

A Study of Multiple Access Possibilities of Digital Library in India

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ABSTRACT

The rate at which a society adapts to its ever-changing environment determines its overall growth. When it comes to today's resource-based learning, the library is the hub. When it comes to the digital library, it is basically a completely automated information system that has every resource in digital form. It not only saves time, strength, and energy for the library's patrons, but it also enhances the library's operations. The library professional should enhance their knowledge of Information and Communication Technologies in order to better serve their customers. Digital libraries are defined in this study, as well as their progress throughout the course of time. Additionally, it highlights several of India's digital library-related efforts.

1. Introduction

Electronic publication has become a reality because to advances in information technology, digital telecommunications, CD-ROMs and multimedia, computer networks, internet, etc. Technology has revolutionised how information is created, transmitted, conserved and made available. Digital libraries and information repositories are now accessible throughout the globe because of this unprecedented access to digital resources and information services provided by ICT. Library services are entering a new age in which computers and the internet are being used to transform conventional library materials into digital versions. In this way, the process leads to the notion of a "virtual" or "wall-less" library. Allows users to access flexible learning and distance education online. It will be feasible to digitise and store information in the form of high quality, graphics, colour photos, and video clips with the advent of computers capable of processing at extremely high speeds and having vast disc storage capacity. HTML-based WWW technology and cutting-edge web browsers have offered consumers with a very user-friendly interface. It is possible to keep enormous amounts of information in a digital library, which promotes universal access, safeguards rare books that are fast degrading due to overuse and poor storage conditions, and serves as an important instrument for the preservation of cultural heritage. Digital libraries are important because they provide users throughout the globe instantaneous access to digitised content from faraway databases.

2. Digital Library

Libraries that use computers and other electronic media, such as local area networks (LANs), the internet, and so on, are called "digital libraries." A new kind of electronic library is developing. A growing number of people are relying on digital libraries for their research needs. The attractiveness of the digital library idea lies in the way it integrates the demands of end users with cutting-edge technology capable of handling massive amounts of complicated data. A digital library may be thought of as a server that connects to a variety of different digitised sources of knowledge. The term "digital library" refers

to a collection of interconnected services for storing, categorising, searching, safeguarding, and retrieving vast amounts of digital material.

3. Multiple Access Possibilities

Getting a digital library network up and running in India is very difficult because of the country's limited availability of broadband Internet access. For a beginning ICT venture, lack of networked infrastructure and improper pricing patterns might be major roadblocks. There are a variety of ways to connect these days and knowing the relative costs and advantages of each is essential. Using a conventional phone line, dial-up access may be used immediately since the network infrastructure is already in place. Dial-up connections are only suited for basic emailing and surfing because of their limited bandwidth and sluggish speeds. Furthermore, it becomes prohibitively costly when used for extended periods of time. Audio and video materials of archaeological or cultural value may be found in the Indira Gandhi National Center for the Arts digital collection. A little amount of interactivity is also included. In spite of this, broadband is still advantageous, especially for low-level activities such as browsing the web. ISDN (integrated services digital network), an older technology, and DSL (Digital Subscriber Line) both provide high speeds and high pricing, but may not be accessible in all remote locations. When it comes to multimedia, large data transfers, or teleconferences, this low-maintenance technology is ideal, but only people who live near the phone company's central headquarters may use it. In many cases, it is prohibitively costly unless there is already a cable infrastructure in the region of deployment. In Wireless-in-Local-Loop systems, customers have access to a base station, which is subsequently linked to a broadband backbone, allowing them to communicate wirelessly. The 'proper' WLL system, which is n-modified Logue's version of this arrangement, transmits data and speech concurrently. Within a 300-meter radius, WiFi or 802.11 networks provide high-speed wireless data and voice transmission. For connecting many classes, this is an excellent solution since the placements don't alter over time. C and Ku bands are used by VSATs (Very

Small Aperture Terminals) to link to various satellites. VSAT's running expenses are still greater than those of other forms of connection, even if their price has dropped significantly in recent years. VSATs are well-suited to patterns of use defined by peaks and valleys in traffic or consumption. Media files, programmes, and freebies may all be downloaded and used by students as part of their studies.

