publishers’ Sites on the World Wide Web

Booksellers and publishers often have large sites on the World Wide Web, with a host of services on offer. Generally, booksellers tend to have larger sites and more features, but this depends on the individual company. The kind of features that appear on booksellers and publishers sites include:

1. **General company publicity** - ranging from statements of intent and goals to factual information such as location of stores with maps, contact details, etc. Sometimes there are author profiles and details about members of staff.

2. **Alerting services** for new titles, author events (such as book signings).

3. **Book exchanges** for swapping books and for second-hand books.

4. **Chat rooms** for customers to engage in discussions. Some are for general chat, others for more focused discussion. These features are an attempt to build a book community. Other features include quizzes or competitions.

5. **Order tracking**: an interactive service whereby a customer can monitor the progress of an order. This can be a member of the general public, checking to see when the book will arrive, or business-to-business, for example, a bookseller checking on the progress of an order from a wholesaler.

6. **Customer-written reviews** of books. Sometimes a customer’s own stories are published on the site.
(7) News: from general news to specific news about book and newspapers often have extensive free news coverage on their sites.

(8) On-line ordering: Customers or other businesses can order publications directly from the Web site. Often, ordering is by a form which can be filled in by the customer, including credit card details. Sites often have secure servers to ensure the safety of information exchange. More advanced sites have shopping cart facilities, allowing a person to order multiple items at once and change items at the last moment.

(9) Searching facilities: Many sites, especially booksellers, have advanced databases on their sites, enabling visitors to search for publication in a number of different ways, for example, by author, title, or subject. Often the search can be presented as a natural language query.26

Many of the features highlighted above are intended to exploit the interactive elements of the Internet and to personalise service. Alerting services seem to be a major marketing technique employed at booksellers' and publishers' sites. Some of these services allow a person to create a profile of interests and, when a new title appears on that topic, they will be automatically informed by e-mail. Jeff Bezos, the founder of Amazon, sees this as an important development: "In the future we're going to have books finding readers rather than readers finding books" 27

There are no hard and fast rules as to what a booksellers' or publishers' site should contain, but Edwards (1997) identifies key ingredients for successful sites:

a) Something new or unique.
b) High level of customer service.
c) Swift and personal e-mail response.
d) High quality products at reasonable prices.
e) Excellent product classification and selection/recommendation.
f) Huge searchable database, supported by a strong PR message.
g) Effective promotion on the Internet via newsgroups and so on.
h) Effective advertising in traditional media, e.g., magazines.
i) The site should be updated very frequently.
j) It should offer club-type membership.
k) It should provide links to other sites and encourage other to link to it.
l) The Web pages should be quick to download, and compatible with all browsers and systems in common use.28
4.3.6 Federated Search Engines

Today’s libraries offer more information than before. From traditional books to categorized websites to on-line databases, students and teachers can access thousands of resources with just a few keystrokes. Libraries offer more targeted resources than the search engines, yet many students are quick to search on Google before they use their own library’s databases. Students see search engine information as free and fast, producing them with huge results. However, with today’s “federated search engines,” which is an add-on to library automation systems, students and teachers are finding that they can get more and better information.

Federated Searching (also known as meta-searching or cross-database searching) is a technology that allows users to search many networked information sources from one interface. When students conduct a federated search, they simply enter a word or phrase into the computer and receive results from multiple targets. These targets include the library’s collection of books, software, databases and on-line public access catalogues. Federated searching allows users to search across a number of information resources simultaneously. Thus, students and teachers at a library can find results from multiple sources in one single search.

Advantages of Federated Search Engines

(1) With federated searches, not as many results come up with a specific search related to their topic compared to the abundance of unrelated results with Google.

(2) It is difficult for most students to choose appropriate, relevant sites from hundreds of thousands of hits.

(3) Targeted searches are usually filtered for quality.

(4) Federated search qualify the authenticity of the information. For example, anyone can write a report on a topic and post it on the Internet. That does not mean that information was checked for accuracy. By using this new add-on feature to the library’s automation system, its best that the students ensure that the information they use for their research is accurate. With a federated search engine, the information has been checked and verified by educators and professionals.

(5) The federated search includes books and other materials that may already exist in the library. 29
<table>
  <thead>
    <tr>
      <th>Company</th>
      <th>Product</th>
      <th>Description</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>BOOK SYSTEMS</td>
      <td>CERF Database</td>
      <td>Book Systems uses the CERF database to enable users to find safe, authentic Website information resources. Librarians can now offer teachers and students a seamless strategy to locate the information they need for resource-based teaching and learning.</td>
    </tr>
    <tr>
      <td>INNOVATIVE INTERFACES, INC.</td>
      <td>MetaFind</td>
      <td>MetaFind allows simultaneous searching of licensed full-text or citation databases, websites, search engines, library catalogues and local digital collections. Libraries can customize the location, appearance and scope of searches.</td>
    </tr>
    <tr>
      <td>THE LIBRARY CORPORATION</td>
      <td>CARL.X OPAC Search Engine</td>
      <td>The Library Corporation has embedded Endeca’s Advanced Search technology into CARL.X, its newest integrated automation system. Endeca’s Advanced Search technology will allow users to search multiple sources from one web-based interface.</td>
    </tr>
    <tr>
      <td>SAGEBRUSH CORPORATION</td>
      <td>Pinpoint</td>
      <td>This research tool incorporates a web-based interface that can search all libraries, information databases, on-line subscriptions, and the World Wide Web in a single, seamless environment. It then prioritizes results based on relevancy.</td>
    </tr>
    <tr>
      <td>MANDARIN LIBRARY AUTOMATION, INC.</td>
      <td>Mandarin PACPortal</td>
      <td>This web-based search tool incorporates the functionality of the M3 Web OPAC (locating, reserving, and renewing items, sending ILL requests, saving results to the Bookbag, etc.), with the powerful search capabilities of MuseSearch by Muse Global, Inc.</td>
    </tr>
  </tbody>
</table>

Conclusion

Electronic publications will certainly develop in modern libraries. Notwithstanding that, digital collections have emerged, despite their usual drawbacks, e-books, e-journals and other electronic research tools are finding a place in libraries, along with their traditional forms. This will hopefully increase and expand the resources available for research and/or general reading for a few more decades.

4.4 Internet Applications for Library Services

The traditional model of library collections was one of ownership, libraries bought materials that were housed in their facilities for the purpose of circulation and/or browsing by users. Until collection weeding occurred, these resources were part of a permanent collection that the library maintained. The network-based collection works quite differently, with libraries leasing content in most cases rather than owning material. Thus, the expansion of electronic collections in libraries may come at the expense of collection permanency.

Internet plays a vital role in library related activities in the following areas: cataloguing, user education, acquisition, resource sharing, reference service, classification, documentation services, serial control, OPAC, database access, circulation, preservation and storage and collection development. It will help as an additional tool for library professionals for providing various types of information services to the users. Following are the some of the applications.

