

DIGITAL NETWORKING ENVIRONMENT IN SELECTED ENGINEERING COLLEGE LIBRARIES IN VIRUDHUNAGAR AND TIRUNELVELI DISTRICTS

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Abstract

The study delves into the digital networking landscape within engineering college libraries in the Virudhunagar district. Given the limitations of individual library collections in meeting diverse information needs, library networking emerges as a crucial strategy. It aims to enhance resource sharing among libraries, thereby optimizing information services for users and leveraging national and international resources. Engineering college libraries serve as pivotal hubs for information acquisition and dissemination, supporting academic and research endeavors. Digital libraries represent a significant avenue for making educational and research materials accessible to faculty, researchers, students, and global audiences. They serve as repositories of institutional knowledge, enriching educational environments. The paper explores various facets of the networking environment, including network components, connectivity types, server utilization, and access point provisions within these libraries.

Keywords: Digital Library, digital network, Engineering College.

1. INTRODUCTION

Connecting computers via the internet has completely transformed how information systems, networks, and commercial information providers grow. The proliferation of information, financial crises, increases in the costs of national and international journals, fluctuations in exchange rates, the integration of new information technologies, and the ever-growing needs of users all create new opportunities and challenges. Libraries now possess a new system for storing and retrieving information, radically altering the traditional concept of a library, thanks to global networking. Compared to the manual card catalog approach, this system has become significantly faster, simpler, and more precise. Moreover, the use of computer and networking technology has greatly enhanced the effectiveness of library services and largely addressed existing issues with information storage and retrieval.

2. LIBRARY NETWORK

Libraries, each with its own unique purpose, nonetheless collaborate to serve a broader community on equal terms. Computers and telecommunications serve as key tools in facilitating communication among them. A network emerges when a collective of libraries and information centers shares a common interest in exchanging information through computer and communication technologies. Library networking entails a collaborative effort to connect members/users to resources hosted on computers via telecommunication connections.

In India, the adoption of computer technologies for library networking began in the late 1980s, spearheaded by metropolitan cities such as CALIBNET in Calcutta, DELNET in Delhi, PUNENET in Pune, MALIBNET in Madras, ADINET in Ahmedabad, BONET in Bombay, and MYLIBNET in Mysore. These initiatives were

followed by the establishment of the national-level information and library network known as INFLIBNET under the UGC. Internationally, notable library networks include OCLC, WLN, RLIN, OHIONET, CALNET CARL, LEVYL, and LLINET.

3. REVIEW OF LITERATURE

According to Vasishta, (2007) conducted a study to find out the status of library automation and networked services at six technological deemed university libraries in North India. The data was collected from the Librarian/Librarian-in-charge of the library through questionnaire method. Library OPAC provided speedy on-line access to all the library collection by means of computer terminal. Three out of 6 (50%) libraries are providing journals holding list. List of current journals is being offered by 3 out of 6 (50%) libraries. Four out of 6 (66.66%) libraries have their websites through which the service of Web-OPAC is provided. Four out of 6 (66.66%) libraries are offering Internet browsing facilities on its premises.

According to Parida(2004), The initiatives taken by the INFLIBNET Centre, UGC, India, DELNET, IITs, RECs, National Research Organizations/Institutions of India in the digitization of libraries and information centers in order to provide digital library services. Further, it suggests that in a developing country like India where resources are limited and funds are inadequate, the library and information professionals should develop their skill and proficiency to meet the challenges of technological developments and changes emerging out of digital library services.

4. OBJECTIVES

1. Determine the extent of digital network coverage within engineering colleges.
2. Analyze the types and components of networks employed.
3. Assess the network connectivity within engineering college libraries.
4. Enhance inter-library loan services among engineering college libraries by enabling smooth and rapid information exchange through network links.
5. Standardize library services and activities.
6. Foster inter-communication among engineering college libraries statewide.
7. Promote cooperation among engineering college libraries, technological university libraries, special libraries, and information centers across the state.
8. Facilitate access to other national and international networks.