Initiatives like the Center for Education and Documentation (CED), which preserves ancient manuscripts and media archives, integrate digital and offline distribution methods for its material. Access to a catalogue and indexing system is provided by CED. Subsidized memberships are offered for those who want to get chosen materials by mail or email, depending on what format they are accessible in. It has just begun making its materials accessible in digital versions that can be emailed to users, which will help to reduce costs for the users and extend geographic reach. Because of this, a digital library programme in a country like India is able to employ a variety of existing networks of communication and distribution, including print, CD-ROM, postal, email, and internet. " Radio and data transmission through mobile phone networks may be combined with some type of Internet access in a mixed media approach to connection. One-way broadcasting and streaming of acceptable media material via cellular networks is a potential for a closed group network. On a mesh network, they may be utilised for peer-to-peer communication to share data. Interactive and project-based learning programmes might benefit from the usage of mobile phones with GPS and audio/camera capabilities. Additionally, the ability to edit and analyse ideas on a computer and to share those ideas with others might help foster more innovative approaches to education. It might become a sought-after service in the future because of its high bandwidth and cheap operational expenses. When selecting a method of connection, it is necessary to take into account the existing circumstances in a deployment region as well as the planned content and service applications.

4. Insights on India from Related Digital Library Events

Conferences attended by CKS staff provided a quick overview of current initiatives in the area of digital libraries in India. On a variety of topics, such as digital library ideas, the digital divide and rules governing the use of these resources, many presentations and conversations were given. Basic elements, attributes, and workings of a digital library were outlined in Digital Library ideas. Digitization tools, procedures, and standards were all brought up throughout the discussion. Dublin Core, with a basis of Z39.50 already revealed in this research, seems to be used by the great majority of projects when creating their searchable databases. Because it was open source and free to use, Greenstone Digital Library was the most widely used programme for creating digital libraries. Because of this, a few implementations encountered issues with the software's ability to play certain multimedia types of files. XML, Dublin Core, and other metadata formats are supported by this programme. GSDL Software and Dublin Core are thus often used in these projects. SOUL produced by the UGC-INFLIBNET group, LibSys and LIBSuite that follow GSDL are examples of Indian software. When it came to the actual digitization of print resources for a digital library, the cost

concerns were not adequately supported by academic institutions because of a lack of specific financing for digital library operations. Access and storage were also brought up as issues that need to be addressed. Digital cameras, rather than scanners, may be an interesting answer to the technological challenges of digitising information. Large files, audiovisual material, and streaming data could not be made accessible via digital libraries because of the difficulty in providing internet connection. Impedance was attributed in part to a scarcity of qualified personnel to ensure the process ran well on a technical level. On the other hand, a large number of institutions have already automated their libraries and made online catalogues accessible to the general public. Several state institutions have received money for digital library projects as a result of the INFLIBNET cooperation. I archival preservation, (ii) legal documentation, (iii) educational and research purposes, (iv) scholarly publishing, and (v) any relevant information that may be brought into the public domain. When it comes to educational and research applications, it seems that many projects in India are aimed at improving the state of academic research and publication. A great number of resources are available in both institutions and public libraries, which contributes to this focus on research. Insufficient digital library resources for school education is due to lack of documentation and a lack of utilisation of extra-curricular information for school educational goals. Such tools are, nevertheless, critically needed in order to meet the aims of lifelong learning, one of which is a more solid educational base. The state of Tamil Nadu in India has just a few e-learning programmes. The problem of multilingualism, which is founded on the claim that there are many resources for children, but they are mostly in English, is another important one. The use of Unicode in the interface's programming has been recommended as a way for creating multilingual digital library interfaces.

Converging experiences and efforts toward shared objectives such as lifelong learning, facilities for people to engage in the society, community history and identity, training and employment, as well as business and economics was highlighted as one of the main obstacles in the field. Dr. A.P.J. Abdul Kalam, President of India, delivered the opening address at the International Digital Library Conference, which included several significant visions. A lot of people were enthusiastic about India's future as a knowledge-based economy because of the promise of digital libraries. More than half of the conference participants said government strategies to facilitate an easier and more effective transition from conventional libraries into digital ones were critical. Legal concerns and bibliographic control, infrastructure, collection growth and preservation, capacity building and finance, and partnerships and cooperation were among the strategic challenges that needed policy action. But despite all of these challenges, India is in the middle of a digital revolution that will make as much material as possible accessible to the general population by 2010. According to current thinking, no one model of operation can provide superior outcomes, but other models of digital libraries may be developed or modified to learn from other nations' experiences as well. However, it was also considered that a national vision or strategy, manifesting itself as strong policy, would lead all attempts toward interoperability was

essential. Because metadata standards and software applications are continually changing, this is extremely important. Consortia and cooperation in the country are widely regarded as having a significant impact on the country's attempts to establish interoperable and cost-effective systems throughout the country.

5. Digital Library Initiative in India

As the information revolution progresses, digital libraries are springing up across the globe as a means of gathering, storing, and disseminating knowledge. Despite this, India is lagging behind other industrialised countries when it comes to the creation of digital libraries. Digital libraries in India are mentioned below in an effort to increase the usage of IT:

1. Andhra Pradesh

- There are 25 centres connected to the state secretariat by APSWAN.
- The CARD project is a computerised system for recording the sale and purchase of real estate.
- All inhabitants and land records are kept in a multipurpose household survey project.
- Automated transportation services include insurance for driver's licences and car registration, amongst other functions.