1. Perhaps no other recent innovation has impacted the library profession to such a great extent as the Internet.
2. Innovative uses of the Internet technologies enable to reach both local and distant users much more easily and effectively than ever before.
3. Create profound impact on Library and Information Science by offering new modes of information delivery and a vast information source.
4. Not only is the world of librarianship become an interconnected global community, but the early use of the Internet has changed fundamental roles, paradigms and organizational culture of libraries and librarian as well.
5. Technologies such as e-mail and web provides tremendous opportunities for library and information science to deliver the information to the desktops of other users.
Realizing the potential, many libraries are rushing to get the connection. Internet has finally taken the whole world on its stride and the world has really shrunk due to it. The movement of the nation towards the information society has already begun and libraries play a major role in it. It offers much more for the libraries to link people, transfer files and connect experts, etc.

4.4.1 Library Services

Entering Internet environment can enable the librarians and their libraries to play a novel and more significant role in extending their services to distant readers and other libraries to satisfy the need for information of their patrons in a better way. There are some examples of library services as following:

(1) Reference Services: The reference librarians can extend the scope of their reference services with the information available in FTP archives, Gopher servers and WWW servers. This information is much more up-to-date than its printed counterparts. Using Internet for reference work in a library has become well established in the library environment. Various ready reference sources are available over the Internet, which help the librarians and its users to answer a relatively large percentage of factual questions.

(2) Interlibrary-Loan and Document Delivery: The underlying problem of interlibrary-loan and document delivery has always been that of communication, whether it be the communication of information regarding materials to be loaned or the transmission of electronic copies of actual documents. The influence of the Internet has been felt throughout this process and manifests itself in the use of electronic mail (e-mail) to order documents, the use of Web to transmit electronic articles or other materials and the exploitation of the Internet's ability to provide libraries with the opportunity to develop their collections beyond the walls of their libraries; where the physical location of materials is no longer the key issue, but rather the provision of timely access to information.  

(3) Current Awareness: Current awareness services become increasingly necessary for any researcher who wants to keep up with their fields. The tools available for current awareness on the Internet are tables of contents of journals, discussion forums and usenet news. Many publisher of science journals and document delivery agencies today deliver content pages of their journals by e-mail, mostly free of cost.
(4) On-line Database Access: One of the major revolutions introduced by the Internet is the vastly increased access to on-line information made possible via the World Wide Web. The range of information sources, in terms of both bibliographic, image databases and specialized Web sites on all subjects is vast. The major on-line vendors, such as DIALOG, now all offer Web versions of their dial-up services, taking advantage of the possibilities of document delivery of electronic journal articles directly from the publishers or indirectly from the aggregators.32

(5) Patents: An excellent example of the availability of freely accessible on-line databases is the wealth of full text patent databases accessible on the Web. As these patents become digitised, the British Library will be able to reallocate the space to other functions. The vision of a library comprising electronic material is unattractive to many people but there can be no denying that electronic materials have both the means of relieving the pressure on space and the plasticity to lend themselves to easier transmission, copying and reprocessing into special formats such as talking books.

(6) Gateways and Portals: The value of Web sites as information sources for libraries have been greatly increased with the emergence of gateways and portals. These services provide structured access to other, related, Web sites and benefit the users from the intellectual effort that goes into the selection processes that are used to select the site (a process to the selection undertaken by the libraries to gear library collections to the needs of the users). Portals are particularly valuable for business information and tend to provide information free of charge, the services being funded by advertising.

(7) Library Holdings: The implications of Internet for library holdings are both wide-ranging and contentious. The ability to replace internally-held paper stock with either access to electronic equivalents via the Internet or storage and provision of electronic materials held on library or library-group intranets is particularly attractive, given the growing pressures placed on the library's ability to store physically a growing amount of material.

(8) Distance Learning: Academic libraries serving a scattered student population can provide sophisticated distance learning programmes. The widespread access of Internet into the homes of the students ensure the success of these schemes and enables the libraries to provide course materials and other documents electronically to students scattered over a wide area, particularly rural areas. A
number of models have been applied to the various ways in which the Web can be
used as part of students’ learning experience.33

4.4.2 Internet Applications for Libraries

Libraries have traditionally been in the business of collecting and preserving
materials published by others. However, the use of new technologies to perform these
tasks is effectively turning libraries into publishers. Whether by creating Web
repositories of a university's research output or by using scanners to digitise books
and journals from their existing print collections, they began to make intellectual
content available in a form easy to share by other libraries and user communities. The
Internet Revolution is transforming the way scholars communicate. Over the next ten
to twenty years, traditional scientific and technical journals, printed on paper, will be
largely replaced by publications on-line. This is all the more likely to happen because
the advantages of electronic publication are not just economic, but scholarly.

This modern library is increasingly a Hybrid Library, combining on-site
collections of heavily used print materials and CD-ROMs with terminals for accessing
remote databases and the World Wide Web. Librarians are being called upon to help
their patrons find the information they need regardless of whether it is to look for the
information physically, found in the local collection or on the Internet. Accordingly,
traditional On-line Public Access Catalogues (OPACs) are being subsumed at many
libraries into broader access catalogue Web sites that provide information about a
library's services and collections, including the OPAC, along with lists of links to
Internet resources of relevance to local users. The best of these systems support
structured browsing as well as precise searching.

Librarians use many Internet communications and service utilities. Some
popular applications include:

(1) Electronic mail (E-mail): Librarians use E-mail to communicate with
colleagues and users. They participate in electronic discussion groups, share
experiences and ideas with other librarians, and create and monitor discussion groups
of interest to their customers.

(2) Telnet: Librarians use Telnet to connect to remote computer resources.
They explore other library catalogues, access commercial and noncommercial
database services, and share the resources of campus-wide information systems and
community Free-Nets.
(3) File Transfer Protocol (FTP): FTP enables librarians to obtain software programmes, text, images, and sound files from the net and then offer them to their users. Librarians and information professionals contribute to the Internet community by making library catalogues and local databases available on the network; well organized, menu-driven access to services and resources on the Internet; and establishing World Wide Web servers that provide graphical user interfaces for browsing the resources of the Internet.

4.4.3 Library Databases

Most major library system suppliers offer a gateway produced to enable the library catalogues to be searched directly from a web browser. A Web front-end for OPAC searching offers many improvements over other alternatives. It is familiar and intuitive to many users and hypertext navigation can facilitate searching if useful links are provided.

Hypertext can jump to other functions provided by the library automation system. Context-sensitive help and user training can be linked from appropriate points on each screen. Forms can be provided to input the search request. It can download search results via e-mail and FTP. In addition to the OPAC to search the main catalogue or special collection include, calendars of event, courses and exhibitions and guides to the literature.34

(1) OPACs

Most libraries have devoted large budgets on the development of on-line public access catalogues (OPACs). The on-line aspect of these catalogues, originally aimed at internal use, has now been extended to external access. In addition to the library's stock of materials, such as, books and audio-visual materials, the OPACs can also provide access to the library's journal-holdings and enable outside users to determine which journals are stored by the library and in which part of the library. The Internet enables libraries at different locations to form networks involving their OPACs to give rise to powerful union catalogues, particularly of journal-holdings. The cataloguing efforts have tended to be dual, when, they use the Internet as a medium for co-operation while developing techniques for cataloguing Internet-based materials.35
(2) On-line Database

The difference between database producers and on-line vendors used to be clear: Database producers created the content, whereas on-line vendors made the content available on-line. Companies such as Information Access Company (IAC) and UMI produced databases, companies, such as, DIALOG and BRS made them accessible.

