

# Intranet, Extranet And Internet : Information Management And Sharing In Libraries

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## ABSTRACT

The advances in library networking technology has brought an inexpensive way of distributing & sharing information within the organization as well as libraries located in remote areas. The advantages of intranet, extranet & internet being numerous, includes streamlining of the information processing and management ,facilitating information dissemination & enriching communications and collaborations. Attempts have been made to discuss opportunities provided by these three advanced networks enabling librarians & informational professionals in efficient collection development, management and serving users with value added information at ease.

## INTRODUCTION

The intranet, extranet & Internet have changed the way libraries interact with their users. Organizations first began using the Internet and thereafter intranet to publish information about themselves and their services to increase awareness among their users -- a passive form of advertising. During recent years libraries & Information systems extended their applications out into extranet.

An extranet is just a fancy way of saying that a library has opened up portions of its intranet to authorized users outside the organization. The term "intranet" invites a contrast to the term "Internet." The real contrast is with the World Wide Web--an important distinction, because Internet focuses on physical and technical networks, while the Web focuses on the set of content accessible on that physical and technical infrastructure. Intranets can use the Internet to connect remote libraries, but they can also be strictly internal and run completely on a Local Area Network (LAN). Advantage is to assist those librarians who find themselves in the position of not only managing the organization of information and its easy access, but also in the planning, developing and implementing of Intranets in library environments so that information retrieval is effective and efficient. Libraries can link intranet users to the internet in one of two Ways:

- ◆ By purchasing dial-up connections to an Internet service provider (ISP). Or,
- ◆ By acquiring a direct connection to the internet through a leased line or other method

Net technology represent a new platform for remaking some of the core functions of libraries, including acquisitions and processing, cataloguing, , public relations communication, and online reference service. By giving information seekers and information providers the ability to access time critical information these latest technologies improve the decision making process by empowering individual with the knowledge necessary for faster & better informed decision making and communication purposes. Sharing is a underlying theme to the medium of document and information delivery. The increased potential for the sharing of information has changed the library environment through a more open forum of information sharing. Communication between the library and its staff has improved and this can only benefit the work environment and the service that libraries provide.

## **DEFINITION & KEY BENEFITS**

The "Internet", according to the official definition of the Webopaedia, is "a global network connecting millions of computers." according to the latest statistics from Commerce Net, one of about 249 million Internet users worldwide. Internet is playing an important role in transforming the library system and the way in which we view the library resources and library services. With the help of web based library services users are attended round the clock. Internet provide links to various library sites specializing in almost every topic and they can be accessed directly from any part of the world. One of the best uses of the Internet however is to track down soft information or gray literature. Internet has integrated nearly all library activities through e-mail, online discussion , reference support service , search of remote databases, exploiting the library catalogue of other institutions, participation in interlibrary loan, online ordering of library documents etc.

An "intranet", or an "internal web" is a network architecture designed to serve the internal information needs using Web concepts and tools, that uses the TCP/IP protocols of the Internet. It is the application of Internet technology on a private network The term intranet describes a closed computer network built upon World Wide Web Technology in which access is restricted to a particular group of users.

Intranets are altering the way library create and circulate information and have many traits that are beneficial to libraries. It save time once they are implemented into a library environment. Intranets can reduce the duplication of employee efforts of reference searches by displaying the result all to see and subsequently, make them permanently available. It helps to reduce clerical duplication and frees up time for the staff to assist the public with their searches. Improved service is the goal of intranet application. Cost has been shown to be manageable for most situations and even large corporate libraries are able to justify their investment through increased user response to the Intranet access of the library. Most of the intranet benefits were observed in the library field and the findings suggest that the easy implementation, possible financial gains, increases in information efficiency, simplification of storing and searching for information and ease of use are all benefits to the library, although there are potential limitations and problems.

The term "extranet" comes from "extended intranet". The main goal of extranets is to foster collaboration between organizations. An extranet can be viewed as part of a library's intranet that is extended to users outside the library to securely share part of a library's information or operations with partners & users. Typically, extranet users are given a login and password, which tells the computer specifically what information they are entitled to view. Extranets are becoming more and more popular as more libraries are discovering their potential. Fundamentally, an extranet is a part of the Internet since it is accessed by people in many different libraries who will be using the public website but will not have access to the truly internal parts of library intranet. An extranet requires security and privacy, which needs firewall server management, the issuance and use of digital certificates or similar means of user authentication, encryption of messages etc.