2. Chandigarh

- Three leading medical institutions, PHGI- Chandigarh, AIIMS-Delhi, and SGPG-Lucknow, are connected through ISDN for tele-diagnosis, tele-consolation, and tele-education in the telemedicine project.
- Government agencies such as the police, taxes and licencing, and birth and death records are now accessible online via e-governance.

3. Gujarat

- Gujarat's road transport offices now have state-of-the-art licence enrollment and issuance facilities thanks to the Smartcard initiative.
- The administration's ISDN-based message system will be connected to a state-wide wide area network (WAN).

4. HARYANA

- This revolution was sparked in 2000 when the state of Haryana unveiled its Information Technology (IT) strategy. E-government, IT education and literacy, private sector investment in IT infrastructure and services, and the creation of new jobs are all part of the policy's major aims.
- The state's IT policy offers a wide range of benefits to the IT sector.
- A Software Technology Park of India is being constructed in Gurgaon (STPI).

5. KARNATAKA

- Seat allocation in professional programmes is being digitised in response to the Common Entrance Test.
- LAN set up at Revenue Secretary's office.
- 20/31 districts and 184 sub-treasuries have implemented computerised payment and receipt systems.

- Payment of taxes, filing of tax returns, registering of dealers, and intelligence operations may all be done via the use of computers.
- Progress is being made in the computerization of the municipal corporation's insurance department.
- The disaster recovery facility in Dharwad and the data centre in Bangalore would be managed by the same network centre.

6. KERALA

- The Kerala RD network has 152 office blocks and offers frequent updates on different state-related matters.
- System of automated registration via a CARD.
- As part of the project's Treasury computerization, all district treasury offices and select sub-treasury offices will be converted to electronic systems.
- The administration uses an ISDN-based communications system.
- The department of curl supplies, which is in charge of issuing ration cards, will be computerised.

7. Himachal Pradesh

- Using the paradigm of Gyandoot in Madhya Pradesh, Lokmitra aims to introduce e-governance to all districts of the state through the intranet.
- The state's IT vision 2010 was developed in partnership with NSSCOM.

8. Chhattisgarh

- Optical fibre cable connects every one of the state's districts, making it one of the top states in the nation for telephone infrastructure facilities.
- An e-governance initiative named CHOICE (Chhattigarh online information for citizen empowerment) has been launched by the government to offer a wide range of government services under one roof.
- An IT and biotechnology promotion organisation, CHIPS (Chhattisgarh infotech and biotech promotion society), was established in the state of Chhattisgarh.

9. Manipur

- Electronic governance is being used in a variety of departments.
- The Department of Education has established a LAN in order to increase knowledge and computerise the literature in its libraries (U)
- The Department of Transportation is issuing the registration certificate and driving licence on the Smart Card.
- Using the internet and the web, distant learning and virtual libraries are now possible.
- Software Technology Park of India is also being established in Imphal together with the National Institute of Information Technology (NIC).

6. Role of LIS Professional

By delivering high-quality information systems, services, and products, librarians have traditionally served an intermediate role between the information demands and the human knowledge. Information and Communication

Technologies have had a significant impact on the job of LIS professionals in today's society. Library staff members are expected to have a solid grasp of information technology, including computer networking and informational analysis as well as the ability to access the web using different digital sources. The internet provides a wealth of information, but it is often in a disorganised and unprocessed state. The user is in need of a method for obtaining digital information at this moment. As a result, the library professional and the user must have a thorough understanding of the digital world in order to deal with this issue:

- ◆ Knowledge of digitization;
- ◆ Knowledge of sources of electronic information;
- ◆ Knowledge of computer;
- ◆ Translation skills;
- ◆ Techniques of evaluating the quality of information;
- ◆ Compilation and editing skills; and
- ◆ Knowledge of copyright laws and the patent act

Professionals who work with digital libraries must be active and well-versed in how to connect them to digital learning environments, share information, and design course modules, says Hannalore Rader. Right people must be chosen, and they must be trained to build a techno-information temperament.

7. Conclusion

In the contemporary library system, information is kept digitally and made available to the user through a digital system and network. When it comes to the digital library, it is basically a completely automated information system that has every resource in digital form. Not only does it help with library operations, but it also saves library patrons valuable time and strength. By embracing new technologies like ICT and digitalization, libraries can better meet the demands of the modern world. The printed media will be completely replaced by electronic, digital, and virtual media. As a result, librarians and information professionals must learn how to use new digital telecommunications technologies in order to keep up with the changing landscape.

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