The H.W. Wilson Company changed the picture when it expanded from print products into its own on-line system - Wilson-line. Several major producers of general interest databases have expanded to include the on-line vendor role. IAC, EBSCO, and UMI all have joined Wilson as on-line scopes of their own content. Although their databases are still available on third party on-line systems such as, DIALOG, FirstSearch, and NEXIS, each has introduced its own on-line system. Z39.50 compliance makes these new systems stand out from early on-line systems in their use of client/server technology, graphical user interfaces (GUIS), access over the Internet, and use of the World Wide Web (WWW) for enhanced document delivery.

(3) IAC InfoTrac SearchBank

The InfoTrac interface and databases are familiar to many libraries from the popular InfoTrac CD-ROM products. Many of the databases have been on-line for years with other systems. Although CD-ROM products are popular in libraries, CD-ROM has some inherent limitations, e.g., on the number of simultaneous users, location of those users, the amount of full text that can be held on a disc, and the frequency of updates. InfoTrac SearchBank and the other systems take the positive side of their CD-ROM (a friendly interface and a fixed subscription price) and add the power of on-line access to overcome the limitations.

Libraries can use the Internet to connect to InfoTrac SearchBank. It is Z39.50 compliant, so if libraries have a Z39.50 compliant OPAC, the SearchBank databases can be made accessible using your existing OPAC interface or you can choose the InfoTrac interface. IAC's bibliographic and full-text databases were the first ones available on InfoTrac SearchBank. It offers several options for document delivery of full texts for many of the articles retrieved.

InfoTrac SearchBank is also searchable through standard WWW browsers. Pricing is based on a subscription basis for each selected database, with prices varying according to a library's book budget.
EBSCO host

EBSCO has had success with direct sales of CD-ROM. More recently, its databases have appeared on on-line systems such as OCLC's FirstSearch and its own on-line vendor with its EBSCOhost system. Like its competition, EBSCOhost is targeted by libraries, library consortia, school districts, universities, and corporations. Access is through the Internet to EBSCO's Massachusetts office. EBSCOhost began as a client/server system that is Z39.50 compliant, so libraries can use their OPAC interface or choose the EBSCO Windows interface.

Libraries can customize their EBSCOhost configuration to match their needs either for all workstations or with different options for different workstations. Search screens, printing maximums, and local journal holdings information can be changed. Bibliographic searches can be limited only to locally held titles or, if the entire database is searched, articles from local holdings can be marked. Library-defined notes or holdings information can be added. The current version of EBSCOhost began with on-line access to its full-text and bibliographic database-MasterFILE.

It offers several options for document delivery in addition to the ASCII full text on-line through MasterFILE FullTEXT Starting with the second version of the EBSCOhost software, searchers may mark the results of a search for on-line ordering of the original article. EBSCOdoc is a web document delivery service that offers documents from EBSCO's standard sources and can provide any document available to anywhere in the world. Most articles may be delivered by mail or FAX within 24 hours. Images will be available on-line for some articles in the new web version. EBSCOhost subscription prices are based on the type of libraries and number of sites accessing the system.

UMI ProQuest Direct

Most libraries are familiar with UMI's electronic products from its range of bibliographic databases on major on-line systems and its popular CD-ROM bibliographic and image files. UMI extended its ProQuest CD-ROM system to the on-line world. ProQuest Direct combines an extensive collection of UMI's own well-respected bibliographic databases with the electronic rights to thousands of full-text magazines, newspapers, and journals.

ProQuest Direct was launched with UMI's bibliographic and full-text databases, including ABI/INFORM, business dateline, business periodicals, general periodicals, dissertation abstracts, and newspaper. ProQuest Direct uses a client/server
model and the Internet TCP/IP protocol. Users can access ProQuest via the Internet or with a dedicated high-speed line or with a modem. ProQuest Direct uses a GUI that will be familiar to customers of its CD-ROM products.

Customers may choose to pay by subscription for unlimited access to selected databases or by transaction pricing. The two payment schemes can be combined, so libraries can subscribe to the databases they are likely to use most and pay on a transaction basis for databases that are used too seldom to warrant a subscription. Document delivery orders may be placed on-line for delivery via E-mail for ASCII text, by FAX, by overnight delivery or by regular mail. The use of on-line products has greatly increased with the widespread use of the Internet. The success of OCLC's FirstSearch shows there is a library market for subscription-based end user on-line systems.

Making products accessible over the web with standard web browsers provides a comfortable and easy connection for many library clients. The option of Z39.50 compliance is appealing to others, and Internet access is appealing to almost all. Finally, the large amounts of ASCII and image full text are appealing. Bibliographic access is not enough; users want fast and easy delivery of the documents they identify in a bibliographic search. Links to full text in a variety of formats gives these new on-line services the edge.36

(6) SilverPlatter and KR SourceOne

SilverPlatter Information and Knight-Ridder SourceOne entered into an agreement to provide document delivery services to Internet subscribers of SilverPlatter Information's electronic databases. As part of SilverPlatter's Internet Subscription Service, searchers using WebSPIRS have the option of electronically submitting orders for journal articles that are referenced in bibliographic citations. The document delivery service is SilverPlatter's, in providing access to full content and links to electronically stored documents.

SilverPlatter Information selected Internet company BBN to serve as the host of SilverPlatter's Internet Subscription Service. BBN's high-speed, dedicated Internet infrastructure and network management will allow SilverPlatter to provide stable Internet access to its databases for greater numbers of customers.37

Searchers viewing the record using WebSPIRS can see a button labeled Order Document that appears after the citation information for journal articles. Clicking this button will place an electronic order for the complete document with KR SourceOne,
a document provider that supplies the full text of journal articles and other document
types via fax, first-class mail, express mail, and Internet mail. KR SourceOne
provides access to a global collection including patents, conference proceedings,
business articles, books, and personal manuscripts.\(^{38}\)

In addition, SilverPlatter and NewsNet, the electronic news service
specializing in business information, are teaming up to provide current and archival
business information from worldwide sources. This offering provides access to
NewsNet's NewsFlash service via the World Wide Web. SilverPlatter also provides
on-line information service that allows pay-per-use access to selected databases via
the Internet. The service allows SilverPlatter to register and bill customers on a fee-
per-use basis and to track and report database usage.\(^{39}\)

**Conclusion**

The researcher has begun this item with a list of areas of Library and
Information Science to which the Internet can be applied. These included user
education, resources sharing, OPAC, etc. As a result of the wide range of applications
for Library and Information Science, modern libraries are hurrying to connect to the
Internet. Moreover, the researcher endeavored to explain the relation of the Internet
with library services, particularly. These applications are reference services, loan and
document delivery, patents, portals and many more. The researcher has given a brief
but concise description of each type.