5. RESEARCH METHODOLOGY

Research entails a systematic investigative process guided by existing knowledge, aimed at answering specific questions through interpretation of observations. This study adopts a survey method to assess the level of digital networking in libraries within selected engineering colleges in Virudhunagar district. A questionnaire was developed to gather primary data, which was distributed to 30 libraries. Fully completed questionnaires were collected and utilized for the study.

6. LIMITATIONS OF THE STUDY

This study primarily focuses on the digital network infrastructure within selected engineering colleges in Virudhunagar district. It is important to note that the study's methodology relies solely on the questionnaire method and data obtained from library professionals.

7. ANALYSIS AND INTERSPERSION

Table 1 - Network Component.

S. No.	Types of Network Components	No. of Libraries	Percentages
1.	Hub	02	06.66%
2.	Router	08	26.66%
3.	Switches	20	66.68%
		30	100.00%

Source: Primary data

Observations reveal that among the 30 sample libraries surveyed, 66.68% utilize Switches as network components, 26.66% employ Router network components, and 6.66% use alternative networking methods.

Table 2 - Types of Network Technology

S. No.	Types of Networking Technology	No. of Libraries.	Percentages
1.	Ethernet	16	53.34%
2.	Fiber optics	10	33.33%
3.	Gigabit Ethernet	4	13.33%
	Total	30	100.00%

Source: Primary data

Table 2 indicates that 53.34% of the surveyed libraries utilize Ethernet technology, while 33.33% employ Fiber optics, and only 13.33% utilize Gigabit Ethernet. The data clearly highlights a predominant preference for Ethernet and Fiber optics network technologies among the surveyed libraries.

Figure 1. Network components

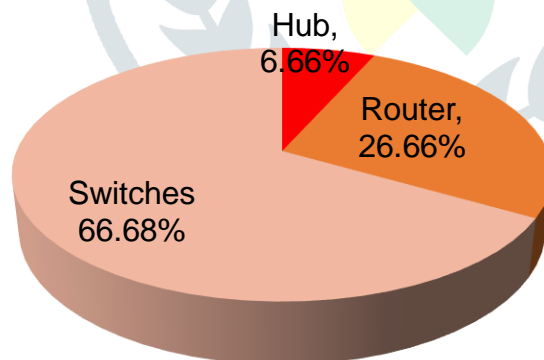


Table 3 - Access point facilities available in Sample libraries

S. No	No. of access points	No. of Libraries	Percentages
1	OPAC	16	53.34%
2	WEB OPAC	06	20.00%
3	Collection of Website (College website)	8	26.66%
	Total	30	100.00%

Source: Primary data

Table 3 illustrates the availability of access points in the sampled libraries. Among these, 53.34% of the libraries offer OPAC Access facilities to users, 26.66% provide a collection of Website (College website) facilities, and 20% offer WEBOPAC facilities. The data from Table 3 indicates that more than 50% of the libraries provide OPAC and collection of Website (college website) facilities to users.