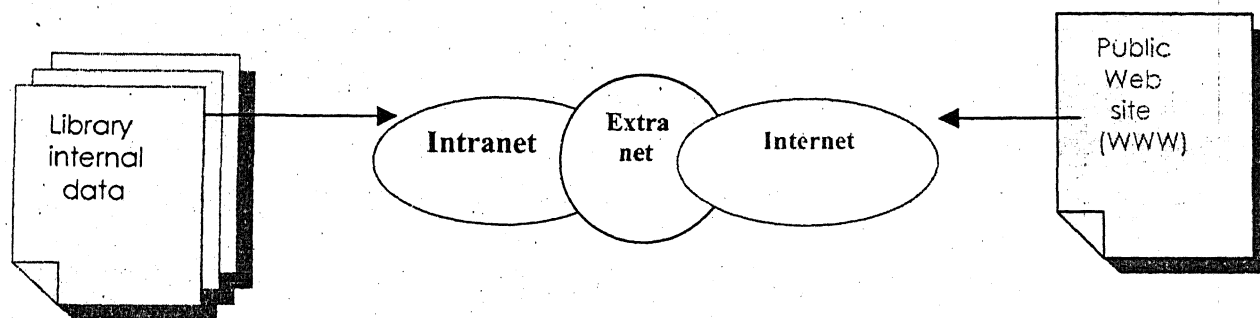


Fig 1: The Extranet allows use of capabilities of both the internet and Intranets

## COMPARISON BETWEEN INTERNET & INTRANET DESIGN

The major difference between the Internet and an intranet is that an intranet allows access to the Internet but not vice versa. An intranet design should be much more task-oriented and less promotional than an Internet design. Intranet users are Students, staffs and other employees who know about the organization, its organizational structure. The library Internet site is used by users who will know less about Institution and also care less about it. The intranet is used for everyday work inside the organization, including some quite complex applications; the Internet site is mainly used to find out information about library collection & services. The intranet will have many internal reports which are never published publicly such as project progress reports, human resource information, and other detailed organizational information, whereas the library Internet site will have marketing information and end users support information. It is feasible to use rich graphics and even multimedia and other advanced content on intranet pages as it runs faster than Internet user Web access. Basically, library intranet and public website are two different information spaces, they should look different.

## APPLICATION IN LIBRARIES

Today all sorts of library services from membership registration to document delivery can be offered through these technologies. Like the Internet itself, most Intranet Web sites are used for fairly basic information sharing that needs to be quickly and easily disseminated, such as the Inter-library- loan, Current awareness service, frequently asked reference queries etc. However, more sophisticated software allow for greater linkage between databases, remote sites around the world, and the sending of video and audio material around the world, even the holding of virtual conferences, all of which may be applicable to libraries.

Selection & Acquisition of documents

Web OPAC of libraries

By browsing the recent acquisitions of library Web OPAC librarians can see the new titles available in a particular area - a helpful tool for collection development, for example online catalogue of National (Library of Congress) and University libraries of different countries.

### Online acquisition of resources

All the major scientific & Technical publishers provide access to full text articles through site licence. For example Science Direct([www.info.sciencedirect.com/](http://www.info.sciencedirect.com/)) Elsevier, LINK /Springer (<http://link.springer.de/>), IDEAL/AcademicPress([www.ideallibrary.com/](http://www.ideallibrary.com/)), Kluwer-Online/Kluwer etc. Besides these there are many service providers & Consortia providing electronic access to full text articles of various publishers.

Ohiolink is a consortium provides a wide variety of electronic resources including research databases. The Electronic Journal Center which contains complete electronic journal collections of seven publishers: Elsevier science's Science direct onsite(1200+ titles), Academic press, Project Muse, Springer-Verlag, John Wiley & Sons, Kluwer Academic and American Physical society.

Following are the few Web site addresses available on Internet for library books & journals:

[Firstandsecond.com](http://www.firstandsecond.com) is one of the biggest bookstores provide access to more than one million academic technical, professional, management and general interest titles as well as largest selection of magazines & CD's.