Databases have proven to be useful resources in a number of functions and
occupations. The topic has been presented to list and describe the current electronic
databases available to libraries. In addition, The researcher has explained the ways in
which modern library function with Internet connection. It is worth pointing out that
take all citizens of modern so. It may conclude that the Internet has a wide range of
uses and benefits for all users of libraries, in every literate society of the world.

**4.5 Internet Impact on Libraries**

The resources of the Internet have become increasingly accessible during the
past few years. Initially, it was a primary tool for university-based research, limited to
text-based interfaces. E-mail and distributed file archives were the main uses. Internet
changed fundamentally with the introduction of the graphic interface, introducing the
era of the World Wide Web. Although the information available did not change substantially to begin with, the impact of a user-friendly front-end to the Web came as a huge surprise, a world of information was at hand as easily as the files on the desktop computer, and cyberspace became accessible to everybody.

Internet-based publishing offers no printing cost or time delay and the potential to distribute information with less effort, however, internet publishing is not free. The mechanisms for distribution still cost money to develop and maintain, and the editorial processing will not be influenced by the mode of publication. The evolution of Internet publishing probably will affect the speed of publication and access but not primarily cost.

Internet services and resources influence library services. New opportunities and benefits include:

(1) Leadership opportunities. Libraries frequently take the lead by introducing Internet to users in communities, academic, and schools, and often provide training and access for users as their budget allow.

(2) Cost saving and time saving. Listservs and other electronic forums facilitate information exchanges among librarians from all over the world. Librarians now, keep up with advances, challenges, and issues without having to attend expensive conferences or subscribing to multiple library journals.

(3) References services. AskERIC is one example of network-based education information service that offers library media specialists, access to a question-answer service.

(4) International interlibrary loans. Libraries now have customers from all over the world. Internet accessible library catalogues assist research endeavors, provide interlibrary loan verifications, and offer a myriad of reference materials that enhance local library collections.

(5) Document delivery services. There has been a rapid growth in fee-based document delivery services that use the network to order and/or transfer documents to libraries and often to end-users, by passing libraries completely.

(6) On-line transactions. Major bibliographic utilities are experimenting with the use of real time bibliographic transactions over the network, while already supporting batch mode transactions.
(7) Government information. Government information can be distributed over the network to libraries allowing unparalleled opportunities for libraries to inform communities and constituents about government issues.

(8) Information sharing. Technical standards, such as Z39.50, coordinate the transfer of information between different systems and formats over the network. These standards are essential to libraries as automated library systems share information and streamline processing, using the Internet.

(9) Other impacts. Using Internet resources may include some increase in workload for librarians, but that is offset by the library's increased visibility and value to the community and the opportunity for the library to become an information provider rather than a dispensary.

(10) Impact on librarians. The tools used by the librarians in their daily work have changed vastly during recent years. In addition to traditional card catalogues and microfiche readers, most libraries now offer an On-line Public Access Catalogue (OPAC), public PCs equipped with CD-ROM drives, DVD drives, scanners, or terminal connection to the Internet. An increasing number of libraries are building home pages on the World Wide Web from where users have access to a variety of services without physically entering a library. Also, information push and pull technologies have given librarians an opportunity to automate the required information gathering and dissemination to the users.41

According to the research of Eleanor Jo Rodger in 2000, he interviewed 3,097 adults about their access to, use of the Internet and their use of the public library. A comparison of the users' evaluations of the service characteristics of the library and the Internet revealed 16 significant differences. The respondents rated the Internet significantly higher for 10 service characteristics and the library significantly higher by six. These differences are most interesting in that they identify the characteristics of the Internet and the public library that might be the basis for consumer differentiation between the two providers.

The library received higher ratings for ease of use, low cost, availability of paper copy (versus digital copy), accuracy of information, helpfulness of librarians (versus Net helplines), and protection of user privacy. While the Internet received higher ratings for ease of getting there, time to get there, availability (hours of access), range of resources, expectation of finding what is sought, ability to act immediately
on the information obtained, currency of the information, fun, enjoy in browsing, and
the ability to work alone (versus being among people at the library).^42

4.5.1 Provision of Library Resources

Education is the key to responsible, safe and intelligent Internet use. To help
educate the users, the library should provide assistance, handouts and training in using
it. The Library recommends specific web sites suitable for different age groups:
children or teens.

(1) The Librarian has created a web site which provides information about
library and its Community Libraries.
(2) Reference Web Sites is designed to help individuals launch searches on
the Internet by organizing sites by subject and providing links to tutorials.
(3) Searching the Web provides links to search tools.
(4) Books, magazines and videos about the Internet and the World Wide
Web can be borrowed from the library.
(5) Librarians are available to provide individual assistance.
(6) The libraries offer training sessions in Internet use for families and
individuals.
(7) Libraries offer classes for parents and children on how to use the Internet
wisely and safely.
(8) Safety on the Information Highway provides basic information and
guidelines. It is available either on-line or in a brochure at each library.
(9) The Library equips monitors with screens to help protect the privacy of
its users.

4.5.2 Library Professional

In this digital age, librarians can no longer be simply information providers or
the keepers of knowledge. The changes in technology using electronically stored and
retrieval of information has changed the way patrons and students are able to access,
retrieve and use information. The instantaneous access of information through the
Internet has made vast amounts of information and data available to anyone with a
computer, a modem and a provider.

Digital information is changing the role of librarians from a person who,
students ask for assistance in finding information in a place called a library,
someone who needs to provide services and instructions regardless of place, time or format. A librarian or information professional must be able to actively participate in the educational process rather than gathering information and disseminate it to the public through workshops, orientations, training, etc. They must ensure that there is effective and efficient flow of information from the generators to the users in a digital environment. This is a complex communication chain with libraries and information systems, playing an important role. Information professional must be able to address the changing and challenging environment for libraries, information systems and services in the digital age with an emphasis on examining contemporary problems, advancement and solutions.