Figure .2 Access point facilities available in Sample libraries

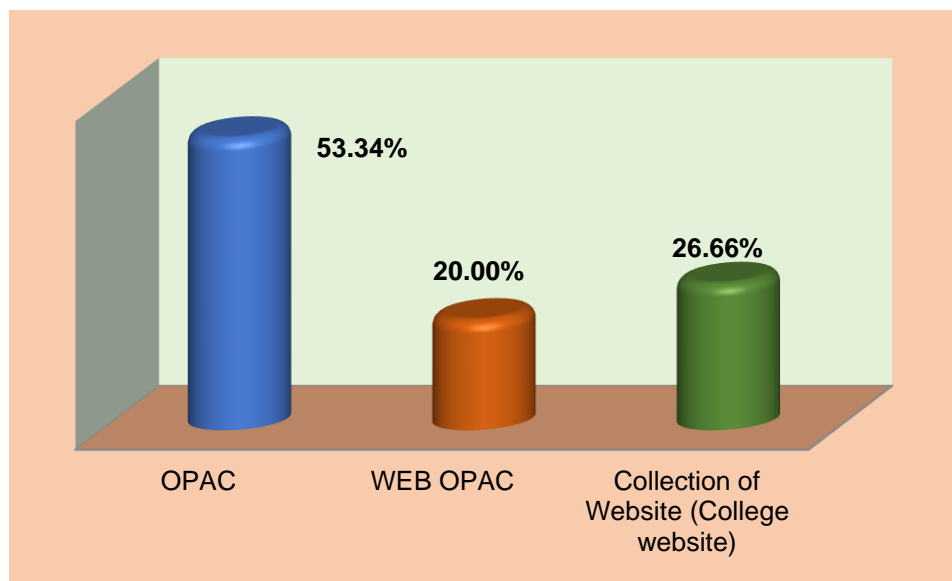


Table 4 - Types of Network Interface / Connectivity

S. No.	Network Interfaces	No. of Libraries	Percentages
1.	Fiber Optics	26	86.67%
2.	DSL (Digital Subscriber Line)	04	13.33%
3.	Satellite	-	-
4.	Other Interfaces		
	Total	30	100

Source: Primary data

Table 4 indicates the types of network interfaces/connectivity utilized by the sampled libraries. The majority, accounting for 86.67% of the libraries, employ Fiber Optics infrastructure, while 13.33% utilize DSL (Digital Subscriber Line) infrastructure. The data clearly demonstrates that the predominant network interface/connectivity among the surveyed libraries is Fiber Optics.

Table 5 - Network connectivity level of the sample libraries

S. No.	National level		International level	
1.	INFLIBNT	02	INTENET	12
2.	NICNET	08	BIOSIS	08
3.	ERNET	-	INSPEC	10
4.	DELNET	18	DEVINSA	-
5.	CALIBNET	-		
6.	MALIBNET	02		
	Total	30	Total	30

Source: Primary data

Table 5 illustrates the types of network connectivity levels utilized by the sampled libraries. The majority of libraries rely on national-level networks such as INFLIBNET, NICNET, DELNET, and MALIBNET, while

internet connectivity and INSPEC are the primary international-level network infrastructures utilized by a significant number of libraries. The data from the table highlights DELNET and INTERNET as major infrastructure options for the sampled libraries.

Table 6 - Types of server used by the sample libraries

S. No.	Name of the sever	No. of libraries	Percentage
1.	Windows NT	26	86.66%
2.	MS SQL server	08	53.33%
3.	CD-NT	02	13.33%
4.	Mail server	01	06.66%
5.	UNIX	01	06.66%
6.	Sun solar	-	-
7.	LINUX	-	-
8.	Novel NT	-	-

Source: Primary data

Table 6 presents the types of servers utilized by the sampled libraries. The data reveals that Windows NT servers are the most prevalent, with 26 libraries accounting for 86.66% of the total. Following Windows NT, MS SQL Server is employed by 8 libraries, representing 53.33% of the sample. Additionally, CD-NT servers are used by 2 libraries (13.33%), while a single library (6.66%) utilizes Mail Server and another (6.66%) uses UNIX. There are no reported instances of Sun Solar, LINUX, or Novel NT servers among the sampled libraries.

8. CONCLUSION

The necessity for resource sharing among libraries spanning different geographical areas has become increasingly apparent. Leveraging Information Technology for library networking is crucial to enhance resource sharing effectively. This proposal for a network of engineering college libraries is crafted based on cutting-edge networking technologies, aiming to optimize resource utilization.

Digital libraries represent a significant boon for scholars in higher education, offering unparalleled access to resources. The success of library automation and networking hinges primarily on meticulous planning and judicious decision-making by institutional authorities.

The study findings underscore several key insights. A majority, 66.68%, of the surveyed libraries utilize Switches as network components, while Ethernet technology is predominant, being utilized by 53.34% of libraries. Moreover, 53.34% of the sampled libraries provide OPAC Access facilities to users, indicating a concerted effort towards enhancing accessibility. Additionally, an overwhelming 86% of the sampled libraries rely on Windows NT servers for their network infrastructure.

In India, college libraries have yet to achieve a high level of computerization. While librarians demonstrate a favorable attitude towards ICT applications, comprehensive and suitable training is needed to harness the full potential of ICT tools for library automation and networking processes. Librarians must undergo reorientation, adopt innovative thinking, and embrace new technologies to propel library services forward.

9. REFERENCES

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