<http://www.amazon.com> searchable by keywords author, title and subject. Amazon also provides comprehensive reviews of books, the possibility of electronic communication with some authors , table of contents etc.

<http://bookstore.lexis.com/bookstore/catalog> provides information about various library books on different discipline.

<http://www.eb.com> Britanica online offers the worlds first online encyclopedia

The IDRC(Canada) is providing books on research and development that can be ordered online through URL.<http://www.idrc.ca/bookhque>

### Content management:

Today, intranets (internal web) extranets, and WWW are the collections of content. The content includes data, text, images, audio and video that compose the library Web site. An intranet is a set of content shared by a well-defined group within a single organization. An extranet is a set of content shared by a well-defined group, but one that crosses enterprise boundaries. One of the main application of intranet is to provide contents - useful content to its users.

However for content management at the service providers site, it is necessary to obtain permission to download the table of contents and maintain a database of these contents with efficient retrieval search engines .Basic search tools required in the system are, Boolean operators, keyword searching and fuzzy matching. Other desirable search features included phrase searching, synonym or concept searching and progressive searching (search limited to results of previous search). Following the retrieval of documents, flexibility is required in the display of search results. The system would need to be able to sort results by one or more of the following methods:

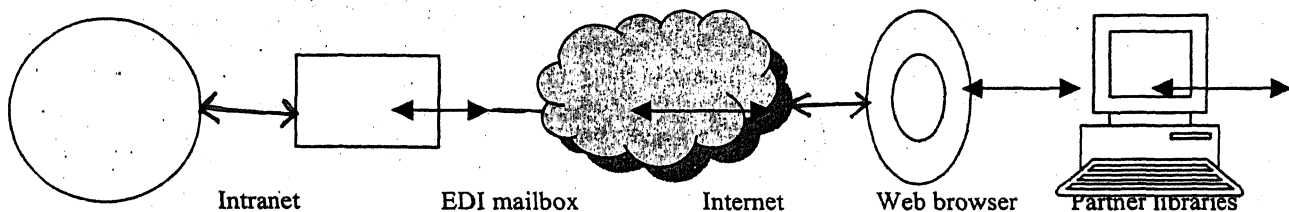
- ◆ Number of 'hits'
- ◆ Hit density
- ◆ Relevance ranking
- ◆ File name and date added to index

### Document delivery :

Versatile delivery is an important consideration in any networking system. Users would need to be able to browse the documents on screen, print them and possibly download them for later viewing and printing elsewhere. The objective is to enable the widest possible access to users from a range of delivery points.

- ◆ Exchange large volumes of data using Electronic Data Interchange (EDI) .

EDI lowers the barrier of data communication & information exchange. By linking EDI & Internet technologies the complexity of data exchange can be dissolved. The requirements are a personal computer, Internet access, a standard Internet browser , a modem & EDI mailbox.