While librarianship as a profession has never been monolithic in nature, the networked environment creates a situation that expands the functions of a librarian substantially. Take digital reference services as an example. Digital reference adds a series of technological, organizational, management, and knowledge layers to the reference function.43 The library professional in the networked environment, therefore, is one who is a(n):

(1) Information expert, someone who has a fundamental understanding of information retrieval, knowledge management, information organization, information architecture and presentation, and information resource location and retrieval;

(2) Communicator, someone who has the ability to foster and exist within numerous partnerships and collaborative ventures. Librarians will also need to engage in effective communications through a variety of non-face-to-face computer mediated (CMC) forms of communication as projects may span institutions and time zones. Email is prevalent, but increasingly, project teams use various on-line white board/meeting programmes, on-line chat, and other forms of communication technologies;

(3) Instructor, someone who can instruct users and other library staff through both formal and informal training sessions on a number of network-based services and resources (e.g., computer use, Web searching, on-line database use), as well as, aspects of information literacy;

(4) Manager, someone who can manage varied and numerous projects, envision the possibilities of the network environment, see the vision of a project, and delegate responsibility to others;
(5) Technologist, someone who is technology savvy, is aware of new and emerging technologies, is aware of the various technology standards in existence or in a developing stage, can consider the service potential of emerging technologies, and understands a library’s technology infrastructure and its implications for the ability of the library to provide various services, resources and, collect usage data regarding those services;

(6) Negotiator, someone who is able to engage in informed contract negotiations with a number of content and resource providers such as database vendors and systems providers. A key function would be the ability to negotiate favorable terms for accessing the content and use reporting elements and features.

(7) Strategist/Planner, someone who thinks strategically, strives toward a vision, and can develop and implement strategic planning initiatives. Librarians also need to engage in strategic planning activities that extend beyond the library to the larger communities that they serve, such as university, city, country, etc.; and

(8) Evaluator, someone who is willing to benchmark and assess various initiatives both qualitatively and quantitatively so as to ensure project objective/goal attainment, anticipated outcomes, and service quality goals. Moreover, as evaluators, librarians will need to know the various assessment techniques available to them. These techniques may be used so as to benefit the library’s understanding of their services/resources, data analysis of the evaluation project collection activities, the interpretation of the results of such assessment approaches, and ways in which to feed the results of the evaluation projects into the library’s provision of services and resources and planning activities.

While some of these qualities have long existed in the library profession, many are new and evolving. The library professional of the future is, increasingly, an information expert with a myriad of technology, management, communications, and assessment capabilities.44

Librarians and media specialists need to have a stake in the development of policies and roles as their communities adopt Internet technologies. They need to consider the following as they develop visions for implementing technology:

(a) Internet connectivity does not guarantee equitable access to the Internet. Librarians as a profession need to become network literate and in turn need to provide programmes and facilities so their customers will become network literate.
(b) The services and resources of the Internet need to be created and organized by librarians. A catalogue of network services and resources is essential for efficient use of the Internet.

(c) Library administrators need to include staff training and practice time in any budget for Internet connectivity.

(d) Librarians need to take an active role in new legislation being proposed concerning intellectual property and copyright in an electronic environment.

(e) Librarians need to have significant influence on the evolution of Internet services and need to be prepared to share their ideas with administrators and project planners.45

4.5.3 Competency of Librarians in This Era

The rapid evolution of information technology has made the need of the people for information critical. It is due to cheaper technology that targets end-users makes it possible for the public to bypass the library in their quest for information. Electronic access to information, especially among young people, is preferred and library patrons demand better, more responsive and efficient library services. Today’s patrons expect, not only a quick answer, but also most likely an on-line answer to their query. If a library want to be successful today, it must focus on addressing and administering to these direct needs of library patrons. Through this is only a part of the solution is met; the more important challenge is to provide a guiding force of competent library staff, without whom a real change cannot be completed:

(1) Knowledge about the latest search engines
(2) total fluency in Internet search
(3) skills in designing and maintaining websites
(4) knowledge of electronic information sources/materials
(5) ability and capacity, including patience, to work with patrons, some of who know too much and some too little about the electronic information world.
(6) knowledge of terminology, delivery modes and legal aspects of electronic information access.46

4.5.4 Information Professionals

Technological development has progressed tremendously in recent decades. It has imposed many changes on traditional library approaches, methods, solutions.
However, it seems that the answer to the question of human development within these processes would be rather uncertain. The development of a man compared to technologies has been rather slow. Traditional patterns of thought in library and information work have been very closely connected with physical organization of collections, localization of information sources, or technological support. At present, many research projects and results appear, which consider deeper knowledge of human beings (as a whole) in library and information processes. Basic aspects of library and information work with respect to human issues are concentrated on:

1. The position of human beings in information processes.
2. Elements in the environment of information, especially social changes in the digital age, technology and culture with its impact on human beings development.
3. Important relationships of people, technology, information and knowledge embodied in interaction when seeking information (human-computer, human-human), in the development of special information service, special information system, or special information product.

Information professionals have to deliver information, its products and its services for special problem situations in which users seek for information. They should also help determine the information needs of the users. This is a complex diagnostic process based on human-human interaction, questions-answers, interview and negotiation. Information science should develop better tools and methods of description and support of these processes in library and information work.

Information professionals manage and organize information resources. Traditional concerns of libraries has been explicit knowledge. Its modelling for purposes of knowledge organization has had long history of tradition in library and information science. But situated knowledge, situated cognition and behaviour with respect to information seeking, creation and use seem to become new challenges for user and knowledge modelling. Obviously, human issues raise the question of implicit knowledge including intuition, know-how, experience, emotions.

Another challenge is represented by the task of professional information problem solving. Traditional modelling approaches of information retrieval and knowledge organization, usually neglect cultural, behavioural and contextual factors of information problem-solving. Although we have tools for modelling general steps in problem solving, knowledge modelling depends on types of specific problems.
Moreover, the balance between general and specific services, products and systems should also be considered.

Information professionals should be partners of users, who provide them with support, advice and training with respect to information seeking patterns. They should provide them with supportive activities rather than information as something complete. At present, information workers determine the extent of generalization and domain specialization's rather individually and intuitively. This is not only related to user groups and tailoring services to them, but also to multi-level, multi-lingual and multi-media characteristics of knowledge organization and information seeking. Other components of knowledge and information situations include problem goals (contexts), forms and presentations of content, and ways of interaction facilitation.

Information professionals are human beings who try to transform information to knowledge. Within the interaction with users they use cognitive, physical, emotional and behavioural components. Information processes can be regarded as human and social processes which should be newly defined in a new situation. "Tailor-made" new information products for special user groups require more knowledge and intellectual insight from new information professionals. This is represented by the human nature of information seeking interaction which should include sensitivity to context, personal and historical memory and experience, special individual or community viewpoints. New positions of information professionals are being already transformed into such professions as information systems and information sources managers, knowledge officers (managers), information brokers, web-masters, storyborders/multimedia developers, etc.¹⁷

4.5.5 Student Attitudes towards Electronic Information Resources

The last few years have seen a number of changes in the higher education sector which has put pressure on the traditional role of the academic library:

1. Rapid growth in student numbers. This is not mirrored by a relative increase in the number of Library and Information Services (LIS) staff.

2. Growth in non-traditional students, for example, matures students and part-time students who have different needs and expectations from the first college student who has just left school.

3. Inflation in the cost of printed materials.

4. Growing number of academic publications.
(5) Falling library budgets as a percentage of the total institutional budget.

(6) Changes in teaching and learning methods, towards a greater emphasis on student centred learning.

(7) Technological developments.

