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## ROLE OF INTERNET AND WEB TECHNOLOGIES ON LIBRARIES

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### **Abstract:**

*This paper concentrates on how the Internet and Web Technologies have impacted the work and services of traditional libraries besides throwing light on the Internet and World Wide Web technologies as well as their advantages and disadvantages. It also discusses e-services like bibliography, referencing, tagging, resource sharing, journals, web-based chatting, etc., now being provided by digital libraries to readers. These are an offshoot of said technologies and were unthinkable in the past. Consequently, digital libraries across the world have almost become a well-knit family. Users can easily share resources of other libraries anywhere in the world with a click of a button. So, library services have become well-integrated in the changed scenario.*

**Keywords:** *World Wide Web, Internet, Information Technology, Digital Library, e-Library services*

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### **Introduction:**

Before the advent of Information and Communication Technology, library facilities were confined to physical boundaries of four walls except to a certain extent on mobile vans. So, one had to go all the way to the library if one had to access any information. But everything has changed slowly and steadily with the onset of information technology. No one can easily access any information from the luxury of home, office, etc., subject to the condition that one should have the necessary tools to access the information, such as a computer, Internet, etc. The library profession has gained tremendously from the Internet and World Wide Web technologies. It has facilitated the work of providing a host of e-services to readers simply at a click of a button. It is a boon to

users as well as libraries. But transforming traditional libraries into digital libraries entails a lot of investment. Also, trained human resources are required to run digital libraries. Poor and developing countries have a shortage of funds and professional human resources. It may prove a significant bottleneck for traditional libraries to switch to digital libraries, thereby creating hurdles in extending digital services to users. It is to be hoped that these teething troubles will be resolved in due course.

### **Internet & World Wide Web:**

Internet is a worldwide system of computer networks. The concept of the Internet was developed by the Advanced Research Projects Agency of the United States government in 1969 and was then

known by the name ARPANET. Today, the Internet is in the domain of public cooperative and self-sustaining facilities accessible to all worldwide. The Internet furnishes powerful potential that it can generally be used for any purpose dependent on information. It is accessible to any person subject to fulfilling minimum requirements for the purpose. Users can interact with others through email, chat rooms, audio and video. With the help of the Internet, digital information can be accessed by many applications, including World Wide Web.

Tim Berners Lee, who happens to be British physicist, had initiated World Wide Web project, along with his colleagues, from March 1989. They started working on the first WWW server, using available technologies. Their aim was to make user friendly global information management system. They called said server as Hypertext Transfer Protocol (HTTP) client and server via the Internet in the middle of November 1989. He is further developing tools and standards to advance the potential of the web.

It is necessary to differentiate between the Internet and the World Wide Web because both are different things. The Internet is a global connection of networks, whereas the web is a collection of information that can be had by using the Internet.

The World Wide Web is a utility like other utilities such as email, File Transfer Protocol, Internet Relay Chat, Telnet and Usenet, which together form the Internet.

Simply put, World Wide Web means all the public websites which users can access on their local electronic devices via the Internet. Hyperlinks connect these pages that users click on to obtain information.

Now a day's, web services are beneficial in all walks of life. These are being used successfully by government and private sectors besides the familiar person managing multifarious governmental, commercial, entertainment, information sharing, education, buying and selling activities, etc. In such a scenario, library services cannot remain immune to such remarkable development. It's being used progressively by library professionals to make its services accessible to users with a click of a button.

#### **Advantages Of The Internet And The World Wide Web:**

- **Fast Communication:** The speed of communication becomes very fast. It allows interactive communication between people, exchanging information without wasting time. Skype, Zoom, Google meet, etc are a wonderful platforms to hold a video conference; a person can hold a video conference with anyone worldwide.
- **Information:** Lots of information is available on a single topic, and the user can sift it according to their requirements.
- **Education:** Students, Teachers, Researchers, etc. can gainfully educate themselves on any topic since much information is available on the internet.
- **Entertainment:** It is an excellent source of entertainment. One can stream online movies, music, sports, etc., to entertain oneself. This is the reason most folks remain glued to their electronic devices most of the time.
- **Online Services:** Useful online services like e-commerce, e-

banking, email, etc., are available. Anyone can access them instantly without leaving the comfort of their place.

- **Social Network:** Social networking is sharing of data with people across the world.