**Fig 2: Electronic Document Interchange**

### Reference services

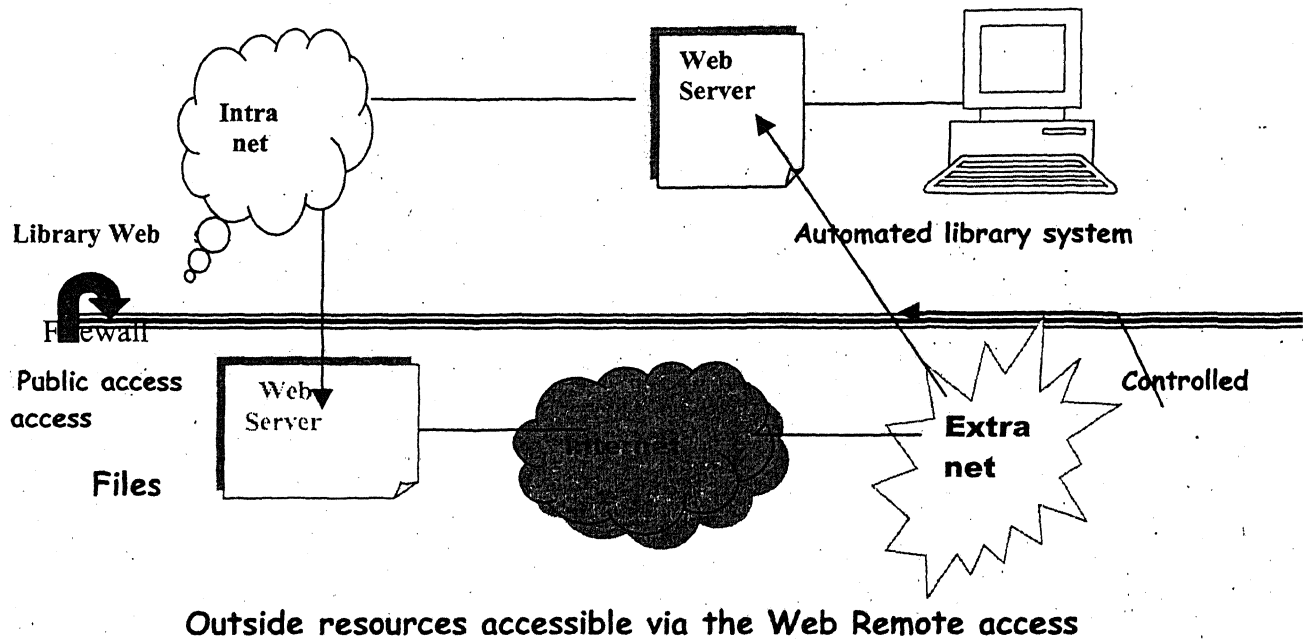
**Current awareness service :** Services available via the Intranet/Internet have added to the importance of current awareness, the meaning of the concept of CAS and the purposes served by CAS. A "news section" of an intranet, for example can include current arrivals of journals and new addition of titles, in-house newsletters or announcements, library policies, important announcements etc. The information seekers are greatly benefited through current awareness services (CAS) available on the library Intranet as well as on Internet.

**Library link** ([www.emeraldinsight.com/librarylink](http://www.emeraldinsight.com/librarylink)) is the online current awareness service for librarians & information professionals. It provides up to date information on important issues like consortia development and & discussion forum on a wide range of topics. It provides free online access to information management articles Electronic

### Selective Dissemination of information service (E-SDI service) through the Web :

It is to deliver current and tailor made information of interest to the user on their desktops. Through this service the user profiles can be searched online or in batch mode and matching can be done with the existing electronic databases daily, weekly or monthly basis and e-mail them. E-SDI service can be integrated with the Web for creation and updating of user profile through web and web-casting the output

**News-Net** ([www.newsnet.com/](http://www.newsnet.com/)) has been providing a tailored customer solution (News-Flash service) which is also value added service available only in the net; users need only a net browser to access their daily electronic news clips.



Outside resources accessible via the Web Remote access

Fig 3: Internet, Intranet & Extranet in a typical library environment

## RELATED ISSUES & CHALLENGES

Like many other emerging technologies, the technology used for Intranet/Extranet & Internet has its share of associated problems and limitations. Some of the many issues, problems and limitations of the Web-enabled technologies are outlined below.

### Bandwidth restrictions and latency

Low speed modem which are used cause considerable delays in obtaining Web-based materials when the corresponding downloads incorporate images animation and audio. In latency, the slowness relates to the number of requests an individual Web server can handle at once.

### Maintainability and integrity of data

The task of keeping up with library Web pages by maintaining the latest information is considered to be a costly issue facing many libraries. As the web site becomes more elaborate and complex, the task of maintaining and validating information included in their Web sites becomes much more costly and complex too. Inaccurate and out of date information included in the Web site can contribute, in part, to decisions being made by the researchers of the information that are based on data that are either inaccurate or outdated which can harm the research process.

### Flooding of the Web with content for content's sake

With the ease of access to the Internet and the availability of access to Web development tools, there is an abundance of slick and costly Web pages include information that is not helpful to their viewers. They are merely on the Internet so the Institution that owns the site can claim that they have a Website.

### Inadequate search facilities

One of the important issues of Intranet/ Internet is inadequate search facilities. There is scarcity of high level query language for locating, filtering and presenting web information. Some search engines search the documents headers, some look for the document themselves, while others look for indices or directories. As a result much of the information on the Web in a dynamic and some what chaotic fashion.