Students constitute one part of society, who are fortunate to have access, to a variety of electronic information resources. Universities use considerable proportions of their budgets to provide this technology for their students to assist in the learning process. Electronic information sources offer to the present generation different and better opportunities from their predecessors and provide a number of advantages over traditional print based information on sources.

Electronic information sources are often faster than consulting print indexes, especially when searching retrospectively, and they are more straightforward when wishing to use combinations of keywords. They open up the possibility of searching multiple files at one time, a feat accomplished more easily than when using printed materials. Electronic resources can be printed and searches saved to be repeated at a later date; they are updated more often than printed tools. One main advantage, to distance learners or those with limited time to access the library, is their availability from outside the library by dial-up access.

In order to utilise the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them. The skills required to maximise the potential of electronic resources are much greater than those required for searching printed sources. These skills include the knowledge of the structure of the database and the instructions, which must be input into the computer by the searcher, as well as an understanding of the ways in which the instructions are linked with one another. The following approaches may support student using electronic information:

(a) Ensure there are sufficient networked computers available for students, especially at peak times

(b) Information retrieval skills training to be embedded in the curriculum, undertaken at an appropriate time and supported by academic staff. Academic staff must be aware of the services which are most beneficial to their course and, therefore, their students

(c) Promotion of on-screen help, printed guides and training for the less popular electronic resources, to encourage students to see their potential
(d) Ensure information skills training is pitched at a level which is appropriate to the individual needs of the student.48

Like other Information resources the Internet too, have information resources. Some of the sources on the Internet are like the electronic journals which have really helped publishers and scholars to disseminate information much more quickly than was previously possible. It is an area of intense growth and development. It has many other value-added features that make electronic journals unique. The other sources on the Internet are also the table of content, preprints, discussion forums, technical reports, library catalogues and campus wide information system. The electronic book is also one source that offers many things that books can not. It holds a lot, it can carry dozen different texts at once and it takes place over a phone line, no need to trek to a bookstore. The development of the Internet created increased opportunities to publish information in several formats.

Conclusion

In this section, the researcher has intended to discuss the actual effect of the Internet and library systems. To be unbiased, the researcher has listed both positive and negative effects, and mentioned the potential advantages which exist despite any inconvenience towards personnel. Just as digital and electronic materials are transforming libraries in the current age, they are also transforming librarians. A librarian is no longer someone to help users find shelved printed materials; from now onward, he/she has to be proficient in the search, use and cataloguing of the aforesaid electronic counter parts. So, their job little likewise transforms, to fit the environment.

4.6 Information Services in Thailand

4.6.1 Access to On-line and CD-ROM Databases

University libraries in Thailand began offering on-line database services in 1985. At present, they access international bibliographic databases over the Internet and provide more than 500 CD-ROM databases through campus networks. Chulalongkorn University and Mahidol University, notably, subscribe to Knight-Ridder and STN International. However, most requests from universities to search on-line databases are processed by a subsidized service at the Technical Information Access Centre (TIAC) of the National Science and Technology Development Agency.
CD-ROM databases are also available through some special libraries and information centres of the government and state enterprises. These include: the National Library, the libraries of the Department of Science Services, the National Research Council, the Department of Intellectual Property, the Thailand Office of Industrial Standards, the Food and Drugs Administration, the Electricity Generating Authority of Thailand, the Petroleum Authority of Thailand, and the Bank of Thailand. Libraries of the private sector that subscribe to CD-ROM databases include the Siam Cement Group, Siam Commercial Banks, and the Thailand Development Research Institute (TDRI).

4.6.2 Library Automation.

In 1985, several provincial universities established a collaborative library consortium (PULINET) to share information resources, compiling a union catalogue, coordinating collection development, and jointly managing Inter-Library Loan. Initially, its procedures were manual and print-based, but as the member libraries implemented on-line catalogues, which began in 1993 to link these catalogues among themselves. In 1995, stimulated by the example of PULINET, universities around Bangkok started their own consortium, THAILINET-M, which soon merged with PULINET into the national network of university libraries, THAILINET. The National Library and all of the state universities currently have automated library systems. In October 1997, eleven university libraries put an integrated library system on-line. As of 1998, the inter-university network has over two million records, most of the materials are in Thai or English.

4.6.3 Special Libraries

Automated library systems have been installed at a number of special libraries in Thailand, such as, the libraries at the Bank of Thailand, the Department of Science Services, the Electricity Generating Authority of Thailand (EGAT), Thailand Development Research Institute (TDRI), and the Siam Cement Group. Several other special libraries are automating parts of their services, such as Her Royal Highness Princess Mahachakri Sirindhorn's Private Library, the libraries of Thai Airways International, the Ministry of Science, Technology and Environment, the Ministry of Public Health, the Ministry of Justice, the Ministry of Agriculture and Cooperatives, the House of Parliament, the Industrial Finance Corporation of Thailand (IFCT), and
the medical libraries of some private hospitals. Most of the special libraries are oriented towards serving the staff within their organizations and offer only limited service for outside customers.

4.6.4 Web Access to Libraries.

All of university libraries in Thailand now provide access to their on-line catalogues and other services over the Web. Internet users can browse the library collections at homepage of each university.

4.6.5 The Web in Thai Schools and Universities

Between 1998 - 2001, there were 4,000 schools nationwide participating in SchoolNet, a project of the National Electronics and Computer Technology Centre (NECTEC). Home pages created by the students and staffs of 2,500 schools were offered. Other schools have access to the Internet and participate in activities such as “Classroom 2000” and training in basic Web skills. Several universities have begun experiments using Web and satellite technology to extend the reach of their classrooms to students at remote locations. These universities include: the Asian Institute of Technology, Sukhothai Thammatoraj Open University, Ramkamhaeng University, Suranaree University of Technology, etc., an international provider of classroom lectures via satellite broadcasting.

4.6.6 Resource Sharing among Thai Libraries

Several bibliographic databases have been compiled to support Inter-Library Loan in Thailand. These include the Thailand National Bibliography (National Library), the union lists of serials (Ministry of University Affairs), and Scientific Serials in Thai Libraries (Thai National Documentation Centre). Special working groups from university libraries are formulating Thai standards for the storage and retrieval of library materials (subject headings, thesauri, and cataloguing rules). TIAC was one of the first organizations in the world to make available a translated version of the Dublin Core, a new cataloguing standard for Web materials. The courses have been developed to train Thai librarians in the operation of integrated library systems and in making resources and services available through Web sites.
4.6.7 Development of Thai Databases.

A number of small databases of Thai information have been developed by libraries, government agencies, and private companies. Public access to those databases on-line, however, is still very limited. Most of the public-sector libraries allow the public to use their databases on site, but few of them provide searching on-line. Databases of note include: the Index to Thai Periodicals and Newspapers (NIDA) and the Thai Agricultural Bibliography (Kasetsart University); these two databases are published in hard copy as well as electronically. Other databases with more than 70,000 records are: TIC database on Thai and Asian Social Science literature (Chulalongkorn) and the Index to Thai Medical Journals (Chulalongkorn Medical Library). The first CD-ROM database with a large amount of Thai bibliographic information was produced and distributed in 1997 by the Technical Information Access Centre (TIAC). The database was launched with 30,000 records of Thai and English bibliographic and abstracts from 15 universities; records are being accumulated at the rate of about 7,000 items per year.