### **Disadvantages Of The Internet And The World Wide Web:**

- **Internet Addiction:** Some people are developing internet addiction as they remain glued to electronic devices most of the time. It is damaging their health besides causing psychological disorders.
- **Cyber Crimes:** It has given birth to a new type of crime called Cybercrime. Hackers develop virus software and manage to insert it into electronic devices such as computers, mobile, etc., of users, which facilitates stealing valuable information of users like bank details, passwords, debit/credit cards and other important personal details. They then manage to harm one's economic and social interests by transferring money illegally from bank accounts, etc. or tarnishing the reputation of others by hosting personal photographs and videos on social platforms. Also, they sell users' personal information to Cybercriminals on the dark web.
- **Social Alienation:** Once the user is addicted to the web, he remains glued to it, forgetting the physical world around him. Then, he no longer interacts virtually with his friends and relatives since he could not spare any time for them. Consequently, he gets alienated from his social circle.

- **Health Hazards:** Staring screen of electronic devices such as computers and mobile continuously causes eye strain/ irritation/ dryness/ fatigue since these devices emit blue light, which is not suitable for the eyes. Also, continuous sitting in front of the screen poses other health problems like diabetes, hypertension, spondylitis, etc.
- **Information Deluge:** When one browses the web seeking information on any topic, one comes across excessive details, and it becomes challenging to sift appropriate information, causing unnecessary confusion to the user.

### **Role Of Internet And Web Technologies On Libraries:**

Internet and web technologies have been playing a significant role in changing the role of our traditional libraries. These technologies have helped remove geographical barriers among libraries situated worldwide. The libraries are digitizing their services and contents. The traditional libraries in India have been computerizing their manual work and hosting dedicated websites providing certain services to their users. Internet and Web Technologies are vital in providing library services to users, from membership registration to document delivery. Some of the library's services can be utilized with the help of the Internet and web technologies are discussed below:-

- **Acquisition of Documents:** A librarian can acquire printed and electronic material very quickly by placing an order through email, thereby saving the hassle of placing physical order by post. Nowadays, most publishers place updated

catalogues and leaflets regularly on their websites. E-journals, e-magazines, e-newspapers, etc., can be subscribed to easily through respective websites or email. This facilitates the work of the librarian. Britannia encyclopedia offers services online, and libraries can access valuable information by subscribing to said services. Similarly, the Amazon books website contains a greater selection of books that can be scanned, and orders can be placed besides making payments securely through the website. Ultimately it expedited the work of acquisition, and desired material became available without wasting time.

- **Classifications & Cataloging of Books:** The traditional classification of libraries has undergone a sea change since many libraries choose the Cyber Dewey Decimal Classification Summaries to organize and navigate resources on the World Wide Web. The Internet and World Wide Web have facilitated preparing standard catalogues. Bibliographic information of other institutions can be accessed and downloaded using internet resources. The libraries can provide access to bibliographic data of other libraries worldwide through the Internet via OPAC. A bibliography details resources used or referred to by an author. E- Bibliographic is an organized digital collection of published materials such as books, journals, magazines, etc.
- **Circulation:** The circulation of the material has become easy with the above technology. The new

documents can be kept in the OPAC as soon as it's acquired after technical processing. Users can browse and reserve the books instantly from the comfort of their places when it arrives in the library. Access to electronic journals, periodicals, etc. can be provided directly to the users as the journals are subscribed with users' Id. Thus a user can access it directly from his computer without bothering to visit the library.

- **Reference & Information Service:** Reference service is gaining traction in the age of Internet Communication Technology. Librarians answering users' queries are called Reference Librarians', who gather information from diverse internet resources. The IFLA World Directory of National Union Catalog is available on IFLA-NET, which provides information about the latest national union catalogues, including monographs and serials. The Internet is beneficial in searching for information about social, economic, statistical data, etc. However, the information available on the Internet cannot be trusted blindly by the reference librarian. So he has to ensure its authenticity by cross-checking from other sources before providing it to the users.
- **Communication:** Now a day's Internet is providing a very efficient means of communication, even beating postal services. One can interact with others instantly through email, website, WhatsApp, Skype, Zoom, etc., without restriction. The libraries can use

these resources to communicate with publishers, vendors, booksellers, scholars, users, etc., to achieve their objectives. Then there is the Usenet News forum on the Internet, providing a platform for many newsgroups with open participation and library professionals and users can utilize it.

- **Resource Sharing:** It simply means that a library having digital resources shares its resources with other participating libraries, which need it to fulfil the requirements of its users. In this age of the Internet & World Wide Web, digital resources are being generated at a breakneck speed. So, no individual library can meet the demand of its users due to financial constraints. Thus, resource sharing is a solution to meeting the request of one another. The operation of resource sharing mainly depends upon the availability of resources in the library, and secondly, there are ample numbers of libraries willing to cooperate in this activity. Further, there should be standardized software and hardware in resource-sharing libraries so that the system among them runs smoothly.
- **Wikis:** A wiki is a collaborative tool allowing students to contribute and modify course-related materials. A wiki-like Wikipedia is a web page with an open-editing system. Teachers generally provide course material in the classrooms. With the help of wikis, students have an opportunity to create customized course content in collaboration with other students.