### Exposure points

As more libraries are utilizing Web-enabled technologies to incorporate the ability for remote access to their computer systems, there is a higher risk of information exposure. In other words these emerging exposure points are inroads which can lead to sloppy data entry into the systems, as well as hackers breaking into the system, therefore adequate control measures may be applied at every exposure point

### System incompatibilities

In many cases cross platform compatibility is not always available in all of the emerging technologies being developed which can result in difficulty when trying to make them function in unison

### Security

Web security is considered one of the most important challenges of many organizations. Following are the examples of security threats and risks:

E-mail risks –junk mail, mail bombs or flooding the user with messages, interception and unauthorized reading of electronic mail etc. are included in e-mail risks .

Information vandalism– In this context vandalism indicates the unauthorized modification of data that are available on the Web.

Viruses – With the increasing number of networked computers the ability of a developer to place a virus within any number of programs and transmit to all who download, open or execute the program or file

## CHANGES IN THE ROLE OF LIBRARY PROFESSIONALS

The advent of networking technology has led to a requirement to revisit the traditional role of the information professional and a need to refocus on core competencies. In addition to information retrieval skills, the information professional needs to develop a role as trainer and facilitator of quality information retrieval. Above all, the information specialist must become closely aligned to the services, able to ride the wave of change both in the users need and in technology. In the task of role definition, information professionals should look to encompass the following areas within their sphere of responsibility:

**End-user relationships:** maintain an open dialogue with end-users. Anticipate needs and provide creative solutions to information sourcing. Develop a role as an advocate of best practice within the

sphere of quality information retrieval.

**Training:** develop a profile as trainer on best practices in Internet searching and core end-user products. Training sessions, email updates on new sources, hints and tips on the order of words in the Internet should all form part of the trainer function.

**Information technology:** work closely with the IT Department to implement information supply strategies. Act as intermediary between internal IT departments and library suppliers to ensure that users requirements are adequately reflected in technical solutions.

**Information management:** maintain proactive management of the information sources introduced in to the organization, and broker the best deals between the commercial supplier and the internal user. Proactively seek new areas in which the Information Department can play a role, i.e. the maintenance of the firm intranet site, internal document management and competitive intelligence initiatives.

**Intranet /Extranet development:** developing library intranet site through which Internet services are routed. In addition, provide links to information department, acquiring new skills in web authoring, leverage traditional skills in data indexing.

**Subject specialization :** develop subject and research specialization reflecting the key subject areas of the parent organization.

**Continual professional development:** maintain awareness of future trends, and seek to understand how they may impact on the library & Information services in general and the information professional in particular

It is important to note that the traditional responsibilities of librarians, such as the selection and acquisition of materials, reference service, resource sharing are still significant factors. The main focus is that the tools to achieve these tasks are markedly different from those of a few years and even a few months ago. Overall, the same responsibilities of selecting and evaluating research materials remain, as does the need to provide research services to the information users within an organization. The main tenet is that the tools and delivery mechanisms have changed, while so too have the requirements and expectations of the users.

## **CONCLUSION**

The presence of the Internet, Intranet & Extranet have unquestionably and permanently altered the library environment. The technology has dramatically altered how libraries interact with one another, and how information of all types is managed. However, the ease with which an Intranet is created and the power it enables organizations to easily and inexpensively share information there is a price, and that price is the problem of organizing the information so that its intended audience can benefit. The challenge of the Intranet for librarians is the opportunity to continue to do what we've always done - take a leadership role in the management of information in the new age. Actual use of the extranet shares many properties with intranet use. It may even be reasonable to assume some amount of training on the part of the users, since they will be motivated to improve the efficiency of their services by making better use of library extranet. Through e-mail, groupware, one can point to people with knowledge and connect people who need to share knowledge over a distance. If networking technology is fully exploited within a library, a transformation would take place in the organizational structure of the library itself; a constant dynamic structure would be evident, and the recognition of the library's intellect and knowledge base amongst its users would be seen. In a small library employing only a few people in a single building, intranet technology is likely to make less of an impact than in a large library system with hundreds of staff



distributed over a relatively large number of sites and running a large number of IT based services. The reason for this is that in a large, spread out organization, an intranet allows people who might never meet to communicate with each other and provides access to data that might not otherwise be easily available to them.

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6. [www.informationoutlook.com](http://www.informationoutlook.com)