4.6.8 Computing and the Thai Language

The Thai language poses some unique problems for computing. Because there are no spaces between words, texts must be parsed before they can be indexed. Optical Character Recognition (OCR) of scanned texts must use sophisticated heuristics between words that have similar letters. Indexing and OCR methods must take into account the high number of unique names in Thai and the high frequency of spelling mistakes, which are often based on phonetics. If retrieval systems are to serve speakers of Thai dialects efficiently, they will have to take into account regional variations in pronunciation and vocabulary. In addition, most Web browsers and word processors in the world today (outside Thailand) cannot easily be configured to display Thai text correctly. This problem will hopefully be resolved over the next few years as the international community and software companies adopt Unicode, an extensive new character set that contains every letter and symbol of every major language in the world."^{49}

4.6.9 The Example of Intranet in Naresuan University Library: Thailand

Naresuan University Library offers network access to many of its services either via the Internet or through the NU Intranet. The primary starting point for
access to these services is the Library’s Web Site http://www.th.ac.nu.lib. This site provides comprehensive details of the services available, the different methods of access, and names as well as e-mail addresses of important contact persons or departments which students can refer to when they require assistance.

Students may have access to a variety of library services from wherever they are as long as they have connection to Internet and a web browser like Netscape or Internet Explorer. To access services offered through Intranet, students must dial-in to NU using the NU Remote Access Service offered by the Computer Centre http://www.citcom.nu..th.ac

All pages existing as part of the library Intranet include the following information:

1. the name “Naresuan University Library”
2. name of the organizational unit publishing the page
3. name and e-mail address of the individual responsible for maintaining the page
4. date of the last update for quality control

Library homepage should be consistent with Naresuan University’s mission, comply with ownership rights of intellectual works, be developed and managed with a responsible use of resources, protect copyright information and materials, use licensed software, not advocate a political issue, not be used for personal business or advertising, not cause computer or network loading that impairs other services and keep the information up to date.

4.6.10 Services on NU Library Intranet

To search NU library’s Web OPAC (On-line Public Access Catalogue), students should go to this Web Page http://www.th.ac.nu.lib/opacs.html. From this page, students may also place an on-line reservation for books, check on their library accounts for options to cancel books they have reserved or renew books that they have loaned out, or check the OPACs of other libraries either in Thailand or overseas.

To enrich the library book collection, students are encouraged to recommend new titles not available in the collection for acquisition. When submitting such recommendations, students should include their full names and user ID numbers so that they can be notified when the books arrive. Book recommendations may be submitted by e-mail to pornnaphas@nu.ac.th or suphent@nu.ac.th for all other titles.
For reference, enquiries relating to their library accounts, loan privileges, book reservations and renewals, e-mail to wanpent@nu.ac.th Nowadays, students can access a host of on-line and CD-ROM databases from the Library Web Site. These databases are accessed either via Internet, the NU Intranet or the NU Library CD-server.

**Conclusion**

World access to Internet has reached Thailand in no small amount and the researcher has devoted this particular section to discussing the extent to which the Internet has affected libraries and educational services in the country. Libraries and their transformations form a major part of this topic. In addition, the researcher has devoted attention to scholars and universities too. It is hoped that the reader will be interested to know the effect of automation in the researcher’s homeland.

The researcher has singled out an outstanding successful case of Intranet use in Thailand, at Naresuan University Library. The researcher intended to highlight examples of how library use the Internet which has both taken root abroad and been followed up successfully. (Basically and briefly, the researcher described library use at this university)

**4.7 Library Websites**

The World Wide Web (WWW) are related Internet technologies which have made it possible for several organizations and institutions to make their presence felt on the Internet. In recent years a great deal of activity in libraries has been devoted to the design, implementation and refinement of library web sites. Today there are many library websites on the Internet. These have formed the basic structure and infrastructure of the virtual library and the services have included on-line public access catalogues (OPACs), distance learning, library publicity, library holdings and other facilities.

**4.7.1 Objectives of Hosting the Library Websites**

1. To promote the use of the library.
2. To furnish information regarding the library and its activities.
3. To make information services available on-line.
(4) To give links to relevant sites that may be of interest to the users.
(5) To collect feedback/input from the users through dynamic web pages.

4.7.2 Contents of Library Home Pages

(1) Name of library
(2) Links to selected resources on the Internet
(3) Information about the library
(4) Interactive e-mail contact address
(5) Link to a university home page
(6) Date of the last update of the page
(7) Links to Internet search engines
(8) Research skills information or guides
(9) Links to Internet resources
(10) Book reviews, lists of recommended books
(11) Photograph of the library
(12) Information about citing Internet resources
(13) Links to resources about the local area/region
(14) News about the library or library activities
(15) Information about the Internet for library users
(16) Internet tutorial
(17) On-line reference desk for e-mail esquires
(18) Information about library Internet use policies
(19) The library rules
(20) Electronic magazines

4.7.3 Interesting Websites for Library Staff

Websites enable librarians/information specialists to know about the movement of library and information circles and sometimes order new books from a catalogue of more than one million books without the leaving the library. All this is possible with the help of Internet access to the libraries. Many websites can be accessed through the search engines such as altavista, google, yahoo, etc.

(1) Amazon <www.amazon.com> This site claim to have a catalogue of over one million books. With the help of this site, libraries/individuals can do their book-shopping.
(2) Blackwell Publisher <www.blackwellpublishers.co.uk> Blackwell Publishers are the largest publishers who provide above 600 prestigious journals. All Blackwell are available on-line as well as in printed edition. On-line journals can be accessed through Blackwell Synergy.

(3) Booklist <www.ala.org/booklist> Booklist annually recommends nearly 4,000 books for adults, more than 2,500 titles for children, more than 500 reference books and electronic reference tools, and 1,000 other audiovisual materials. Each issue features author interviews, bibliographies, book-related essays by well-known writers and a selection of columns.

(4) EBSCO <www.ebsco.com> EBSCO is an international database covering all the discipline areas of information resources. The full text bibliographic database is a very useful resource in business and management environment. It provides more than 8,000 E-journal and over 3.6 million full text article.

(5) Gale Virtual Reference LibrarySM <www.gale.com/ebooks> It offers libraries the opportunity to select from an initial collection of more than 117 reference sources, encyclopedias, almanacs, and series to create a customized, completely integrated on-line library of reference works. Each library can customize Gale Virtual Reference Library to fit its needs, selecting from what will be a fast-growing selection of titles to serve children’s, academic and general audience needs. Gale manages the library’s collection, showing patrons only the titles it has purchased, which can be linked from the library’s OPAC through MARC records.