Thus, wikis offer an essential opportunity to students from 'consumers of knowledge to 'creators of knowledge. Libraries can use this tool for interacting with users, patrons and information professionals to address issues confronting them.

- **Blog:** A blog is a website generally maintained by an individual. It is an effective way for librarians to remain updated with information and for libraries to disseminate information. Blogs are perfect for libraries to share information since the system of making dated entries help viewers to identify the latest content.
- **Social Bookmarking & Tagging:** Social Bookmarking is a method for internet users to store and manage bookmarks of web pages on the Internet with the help of metadata. It has become an essential part of the library program. These days, research is being conducted in collaboration with fellow researchers, who are very particular about evaluating material as their peers would be using them. Tagging is an informal method of categorizing that allows users to link keywords with online content like web pages, pictures, and posts. Tagging is entirely unstructured, allowing users to create connections between data in any way they desire. Tags allow users to know about the article or site's significance. Social bookmarking and tagging are being used in libraries to facilitate the work of fellow researchers and users so that they may not waste

precious time searching for desired material.

- **RSS:** RSS stands for Rich Site Summary feeds. It is a procedure for providing news or other web content from online publishers to users. Other feeds include a discussion forum, excerpts, software announcements and any form of retrievable content with a URL. So, if a website desires to share its content with other sites simultaneously, the publisher can make an RSS document. RSS documents can be read on browsers and dedicated desktop software programs called RSS aggregators.
- **Digital Reference Service:** It is a service wherein service is given to users in a computerized environment answering their questions or clarifying doubts. Experts generally provide this service to users. Digital reference service plays a vital role in providing library users with information, thereby meeting their requirements. It involves using different Media like email, web forums, video chats, etc.
- **Current Awareness Service:** This service aims to apprise users about the library's new arrivals of books, periodicals, etc. A few libraries have started a practice of selective dissemination of information. Here librarians regularly search databases to find appropriate references for their patrons and send them the results of such searches. An offshoot of selective dissemination services in the electronic environment is a program that scans networked information resources and chooses

items that meet the user's profile. Such programs allow users to remain updated with the latest information of their interest without sifting through much information.

- **Digital Library:** It is a collection of digital resources comprising text, video, audio, visuals, etc. These resources are stored in electronic media formats instead of print, microfilm or other media. A digital library called an e-library provides ways for organizing, storing and retrieving contents. It keeps the contents at a central location to give users access to multiple locations on multiple devices.

#### **Constituents Of Digital Library:**

- ❖ **E-Content:** There are two categories of content in a digital library. One is created ab-initio in a digital format comprising text, images, etc., which can be stored, retrieved and read on electronic devices, such as computers, mobiles, etc.
- ❖ **Meta-Data:** Meta-Data is the information used to define the data available on a web page, document or file. It facilitates the work of users in using or managing information resources. Digital Library can adapt metadata according to the learning requirements of users from the Learning Resources Metadata Initiative.
- ❖ **Central Repository:** A digital library needs a central repository for storing e-contents. It's a storage space linked to the repository

servers. It should have a provision for data backup.

❖ **Digital Library Portal:** A digital library portal plays a vital role in providing access to information. A user can access the contents of the library via the portal.

❖ **Information Technology Infrastructure for Digital Library:** A digital library needs information technology infrastructure for hosting web applications, repositories, e-library sections, etc.

### Conclusion:

From the preceding discussion, it is crystal clear that the Internet and the World Wide Web have revolutionized the work of traditional libraries. The e-services now being provided by the digital libraries to users were previously unthinkable in conventional libraries. These technologies have made digital libraries a well-knit family, as anyone with the proper credentials can utilize other libraries' resources without restriction from the luxury of one's place. But traditional digitizing libraries involve a lot of investment to set up the necessary infrastructure. Also, trained human resources are required to run the services smoothly. These constraints pose major bottlenecks for libraries starving for funds, especially in poor and developing countries. Similarly, a user desirous of availing e-services of libraries should have requisite tools like a computer, internet connection, etc. to avail of desired services. Otherwise, one will have to visit the library physically to help with selected services. It is expected that these bottlenecks will be resolved in the foreseeable future, and everything will become hunky-dory.

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