(7) Horn Book Magazine <www.hbook.com/mag.shtml> According to their Web site, “Independent, opinionated, and authoritative, The Horn Book Magazine contains invaluable reviews of the newest books available, lively articles and columns covering a variety of aspects of children’s books, and more.” Horn Book’s reviews are critical and thorough, so this is one of the best buys for the new elementary school library media specialist.
JonesKnowledge.com has announced the launch of the Jones e-global library, the first independent, Internet-based library available for licensing by educational institutions, corporations, and corporate universities worldwide. The reference and research resources offered by e-global library mirror the library support services typically provided by academic libraries and are tailored for use in an on-line learning environment. They include on-line tutorials; research guides on more than 65 topics; research databases on hundreds of academic and business topics; Internet, government, and course resources; and special sections, such as Financial Aid and Career Development.

Library Media Connection (LMC) combines the best of both Library Talk and The Book Report, including essential advice, practical tips, and independent critical reviews on fiction, nonfiction, professional reading, software, CD-ROMs, videos, and on-line resources.

Macmillan is the largest computer book publisher. This company is made up of several imprints all of which have websites within the super library that offer both samples and tables of contents.

MultiMedia and Internet@Schools This bi-monthly title reports on tomorrow’s education technology tools as well as practical use of today’s electronic resources for both the school librarian and technology specialist.

Sagebrush Corp. has announced the debut of the Econo-Clad Bookstore at http://www.econoclad.com/. The Econo-Clad Bookstore offers library professionals and educators a convenient, efficient way to find and purchase books on-line, according to the company or publishers. The bookstore provides four ways to find books: Quick Search, Book Search, Book Set Search, and Browse. Users can search for specific books and book-sets, as well as browse reading-programme materials, new books, and award-winning books. After signing in, users can purchase on-line or request a quote for selected materials.

(14) School Library Media Research (SLMR) <www.ala.org/aasl/SLMR> SLMR publishes high-quality scholarly research concerning the management, implementation, and evaluation of school library media programmes. The journal emphasizes research on instructional theory, teaching methods, and critical issues relevant to school library media.

(15) Teacher Librarian Magazine (TL) <www.teacherlibrarian.com> TL features articles on current issues in school librarianship, such as collaboration, leadership, technology, discussion, information literacy, and management.51

(16) World Library on the WWW <www.123world.com/libraries> It provides the ultimate source of authentic and reliable information of over 150 libraries of the world on the Internet. This list of libraries includes the link to public libraries, research libraries, libraries of different educational institutions, business libraries, science libraries, etc.

4.7.4 E-Journal in Library and Information Science’s Websites

(1) Table of Contents

(1) American Libraries <http://www.ala.org/al_on-line>
(2) Library Journal Digital <http://www.bookwire.com/ljdigital>
(3) Library Hi Tech <http://www.lib.msu.edu/hi-tech>
(4) Library Quarterly <http://www.journals.uchicago.edu/LQ/>
(5) Progressive Librarian <http://www.libr.org/PL/>

(2) Abstracts

International Journal on Digital Library
<http://link.springer.de/link/service/journals/00799/index.htm>

(3) Full Text

(3.1) Ariadne: the Web Version
<http://www.ariadne.ac.uk/>

(3.2) Booklist
<http://www.ala.org/ala/booklist/booklist.htm>

(3.3) C&RL: College & Research Libraries
<http://www.ala.org/ala/acrl/acrlevents/acrls8thnational.htm>

(3.4) Information Research: An Electronic Journal
<http://www.shef.ac.uk/ir/publications/infres/ircont.html>
<http://informationr.net/>
4.7.5 Information Services in library Website

With the continuing development of Internet technologies, library web sites are playing an increasingly important role in supplementing library services and disseminating information through the World Wide Web.

1) OPAC: On-line Public Access Catalogue is the most widely provided information service on library web pages. Every library has a web page with OPAC. Through remote means the users browse/search the catalogue.

2) What’s New: This service helps the users to become aware of the recent acquisitions. It can be updated easily. Images of the cover pages of the books can be kept, without having physically removed from the books. Reviews of the books from various magazines can also be displayed.

3) Current Contents: Content pages of the recently received issues of the journals can be provided, either as an image or as a text, hyper-links can be provided to the abstracts of the articles.

4) Book of Interest: The library can compile a web page informing about the recent release of books that users would be interested and might suggest them to be acquired by the library. It helps the library collections to be updated.

5) Bibliographic Service: Using a web page, bibliographic details of documents can be presented through user-friendly search facility. It can further be enhanced by combining it with Document Delivery. Uncover is one such bibliographic service with document delivery facility.

6) Webliographic Service: List of web documents (list of URLs) available on a specific topic across the Internet can be compiled into a webliography. Here,
hotlinks can be given to the documents on the web, so that the user can click on the links and actually access the web document.

(7) On-line Reservation: The users need not come to the library to reserve a book of their interest and they need not be informed by phone or through letters that the books they reserved are presently available.

(8) Database Access: From the web page users can be provided with links to the CD-Servers of the library or on-line access to any other databases.

(9) Publications: Many universities have printing press and publication division. If the library has an independent web page along with that of institute, a link may be provided to the publication's page.

(10) Links to Other Library Sites/OPACs: It is not uncommon among the library web pages to provide links to other nearby or important libraries. It becomes rather mandatory if the library is a participant of a library network.

(11) Intranet Implementation: Intranets are internal networks that use Internet and Web technologies to enhance an organization's ability to find, manage, create and distribute information. The beauty of creating an Intranet is that most of the necessary tools are already available if the organization is involved in the Internet. Many skills that librarians have acquired in learning to navigate the web or creating an Internet may be used to design and develop an Intranet.52

An Intranet is one of the most effective uses that an organization can make of Internet technologies. Intranets may be designed to serve a number of functions in libraries including:

(11.1) Improving communication: Intranets are great places to locate basic information needed by staff. Library policies, cataloguing tools, library plans and so on.

(11.2) Organizing information: Librarians are experts at organizing information and the Intranet provides a new tool to structure internal documentation.

(11.3) Training: The interface is user-friendly and may be accessed at any time from any location that has Intranet connectivity. Mounting training materials is cheaper than printed copies and information can be easily updated.

(11.4) Facilitating teamwork: Libraries are increasingly utilizing functional or inter-departmental teams to accomplish specific tasks or process in creation and maintenance of Intranet.
A library Intranet can be a cost-effective method of improving the way libraries do business if its purpose is thoughtfully defined and the site is carefully designed, developed and maintained. Although the tools are available in most libraries, the staff time involved in development and maintenance must be considered when a library contemplates the establishment of Intranet.

**Conclusion**

In this section, the researcher has given fair attention to explain and describe library-related websites. The researcher mentioned specifically Library Homepage data and the style of interest and advantage for library personnel. Among the better known sites, we find amzon.com, a large supplier of published materials and very familiar to all users of the Internet. Other sites follow with their own names and descriptions. The researcher included E-journals (E-magazine in Library and Information Science) and additional services.
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